



1082 Sunrise Avenue, Suite 100  
Roseville, California 95661  
T 916.783.4100  
**BEN-EN.COM**

June 2026 Update

# Sewer System Management Plan



**City of Biggs**  
465 C Street  
P.O. Box 307  
Biggs, California 95917  
Telephone (530) 868-5493  
[www.biggs-ca.gov](http://www.biggs-ca.gov)

Prepared by: Dave Harden, PE  
Jessica Ginnever, EIT



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## **Acronyms and Abbreviations**

|               |                                                |
|---------------|------------------------------------------------|
| BMC           | City Of Biggs Municipal Code                   |
| CCTV          | Closed-Circuit Television                      |
| CIP           | Capital Improvement Program                    |
| CIWQS         | California Integrated Water Quality System     |
| County Health | Butte County Department Of Health              |
| CWEA          | California Water Environment Association       |
| CWWO          | Chief Wastewater Officer                       |
| DPW           | Department Of Public Works                     |
| ELAP          | Environmental Laboratory Accreditation Program |
| FOG           | Fats, Oil, And Grease                          |
| GPS           | Global Positioning System                      |
| GWDR          | General Waste Discharge Requirements           |
| I&I           | Inflow And Infiltration                        |
| LRO           | Legally Responsible Official                   |
| MGD           | Million Gallons Per Day                        |

## Acronyms and Abbreviations

|        |                                           |
|--------|-------------------------------------------|
| MRP    | Monitoring Reporting Program              |
| NAVD88 | National American Vertical Datum Of 1988  |
| OES    | California Office Of Emergency Services   |
| PLSD   | Private Lateral Sewage Discharge          |
| PWS    | Department Of Public Works Superintendent |
| RWQCB  | Regional Water Quality Control Board      |
| SERP   | Spill Emergency Response Plan             |
| SSMP   | Sewer System Management Plan              |
| SSO    | Sanitary Sewer Overflow                   |
| SWRCB  | State Water Resources Control Board       |
| WDR    | Waste Discharge Requirements              |
| WWTP   | Wastewater Treatment Plant                |

## Background

On May 2, 2006, the State Water Resources Control Board issued Order 2006-0003-DWQ, the original Statewide General Waste Discharge Requirements (GWDR) for sanitary sewer systems. That order first required publicly owned collection-system agencies to develop and implement Sewer System Management Plans (SSMPs) and to follow strict monitoring, reporting, and overflow-response procedures. Order WQ 2022-0103-DWQ, adopted on December 6, 2022, supersedes the 2006 order but retains its core intent, ensuring that wastewater collection systems are properly operated and maintained. The updated General Order continues to apply to every public agency in California that owns or operates more than one mile of sewer pipe conveying untreated wastewater to a publicly owned treatment facility and it refines the SSMP requirements to better match each municipality's size, scale, and system complexity, keeping the SSMP a dynamic, living document that records ongoing management activities, procedures, and decisions. Before the State Water Board updated the statewide sewer-system requirements in December 2022, the City of Biggs was already enrolled under the original Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (Order 2006-0003-DWQ) since November 2006. Because the City had been operating under that order for more than a decade, many SSMP elements were in place well before the new compliance timelines in Order WQ 2022-0103-DWQ. This SSMP herein has been prepared for the Department of Public Works (DPW) by City staff in compliance with the requirements of the General Order pursuant to Water Code sections 13263, 13267, and 13383.

The structure of this document adheres to the section order and nomenclature as outlined in the General Order. The SSMP includes the following sections:

1. SSMP Goals and Introduction
2. Organization
3. Legal Authority
4. Operation and Maintenance Program
5. Design and Performance Provisions
6. Spill Emergency Response Plan
7. Sewer Pipe Blockage Control Program
8. System Evaluation, Capacity Assurance and Capital Improvements
9. Adaptive Management
10. Internal Audits
11. Communication Program

# 1 SSMP Goals and Introduction

The goal of an SSMP is to provide a plan and schedule to: (1) properly manage, operate, and maintain all parts of the City sanitary sewer system, (2) reduce and prevent spills, and (3) contain and mitigate spills that do occur. This SSMP documents activities that the City utilizes to meet those objectives and manage its wastewater collection system effectively.

## 1.1 Regulatory Context

This SSMP is intended to supplement and support the City's existing Sewer Master Plan (SMP) and ongoing operations and maintenance efforts by providing high-level, consolidated guidelines and procedures for all aspects of the City's sewer system management. The SSMP will contribute to the proper operation and maintenance of the collection system and assist the City in minimizing the frequency and impacts of sanitary sewer overflows (SSO) by providing guidance for appropriate maintenance, capacity management, and emergency response.

The SSMP objectives include:

1. Increase preventative maintenance on the collection system to minimize the number and impact of SSOs.
  - a. Clean all City sewer mains within the identified required maintenance period.
  - b. Continue with monthly, quarterly, bi-annual and annual preventative maintenance hydro-cleaning and power-rod cleaning of identified sewer mainline target areas.
  - c. Conduct a video condition assessment of each sewer mainline every ten years and continuously identify areas requiring root control.
  - d. Refer sewer mains with repeat non-scheduled maintenance to Contract City Engineer for evaluation.
  - e. Conduct appropriate analysis/evaluation of SSOs, utilizing historical maintenance and activity data and records, and provide recommendations to reduce future risk.
2. Identify collection system blockages due to fats, oil, and grease (FOG), tree roots, and debris, and develop strategies to decrease backups.
3. Operate all pump stations at peak efficiency and perform preventative maintenance on equipment at all sanitary sewer pump stations.
4. Maintain records of the sanitary sewer system and respond to inquiries.
5. Assist with the development of a capital improvement program directed at maintaining the current sewer assets, improving system reliability, and providing adequate capacity for current and future peak flows.

## 1.2 SSMP Update Schedule

In accordance with the General Order, the SSMP is scheduled to be updated within every six (6) years following the first plan update submitted to the online California Integrated Water Quality System (CIWQS) Sanitary Sewer Database. The frequencies for SSMP updates, internal audits, and activities focused on SSO prevention are provided in **Table 1-1**.

Table 1-1. Schedule Overview

| Activity        | Frequency                                                                                        |
|-----------------|--------------------------------------------------------------------------------------------------|
| SSMP Updates    | Initial update due by August 2, 2026.<br>Subsequent updates will occur every 6 years thereafter. |
| Internal Audits | Once every three years, following the initial SSMP update                                        |

### **1.3 Sewer System Asset Overview**

With a population of 1,964 as of 2020, Biggs is located in the fertile farmlands of the Sacramento Valley about an hour north of Sacramento (US Census Bureau 2020). Situated in Butte County at an elevation of 93 feet (National American Vertical Datum of 1988, NAVD88), Biggs is approximately 25 miles south of the City of Chico and 25 miles north of Yuba City, just off State Route 99. Land use in the city includes residential, public, industrial, agricultural, and commercial. Most of the wastewater generated within the City originates from residential users.

The City operates a sanitary sewer collection system drawing all wastewater from the City through a subterranean network of pipes and lift stations. The waste is treated at the City's wastewater treatment plant, located on approximately 49 acres in the southwest portion of the City, in a system of facultative ponds. Following the facultative ponds treated effluent is applied via land application to approximately 77 acres of land adjacent to the ponds. Improvements to the treatment plant were completed in 2016 and 2019, which included a new influent pump station, effluent pump station, and an irrigation pump at the field. These improvements facilitated the transition of the City's treatment plant from surface water discharge to land disposal of effluent. Average daily flows are approximately 0.19 MGD (million gallons per day) and the permitted average dry weather flow (ADWF) is 0.38 MGD. Wintertime flows approach 0.60 MGD due to Inflow and Infiltration, but the peak wet weather design flow is 1.0 MGD.

The collection system, consisting of eight miles of 6-inch and 12-inch diameter pipelines, transports sewage to one of three lift stations. With the treatment plant upgrade in 2000, approximately 7,500 linear feet of collection and transport main were also upgraded, however the city still experiences significant inflow and infiltration (I&I) of stormwater during the winter season.

The most up-to-date map of the City's sanitary sewer system is provided in Section 4.1. The City's asset inventory is tabulated in Appendix 1-A.

**Appendix 1-A City of Biggs Wastewater Asset Inventory (as of 2021)**

## Wastewater Asset Inventory

| Asset ID | System            | Asset                                 | Manufacturer    | Manufacturer ID # | Material        | Size               | Qty     | Year of Install | Est Expected Life (yrs) |
|----------|-------------------|---------------------------------------|-----------------|-------------------|-----------------|--------------------|---------|-----------------|-------------------------|
| 1        | Collection System | Pipelines                             |                 |                   | PVC, DIP, etc.  | 6-inch and 12-inch | 8 miles |                 |                         |
| 2        | Collection System | Lift Station                          |                 |                   |                 |                    | 3       |                 |                         |
| 3        | Headworks         | Vertical Spiral Screen                | Franklin Miller | SLV-G20           | Stainless Steel |                    | 1       | 2021            | 40                      |
| 4        | Headworks         | 4" Plug Valve                         | Val-Matic       | 5804R/7A08        | Cast Iron       | 4"                 | 4       | 2015            | 35                      |
| 5        | Headworks         | 8" Plug Valve                         | Val-Matic       | 5808R/7A12        | Cast Iron       | 8"                 | 1       | 2015            | 35                      |
| 6        | Headworks         | 4" Check Valve                        | Val-Matic       | 7804LS            | Ductile Iron    | 4"                 | 4       | 2015            | 35                      |
| 7        | Headworks         | Magnetic Flow Meter                   | Siemens         | MAG 5100W         | Carbon Steel    | 8"                 | 1       | 2015            | 20                      |
| 8        | Headworks         | 1" Gate Valve                         | Trumbull        | 367-1312          | Cast Iron       | 1"                 | 1       | 2015            | 35                      |
| 9        | Headworks         | 4" Gate Valve                         | Mueller         | A-2360-6          | Cast Iron       | 4"                 | 1       | 2015            | 35                      |
| 10       | Headworks         | 8" Gate Valve                         | Mueller         | A-2360-6          | Cast Iron       | 8"                 | 2       | 2015            | 35                      |
| 11       | Headworks         | Pressure Gauge Assembly               | Ashcroft        | Type 101          | Stainless Steel | 1/4"               | 3       | 2015            | 15                      |
| 12       | Headworks         | 4" Reduced Pressure Detector Assembly | Wilkins         | 375ADA            | Ductile Iron    | 4"                 | 1       | 2015            | 35                      |

## Wastewater Asset Inventory

| Asset ID14 | System    | Asset                | Manufacturer         | Manufacturer ID #   | Material            | Size    | Qty   | Year of Install | Est Expected Life (yrs) |
|------------|-----------|----------------------|----------------------|---------------------|---------------------|---------|-------|-----------------|-------------------------|
| 13         | Headworks | Air/Vacuum Valve     | Val-Matic            | 302A                | Ductile Iron        | 2"      | 3     | 2015            | 35                      |
| 14         | Headworks | Influent Pump        | HOMA                 | AMX446-300/9, 8PUFM | Cast Iron           | 9.8 hp  | 3     | 2015            | 15                      |
| 15         | Headworks | 10' Precast Wet Well | Jensen Precast       |                     | Precast Concrete    | 10'     | 1     | 2015            | 45                      |
| 16         | Headworks | Wharf Hydrant        |                      |                     | Brass               | 2.5"    | 1     | 2015            | 50                      |
| 17         | Headworks | 15" PVC Pipe         | North American Pipe  |                     | SDR-26 PVC          | 15"     | 300'  | 2015            | 40                      |
| 18         | Headworks | Drain Inlet          | Cooks                |                     | Reinforced Concrete | 30"x30" | 1     | 2015            | 45                      |
| 19         | Headworks | 12" PVC Pipe         | North American Pipe  |                     | SDR-35 PVC          | 12"     | 8'    | 2015            | 40                      |
| 20         | Headworks | Yard Light           | LED Roadway Lighting | Satellite           | Bronze Finish       | 16'     | 2     | 2015            | 30                      |
| 21         | Headworks | Davit Crane          | USF Fabrication      |                     | Galvanized Steel    | 1000 lb | 1     | 2015            | 25                      |
| 22         | Headworks | 12" PVC Pipe         | North American Pipe  |                     | C900 PVC            | 12"     | 1900' | 2015            | 40                      |
| 23         | Headworks | 4" PVC Pipe          | North American Pipe  |                     | DR-14 PVC           | 4"      | 42'   | 2015            | 40                      |

## Wastewater Asset Inventory

| Asset ID | System           | Asset                  | Manufacturer        | Manufacturer ID # | Material         | Size   | Qty | Year of Install | Est Expected Life (yrs) |
|----------|------------------|------------------------|---------------------|-------------------|------------------|--------|-----|-----------------|-------------------------|
| 24       | Headworks        | 60" Eccentric Manhole  | Cooks               |                   | Precast Concrete | 60"    | 1   | 2015            | 45                      |
| 25       | Headworks        | 150kW Generator        | Generac             | SD 150            | Stainless Steel  | 150 kW | 1   | 2015            | 15                      |
| 26       | Headworks        | MCC-100                | MCC Control Systems |                   |                  |        | 1   | 2015            | 15                      |
| 27       | Headworks        | 4" Ductile Iron Pipe   | Fast Fabricators    |                   | Ductile Iron     | 4"     | 28' | 2015            | 40                      |
| 28       | Headworks        | 6" Ductile Iron Pipe   | Fast Fabricators    |                   | Ductile Iron     | 6"     | 28' | 2015            | 40                      |
| 29       | Headworks        | 8" Ductile Iron Pipe   | Fast Fabricators    |                   | Ductile Iron     | 8"     | 50' | 2015            | 40                      |
| 30       | Headworks        | 16" Ductile Iron Pipe  | Fast Fabricators    |                   | Ductile Iron     | 16"    | 8'  | 2015            | 40                      |
| 31       | Headworks        | Pipe Supports          |                     |                   | Galvanized Steel | 2.5"   | 3   | 2015            | 20                      |
| 32       | Headworks        | Grinder                |                     |                   |                  |        |     | 2021            |                         |
| 33       | Treatment System | Aeration Lagoons       |                     |                   |                  |        |     |                 |                         |
| 34       | Treatment System | Rock Filter Structures |                     |                   |                  |        | 3   | 2001            |                         |
| 35       | Treatment System | Aeration System        |                     |                   |                  |        |     | 1979            |                         |

## Wastewater Asset Inventory

| Asset ID | System                | Asset               | Manufacturer      | Manufacturer ID # | Material         | Size   | Qty   | Year of Install | Est Expected Life (yrs) |
|----------|-----------------------|---------------------|-------------------|-------------------|------------------|--------|-------|-----------------|-------------------------|
| 36       | Treatment System      | 6' Chain Link Fence | Central Fence Co. |                   | Galvanized Steel | 6'     | 2550' | 2015            | 20                      |
| 37       | Treatment System      | 8" Gate Valve       | Mueller           | A-2360-6          | Cast Iron        | 8"     | 6     | 2015            | 35                      |
| 38       | Treatment System      | 12" Gate Valve      | Mueller           | A-2360-6          | Cast Iron        | 12"    | 2     | 2015            | 35                      |
| 39       | Treatment System      | 8" Mud Valve        | Clow              | F-3085-T          | Cast Iron        | 8"     | 3     | 2015            | 35                      |
| 40       | Treatment System      | Manual Bar Screen   | Custom            |                   | Steel            | 4'x3'  | 1     | 2015            | 40                      |
| 41       | Treatment System      | Recycle Pumps       | Cascade           | 19072/73          | Cast Iron/Steel  | 7.5 hp | 2     | 2019            | 15                      |
| 42       | Treatment System      | Yard Light          |                   |                   |                  | 16'    | 1     | 2019            | 30                      |
| 43       | Effluent Pump Station | 4" Plug Valve       | DeZURIK           | PEC               | Cast Iron        | 4"     | 1     | 2019            | 35                      |
| 44       | Effluent Pump Station | 8" Plug Valve       | DeZURIK           | PEC               | Cast Iron        | 8"     | 4     | 2019            | 35                      |

## Wastewater Asset Inventory

| Asset ID | System                | Asset                   | Manufacturer              | Manufacturer ID # | Material         | Size  | Qty | Year of Install | Est Expected Life (yrs) |
|----------|-----------------------|-------------------------|---------------------------|-------------------|------------------|-------|-----|-----------------|-------------------------|
| 45       | Effluent Pump Station | 8" Swing Check Valve    | Kennedy                   | 1106LW            | Cast Iron        | 8"    | 3   | 2019            | 35                      |
| 46       | Effluent Pump Station | Pressure Gauge Assembly |                           |                   |                  |       | 3   | 2019            | 15                      |
| 47       | Effluent Pump Station | Submersible Pump        | Sulzer                    | XFP100E PE75/4    | Cast Iron        | 10 hp | 3   | 2019            | 15                      |
| 48       | Effluent Pump Station | Precast Wet Well        | Jensen Precast            |                   | Precast Concrete | 10'   | 1   | 2019            | 45                      |
| 49       | Effluent Pump Station | Magnetic Flow Meter     |                           |                   |                  | 8"    | 1   | 2019            | 20                      |
| 50       | Effluent Pump Station | 4" Check Valve          | Kennedy                   | 1106LW            | Cast Iron        | 4"    | 1   | 2019            | 35                      |
| 51       | Effluent Pump Station | Chemical Dosing System  | Devise/Blue-White/Griffco | Several           | Several          |       | 1   | 2019            | 20                      |

## Wastewater Asset Inventory

| Asset ID | System                | Asset                | Manufacturer     | Manufacturer ID # | Material         | Size    | Qty  | Year of Install | Est Expected Life (yrs) |
|----------|-----------------------|----------------------|------------------|-------------------|------------------|---------|------|-----------------|-------------------------|
| 52       | Effluent Pump Station | Davit Crane          | Thern            | 5PT10             | Stainless Steel  | 1200 lb | 1    | 2019            | 25                      |
| 53       | Effluent Pump Station | 6" Ductile Iron Pipe |                  |                   | Ductile Iron     | 6"      | 90'  | 2019            | 40                      |
| 54       | Effluent Pump Station | 8" Ductile Iron Pipe |                  |                   | Ductile Iron     | 8"      | 65'  | 2019            | 40                      |
| 55       | Effluent Pump Station | 2" Polyethylene Pipe |                  |                   | PE               | 2"      | 118' | 2019            | 40                      |
| 56       | Effluent Pump Station | Air Release Valve    | Crispin          | PL10              | Cast Iron        | 1"      | 3    | 2019            | 35                      |
| 57       | Effluent Pump Station | Pipe Supports        |                  |                   | Galvanized Steel | 2.5"    | 8    | 2019            | 20                      |
| 58       | Effluent Pipeline "A" | 16" PVC Pipe         | Diamond Plastics |                   | DR-25 PVC        | 16"     | 220' | 2019            | 40                      |
| 59       | Effluent Pipeline "A" | 16" Butterfly Valve  | DeZURIK          | BAW               | Cast Iron        | 16"     | 2    | 2019            | 35                      |

## Wastewater Asset Inventory

| Asset ID | System                | Asset                    | Manufacturer     | Manufacturer ID # | Material       | Size  | Qty   | Year of Install | Est Expected Life (yrs) |
|----------|-----------------------|--------------------------|------------------|-------------------|----------------|-------|-------|-----------------|-------------------------|
| 60       | Effluent Pipeline "B" | 12" PVC Pipe             | Diamond Plastics |                   | C900 DR-25 PVC | 12"   | 3170' | 2019            | 40                      |
| 61       | Effluent Pipeline "B" | 10" HDPE Pipe            | Performance Pipe | PE4710            | DR-17 HDPE     | 10"   | 220'  | 2019            | 40                      |
| 62       | Effluent Pipeline "B" | 12" Butterfly Valve      | DeZURIK          | BAW               | Cast Iron      | 12"   | 2     | 2019            | 35                      |
| 63       | Effluent Pipeline "B" | Air Release Valve        | Crispin          | PL10              | Cast Iron      | 1"    | 1     | 2019            | 35                      |
| 64       | Irrigation System     | Irrigation Turnout Gates |                  |                   |                | 16"   | 5     | 2019            | 35                      |
| 65       | Irrigation System     | Irrigation Pump          |                  |                   |                | 50 hp | 1     | 2019            | 15                      |
| 66       | Irrigation System     | 18" Butterfly Valve      | DeZURIK          | BAW               | Cast Iron      | 18"   | 5     | 2019            | 35                      |
| 67       | Irrigation System     | 2" PVC Pipe              |                  |                   | PVC            | 2"    | 460'  | 2019            | 40                      |
| 68       | Irrigation System     | 18" PVC Pipe             | Diamond Plastics |                   | DR-25 PVC      | 18"   | 500'  | 2019            | 40                      |
| 69       | Irrigation System     | 18" Ductile Iron Pipe    | McWane           |                   | Ductile Iron   | 18"   | 80'   | 2019            | 40                      |

## Wastewater Asset Inventory

| Asset ID | System                      | Asset          | Manufacturer     | Manufacturer ID # | Material       | Size     | Qty   | Year of Install | Est Expected Life (yrs) |
|----------|-----------------------------|----------------|------------------|-------------------|----------------|----------|-------|-----------------|-------------------------|
| 70       | Tailwater Collection System | 8" PVC Pipe    | Diamond Plastics |                   | C900 DR-18 PVC | 8"       | 1760' | 2019            | 40                      |
| 71       | Tailwater Collection System | Tailwater Pump |                  |                   |                | 40-70 hp | 1     | 2019            | 15                      |
| 72       | Tailwater Collection System | 4" Check Valve | Kennedy          | 1106LW            | Cast Iron      | 4"       | 1     | 2019            | 35                      |

## 2 Organization

### 2.1 Department of Public Works

Department of Public Works, through the Public Works Superintendent (PWS), is responsible for oversight of the SSMP, SSOs, and other related regulatory procedures. As related to this SSMP, the communication and level of responsibility is illustrated in Figure 2-1.

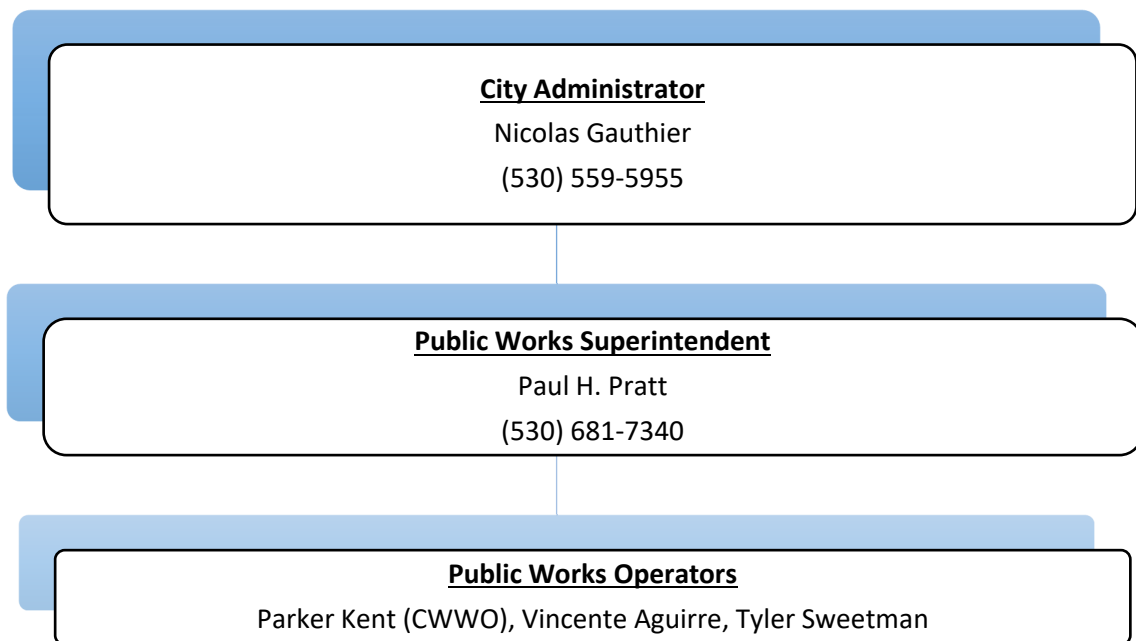


Figure 2-1. SSMP DPW Organization Chart

### 2.2 SSMP and SSO Responsibility and Communication

**SSMP Implementation & Maintenance – Public Works Superintendent (PWS)** The PWS shall prepare and maintain this SSMP and provide document updates to the RWQCB as required. The PWS shall notify and inform the City Administrator and City Council of document updates to the extent and in the manner directed by City Council.

**SSO Management & Reporting – Chief Wastewater Officer (CWWO)** The CWWO shall report all SSO incidents to the PWS and City Administrator. The CWWO shall be responsible for managing the SSO response, investigating the cause, and reporting the SSO to the appropriate stakeholders.

**SSO Response – The On-Call Staff** The On-Call Staff shall be the highest-level sewer staff on duty at the time of spill discovery and reporting. The On-Call Staff shall be responsible for immediately notifying the CWWO and the PWS to notify the City Administrator of SSOs. On-Call Staff shall take any means necessary to safely contain and redirect overflows to minimize

negative impacts. All actions taken by On-Call Staff shall be in accordance with spill response training, instruction, and individual assessment of the situation. The person acting as On-Call Staff may transition to another sewer staff member during an emergency as directed by the CWWO or PWS.

### **2.3 Chain of Communication for SSO Reporting**

The role of Legally Responsible Official (LRO) of all wastewater collection system matters is shared by the PWS and the CWWO. As the LRO, the PWS and CWWO are authorized to certify electronic spill reports. The PWS is also responsible and authorized to keep and update this SSMP. Contact information for the PWS, CWWO, and other City personnel is listed in

Table 2-1.

Table 2-1. Contact Information

| Contact                                 | Phone Number   |
|-----------------------------------------|----------------|
| City Hall                               | (530) 868-5493 |
| Gridley Police Department               | (530) 846-5670 |
| Paul Pratt, Public Works Superintendent | (530) 681-7340 |
| Parker Kent, Chief Wastewater Operator  | (530) 717-9835 |
| On-Call Sewer Personnel                 | (530) 682-0770 |

DPW has a process for receiving, responding to, and reporting SSOs. In addition to immediately notifying the CWWO and the PWS to notify the City Administrator of SSOs, the On-Call Staff is responsible for directing crew through the entire SSO event, from response to mitigation, cause removal and clean-up until the PWS is present on-site at which time the PWS will take over responsibility. The On-Call Staff is also responsible for ensuring photographs are taken and all necessary paperwork is completed in full. After or during the event, the On-Call Staff is responsible for communicating the details of the event to the PWS or CWWO. The PWS is responsible for timely reporting of the incident to the appropriate agencies, as well as developing a plan to increase or change preventative maintenance activities to prevent future spills.

To ensure a coordinated and efficient response to SSOs, the DPW has established a detailed process that outlines each step from the initial report through mitigation, reporting, and prevention. This process ensures clear communication, timely action, and thorough documentation at every stage. The following steps detail the specific procedures and responsibilities for managing SSOs:

1. The DPW customer service phone line (530-868-1396) is staffed Monday through Friday 7 a.m. to 3:30 p.m., excluding holidays, to receive incoming calls. After normal business hours, all emergency calls are forwarded to the Gridley Police Department, who then notifies On-Call Staff of emergency.
2. Once a report of an SSO is received (or DPW staff observe an SSO), the On-Call Staff is contacted immediately via phone. If the SSO is characterized as a Category 1, the On-Call Staff contacts the PWS. In the absence of the PWS, the CWWO is to be notified.
3. On-Call Staff will dispatch additional personnel and/or pump equipment contractor, if necessary, for assistance with mitigation, blockage clearing and clean-up. Butte County Environmental Health Department will be notified, as necessary, with results of analyzed water samples.
4. On-Call Staff takes photographs and completes SSO reporting forms in Section 6.
5. PWS then contacts appropriate agencies, completes appropriate forms, submits online reports, and compiles all information and photos into SSO logs.
6. On-Call Staff reviews information with the PWS and a plan is developed for preventative maintenance activities at the spill location as necessary.
7. Copies of SSO logs are shared with City Office staff for input and training.

### **3 Legal Authority**

Table 3-1 provides a summary of the City’s legal authority requirements as stipulated in the General Order. The referenced sections correspond to the City of Biggs Municipal Code (BMC), which is publicly available at City Hall and online (<https://www.codepublishing.com/CA/Biggs/>).

Table 3-1. Legal Authority Requirements

| Legal Authority Requirement                                                                                                                                                                                                                               | Authorization                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prevent illicit discharges into the sanitary sewer system, including I&I, stormwater, chemical dumping, unauthorized debris, roots, fats, oils, and grease, and trash causing blockages.                                                                  | BMC 10.05.230, 10.05.310                                                                                                                                                                                                                                                                                                                                                                 |
| Collaborate with storm sewer agencies for emergency spill responses, ensure access during spill events, and prevent unintentional cross connections of sanitary sewer and storm sewer infrastructure.                                                     | The City's DPW collaborates with other City departments and the local reclamation district.                                                                                                                                                                                                                                                                                              |
| Require proper design and construction of sewer system components and connections.                                                                                                                                                                        | BMC 10.05.310                                                                                                                                                                                                                                                                                                                                                                            |
| Enforce violations of sewer ordinances, service agreements, or other legally binding procedures.                                                                                                                                                          | California State Government Code Section 36900                                                                                                                                                                                                                                                                                                                                           |
| Ensure access for maintenance, inspection, and/or repairs for portions of the service lateral owned and/or operated by the City. Obtain easement accessibility agreements for locations requiring sewer system operations and maintenance, as applicable. | <p>BMC 10.05.280</p> <p>The City does not maintain private lateral sewer lines. Property owners are responsible for proper installation, operation, and maintenance of both upper and lower laterals, including laterals on the City-owned easement. Property owners are required to obtain permits from DPW for work on private properties and for work in the public right-of-way.</p> |

## 4 Operation and Maintenance Program

### 4.1 Collection System Map

The DPW maintains records of sewer assets through a combination of methods, including AutoCAD Map 3D as well as paper maps. Currently, paper maps and maintenance log records are the primary method for recording maintenance, repairs, and upgrades to those assets.

System maps are available at the Public Works office at the City's Wastewater Treatment Plant and at City Hall. A map of the City's sanitary sewer system is provided in

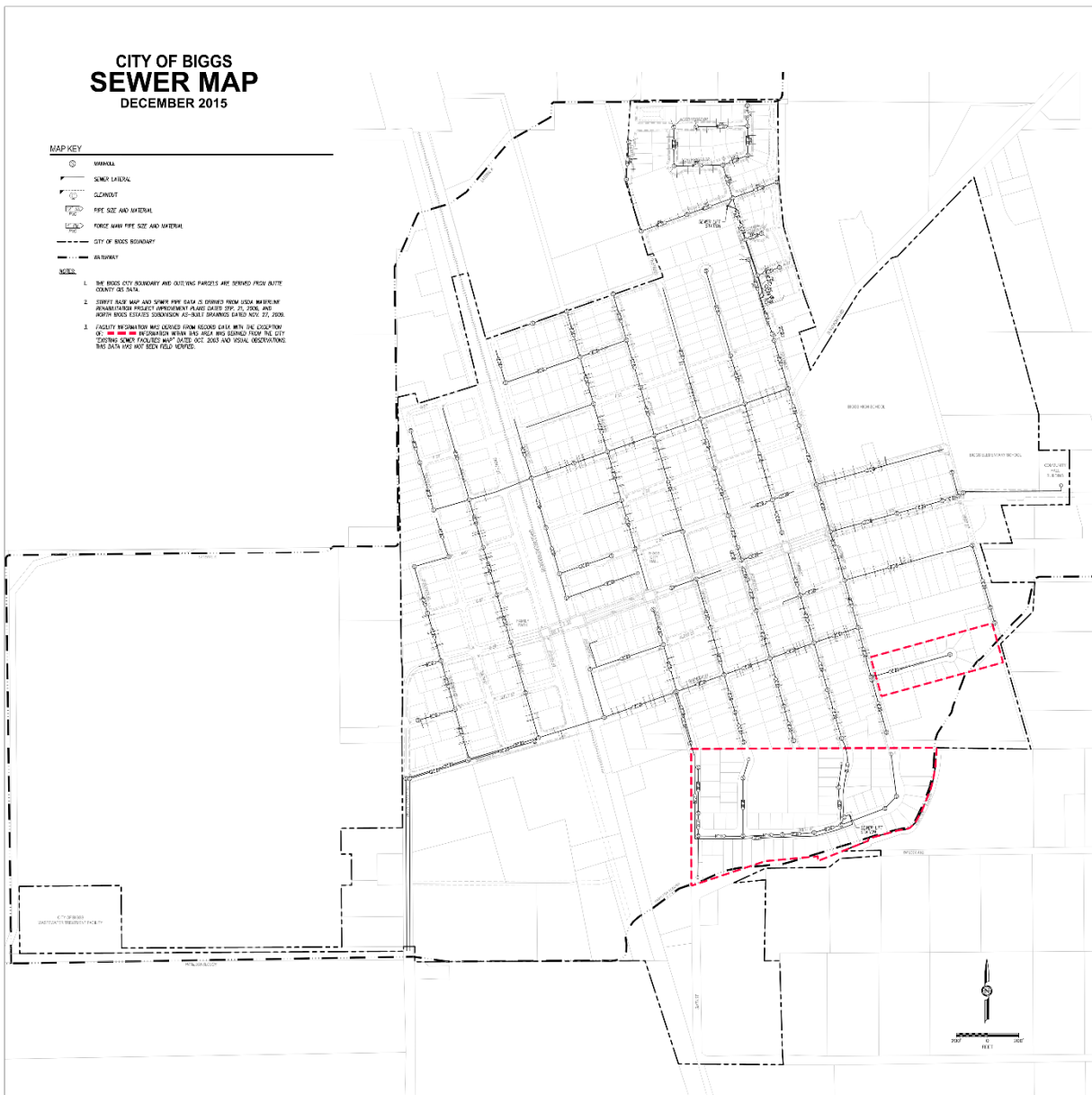


Figure 4-1. When changes are made to the collection system, digital maps are updated using AutoCAD (drafting software). Maps are available to State and Regional Water Board staff upon request.

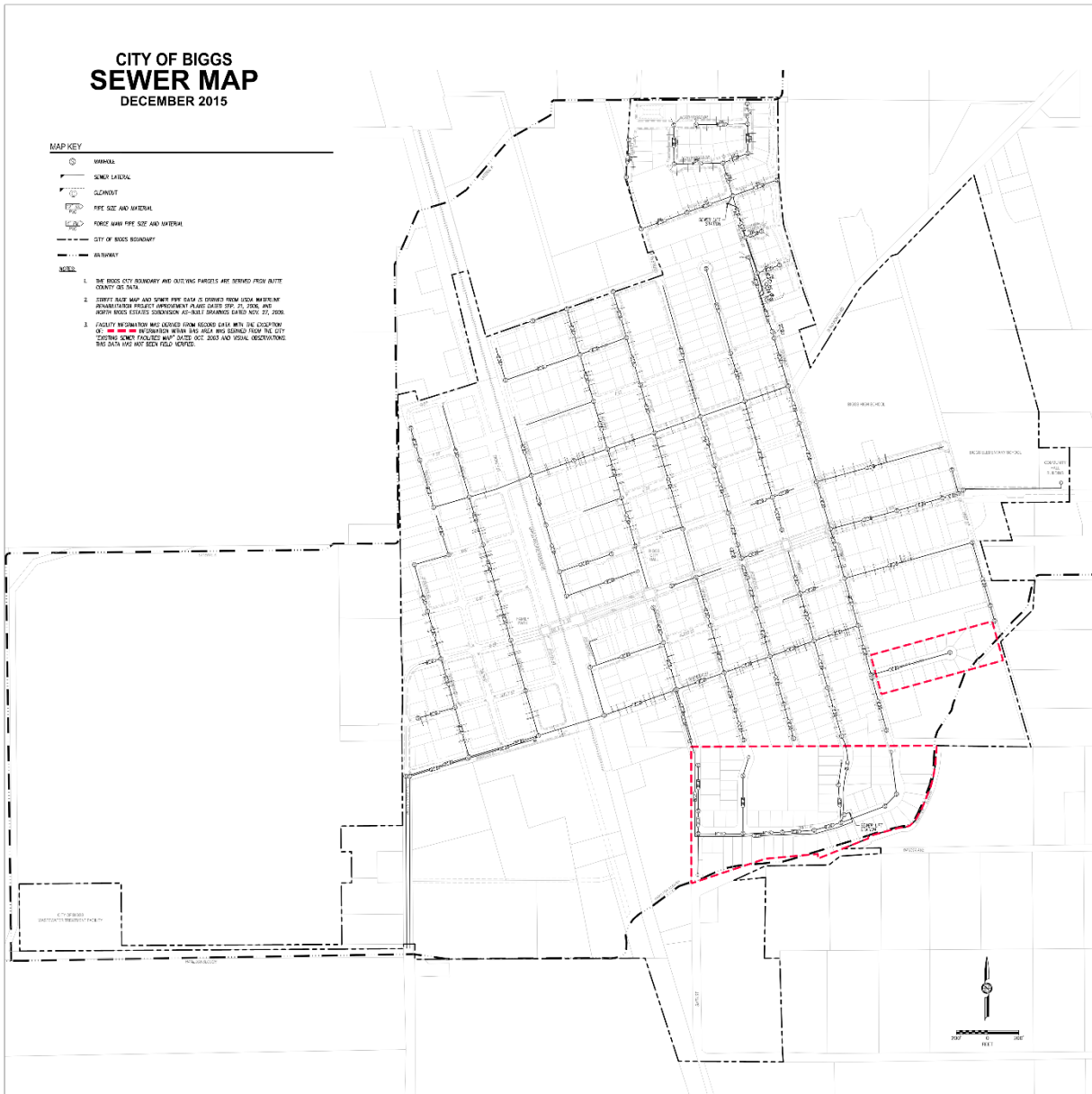


Figure 4-1. City Sanitary Sewer System Map

## 4.2 Preventative Operation and Maintenance Activities

DPW is committed to implementing preventative maintenance practices for the proper operation and maintenance of the sanitary sewer collection system. Key activities and objectives include:

- Increase preventative maintenance
  - Perform a video condition assessment (via closed-circuit television, CCTV) of each sewer main every ten years, continuously identifying areas requiring root control.
  - Conduct monthly, quarterly, bi-annual, and annual preventative maintenance hydro-

- cleaning and power-rod cleaning of identified sewer mainline target areas.
- Refer mains with repeat non-scheduled maintenance to the City Engineering Department for potential inclusion in the Capital Improvement budget for replacement or repair.
- Conduct analysis/evaluation of SSOs using historical maintenance and activity data, providing recommendations to reduce future risk.
- b. Address FOG blockages (see Section 7 for more detail)
- c. Optimize pump station efficiency
  - Operate all pump stations at peak efficiency.
  - Perform scheduled preventative maintenance on equipment.
- d. Record maintenance
  - Maintain records of the sanitary sewer system.
  - Respond to inquiries within 48 hours.
- e. Support Capital Improvement Program (CIP)
  - Assist with the development of a CIP aimed at maintaining the current sewer assets, improving system reliability, and ensuring adequate future capacity.

Additionally, DPW developed a Sewer Master Plan (SMP) in 2003 that, along with identifying future facility needs, identified existing system deficiencies. The SMP, along with the ongoing Operations and Maintenance Program, are used to maintain a comprehensive list of sewer facilities that require rehabilitation or replacement.

The City dedicates approximately 1% of the collection system's valuation annually for rehabilitation and repair efforts, prioritizing structural defects and issues that could lead to SSOs. This funding supports targeted actions such as inspecting areas of concern and replacing aging infrastructure, including terracotta clay pipes that contribute to I&I. Diagnostic methods, including smoke testing, are being explored to enhance system evaluations, with grant funding currently being pursued for inspection of the entire collection system. As-built records and operational experience are also used to assess pipe age and leak frequencies, guiding replacement efforts and ensuring system reliability.

DPW state-certified operators maintain the system daily and submit weekly samples of effluent to ELAP-accredited (Environmental Laboratory Accreditation Program) labs for analysis.

### **4.3 Training**

DPW staff is required to complete various types of training as listed below. Division staff responsible for maintenance are also encouraged to earn a CA Water Environment Association (CWEA) certificate through the CWEA's Technical Certification Program.

Training provided to DPW staff and contractors includes the requirements of the General Order, procedures and practice drills of the City's Spill Emergency Response Plan, estimation of spill volume, and electronic CIWQS reporting procedures, as applicable.

Certain trainings are provided at the time of hire to familiarize new staff with critical protocols and procedures. Regular training sessions are held on a bi-weekly basis to reinforce knowledge,

update staff on new practices, and ensure compliance. Additional trainings provided to staff include:

- CORE SSMP, Customer Service, Sexual Harassment, Cultural Diversity
- Sewer Main Cleaning (Powerrod, Hydrojet, HydroSaw, Flail), Commercial Driver's License, Chainsaw, Backhoe/Loader
- Confined Space, Gas Detection, CWEA Certifications, Shoring, Traffic Control, USA Locating, SSO Prevention, STOPPP
- Electrical training, Pump Repairs
- Hazmat, Emergency Evacuation Plan
- Blood Borne Pathogen, Dehydration / Heat Stroke, First Aid Training, CPR

#### **4.4 Equipment Inventory**

DPW staff is responsible for keeping an inventory of sewer system equipment, including the identification of critical replacement and spare parts for repairing pump stations, mains, manholes, and critical emergency response equipment. An inventory of emergency response equipment is provided in Appendix 6-I. The following is a list of equipment and parts that are kept and maintained at City facilities:

- |                                                  |                            |
|--------------------------------------------------|----------------------------|
| • Manhole lids                                   | • Floats                   |
| • 4-inch SDR-35 pipe and fittings                | • Mag Meter                |
| • 6-inch SDR-35 pipe and fittings                | • Relays                   |
| • Repair couplings                               | • Effluent Wet Well Pumps  |
| • Emergency Overflow Spill Kits                  | • Flow Meter               |
| • Sand, Gravel & Asphalt                         | • Hypochlorite Dosing Pump |
| • Backup Generators                              | • Water Valves             |
| • Electrical Connector Kits                      | • Check Valves             |
| • Tailwater pump                                 | • Influent Wet Well Pumps  |
| • Irrigation Pumps                               |                            |
| • Gas Powered Backup Pumps (Influent & Effluent) |                            |

## **5 Design and Performance Provisions**

### **5.1 Design and Construction Standards and Specifications**

The City adheres to established City of Biggs adopted documents and Construction Specifications adopted from Butte County documents. The standards serve as primary references for the construction, installation, repair, and rehabilitation of sewer system infrastructure components, including pipelines, pump stations, and other appurtenances. The Improvement Standards and Construction Specifications, itemized in

Table 5-1, are available for review at DPW at City Hall as well as on the City website.

Table 5-1. Improvement Standards and Construction Specifications

| Activity                             | Drawing No.         |
|--------------------------------------|---------------------|
| Sanitary Sewer Cleanout              | Standard Detail 501 |
| Sanitary Sewer Service & Connection  | Standard Detail 502 |
| Sanitary Sewer City Access Control   | Standard Detail 503 |
| Sanitary Sewer & Storm Drain Manhole | Standard Detail 504 |

## 5.2 Procedures and Standards

The City upholds rigorous procedures and standards for the inspection and testing of newly constructed, newly installed, repaired, and rehabilitated sewer system components. This includes pipelines, pumps, and other equipment and appurtenances. These standards, consistent with the Improvement Standards and Construction Specifications detailed in Section 5.1, necessitate inspections involving pressure testing, mandrelling, water exfiltration, and/or post-construction CCTV inspection. City construction inspectors oversee these inspections to ensure compliance before accepting the completed work.

# 6 Spill Emergency Response Plan

## 6.1 Purpose

The purpose of this Spill Emergency Response Plan (SERP) is to support a prompt and effective response to SSOs. The flow chart shown in Figure 6-1 provides the steps for detection, notification, monitoring, and reporting following the detection of an SSO. A copy of this chart is kept at the corporate yard as well as operator's trucks. Emergency contact information is included in Appendix 6-A.

## Spill Response

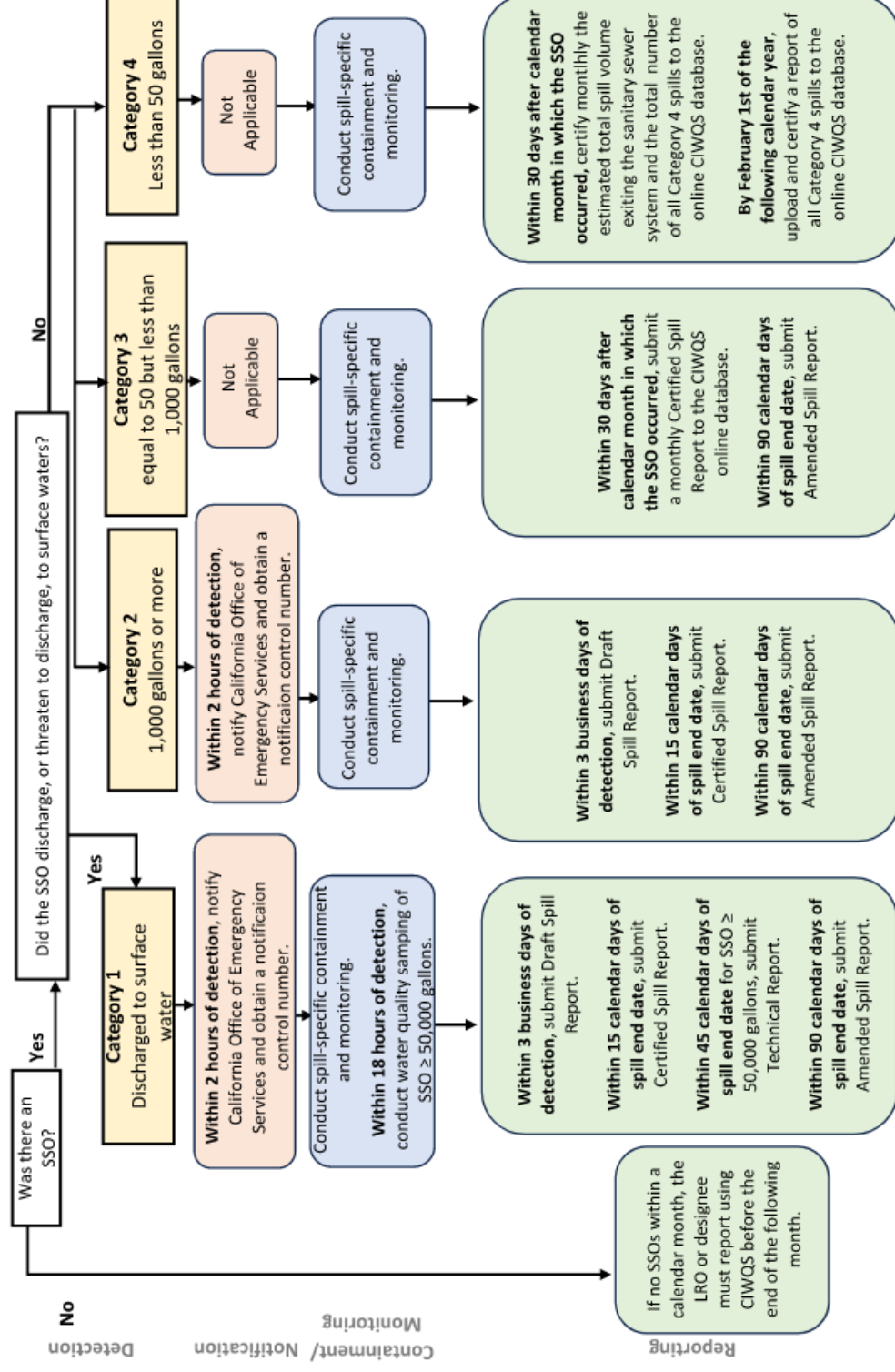


Figure 6-1. SSO Response Procedure Flowchart

## **6.2 Detection**

The processes that are employed to detect the occurrence of an SSO include: observation by the public, receipt of an alarm, or observation by City staff during the normal course of their work.

### **6.2.1 Public Observation**

Reports of public observation are the most common way the City is notified of blockages and spills. Contact information for reporting sewer spills and backups are on the City's website:

<https://www.biggs-ca.gov/City-Services/Utilities/Sewer/index.html>

DPW is on the lift stations with emergency contact information. The working hours telephone number for reporting sewer problems is (530) 868-5493. The after-hours telephone number is (530) 559-5955 (24-hour emergency line).

#### ***Normal Work Hours***

The City's regular working hours for the sewer crew is Monday through Friday from 7:00 a.m. to 3:30 p.m., excluding holidays. When a report of a sewer spill or backup is made, City Staff receives the call, takes the information from the caller, fills out the first section of the Sewer Report Form (See Appendix 6-B), and communicates it to the field crew who responds to the site.

#### ***After Hours***

The public can report blockages and spills at any time using the 24-hour emergency line. Calls are directed to the DPW, which responds in accordance with City procedures. See Appendix 6-A for additional after-hours personnel contact information.

### **6.2.2 City Staff Observation**

City Staff conduct periodic inspections of the sewer system facilities as part of their routine activities. Any problems noted with the sewer system facilities are reported to appropriate City personnel who, in turn, respond to emergency situations.

### **6.2.3 Receipt of Alarm**

If an alarm is set off during normal working hours, the alarm company will contact the DPW. After normal working hours, the alarm company will contact the on-call personnel, CWWO, and PWS.

## **6.3 Notification**

### **6.3.1 Officials and Agencies**

Following the detection of a SSO, DPW staff notify appropriate local officials and appropriate regulatory agencies, including the City Administrator, county environmental health agency, CA Office of Emergency Services (OES) and the SWRCB. If the SSO has potential to affect public health or reach waters of the State, DPW staff also notify the potentially affected entities, which may include health agencies or water purveyors, such as the neighboring City of Gridley.

### **6.3.2 Public and Media**

DPW understands the importance of promptly warning the public against contact with sewage or sewage-contaminated water from an SSO. The following agencies and individuals should be contacted as deemed necessary:

- Gridley Police Department: To manage traffic and ensure public safety.
- Public Works: Responsible for closing affected areas (e.g., parks) and mitigating impacts on surface waters.
- Local residents: Notification should be extended to residents who might be impacted by the SSO.

In the case of major spills with widespread implications, the PWS will contact local media for broader public awareness. Contact information for local media will be maintained by the PWS.

### **6.3.3 Sign Posting and Barricading**

To prevent accidental exposure to spilled sewage, warning signs, yellow “Caution” tape, and barricades should be promptly deployed to block vehicles and pedestrians from contaminated areas. These precautions should only be removed once lab results confirm the area is safe for human contact. A sample warning sign is included in Appendix 6-H.

Signs at areas such as property, creeks, rivers, or beaches affected by an SSO should be posted at visible access locations until the risk of contamination has subsided to background levels. Regular checks on the placement of warning signs are recommended to ensure ongoing visibility and effectiveness.

## **6.4 Containment and Monitoring**

It is the role of the first responder, DPW staff, to protect public health, environment, and property from sewage spill events and restore the area back to normal as soon as possible. The

first responder must contain and control the sewage discharged to the maximum extent possible and establish perimeters and control zones with traffic cones, barricades, or vehicles. Every effort must be made to prevent the discharge of sewage into waterways above and below ground. DPW staff must promptly identify major SSO events and/or the need for additional resources (e.g. people, equipment, etc.).

#### **6.4.1 Primary responder Priorities**

Priorities of DPW staff responding to the SSO are:

- Follow safe work practices.
- Respond promptly with the appropriate equipment.
- Contain the spill whenever feasible.
- Restore the flow as soon as practicable.
- Minimize public access to and/or contact with the spilled sewage.
- Promptly notify PWS in event of major SSO.
- Return the spilled sewage to the sewer system.
- Restore the area to its original condition (or as close as possible).

#### **6.4.2 Safety**

DPW staff are responsible for following safety procedures at all times. Special safety precautions must be observed when performing sewer system work. There may be times when City personnel responding to a sewer system event are not familiar with potential safety hazards peculiar to sewer system work. In such cases, it is appropriate to take the time to discuss safety issues, consider the order of work, and check safety equipment before commencing the work.

#### **6.4.3 Initial Response**

Every sewer service call requires an immediate on-site response to minimize or prevent an overflow. The responder must promptly reach the caller, lift station, or problem location and visually inspect for any sewer stoppages or spills. When responding to an SSO, DPW staff should:

- Get a brief description of the nature of the problem from the caller.
- Determine appropriate response measures based on the circumstances and information provided by the caller (e.g. weather and traffic conditions, small backup

vs. sewage flowing on the ground, etc.).

- If the situation requires, contact other Public Works employees for support. All calls—during working hours and after hours—should be directed to the Public Works Department. See Appendix 6-A for After Hours and Emergency Contact Information.
- Note arrival time, document conditions with photographs, contact caller if time permits.
- Verify the existence of a sewer system spill or back up.
- Regardless of whether the spill/backup is caused by a private lateral or other agency sewer system, the responding crew should always contain/mitigate the spilled sewage to the extent feasible and standby until representatives of the responsible party arrive and are fully operational.

#### **6.4.4 Restore Flow**

Responding staff should relieve the stoppage or restore the lift station operation as soon as possible by use of the appropriate equipment.

If addressing a stoppage, set up downstream of the blockage and hydro clean or rod upstream from a clear manhole. Attempt to remove the blockage from the system and observe the flows to ensure that the blockage does not recur downstream. If the blockage cannot be cleared within a reasonable time (15 minutes), or the sewer requires construction repairs to restore flow, or if the lift station operation cannot be restored within the wet well holding time, then initiate containment and/or bypass pumping. If assistance is required, immediately contact the PWS or call other employees directly.

#### **6.4.5 Initiate Spill Containment Measures**

The responder should attempt to contain as much of the spilled sewage as possible using the following steps:

- Determine the immediate destination of the overflowing sewage.
- When a spill, leak, and/or overflow occurs, keep sewage from entering the storm drain system to the maximum extent practicable by covering or blocking storm drain inlets and catch basins, or by containing and diverting the sewage away from open channels and other storm drain facilities (using sandbags, inflatable dams, plastic mats, etc.).
- Review sewer maps for possible temporary upstream flow diversion bypassing.
- Pump around the blockage/pipe failure/lift station.

- Dike/dam (or sandbag) the spill by building a temporary berm to collect the spilled sewage.
- If overflowing sewage has discharged to the storm drainage system, attempt to contain the spilled sewage by plugging downstream storm drainage facilities.
- Modify these methods as needed to accommodate wet weather conditions where the feasibility of containment may be impacted by the quantity of stormwater runoff.

#### 6.4.6 Water Quality Sampling

Water quality sampling and analysis is required by DPW whenever more than 1,000 gallons of spilled sewage enters a surface water to determine the extent and impact of the SSO. Water quality sampling is guided by the following procedures:

- **Primary responder Collection:** Initial samples should be collected by the primary responder as promptly as possible after discovering the SSO event.
- **Discharges into Flowing Water:** For spills into flowing water (e.g., rivers, creeks), water quality samples should be collected at three points: 100 feet upstream of the spill, from the spill area, and for 1,000 feet downstream of the spill at 100-foot intervals.
- **Discharges into Stationary Water:** In cases of spills into stationary water (e.g., lakes, ponds), samples should be collected from the spill area and for 1,000 feet on either side of the spill at 100-foot intervals.

Upon collection, a laboratory will analyze the results to determine the nature and impact of the discharge. Subsequent samples will be taken to ascertain when the posting of warning signs can be discontinued. The fundamental analyses should cover total coliform, fecal coliform, biochemical oxygen demand, dissolved oxygen, and ammonia nitrogen.

### 6.5 Recovery and Clean Up

Recovery and clean up begin when the flow has been restored and the spilled sewage has been contained to the extent possible.

#### 6.5.1 Estimation of Volume

Use the methods outlined in Appendices 6-F and 6-G to estimate the volume of the spilled sewage. Wherever possible, document the estimate using photos of the SSO site before and during the recovery operation.

### **6.5.2 Recovery of Spilled Sewage**

Vacuum up or pump the spilled sewage and discharge it back into the sanitary sewer system.

### **6.5.3 Clean Up and Disinfection**

During the disinfection of a sewage-contaminated area, take precautions to prevent the discharge of disinfectant or treated sewage into the storm drain system or surface waters. Methods may include blocking storm drain inlets, containing and diverting disinfectant and sewage from open channels and other storm drain fixtures, and removing material with vacuum equipment. If cleanup exceeds the capabilities of City staff, a cleanup contractor will be engaged.

#### ***Hard Surface Areas***

1. Collect sewage solids and related material by hand or using rakes, brooms, and shovels.
2. Wash the affected area with clean water until the water runs clear. Contain and vacuum up wastewater.
3. Disinfect contaminated areas with a solution of household bleach diluted 10:1 with water. Apply minimal amounts using a hand sprayer. Document the volume and application method.
4. Allow the area to dry. Repeat the process if additional cleaning is needed. Avoid applying disinfectant during wet weather conditions.

#### ***Landscapes and Unimproved Natural Vegetation***

1. Collect solids and sewage-related material by hand or with rakes, brooms, and shovels.
2. Wash the affected area with clean water, using a flushing volume approximately three times the estimated spill volume.
3. Contain or vacuum up wastewater to prevent release.
4. Allow the area to dry. Repeat the process if further cleaning is required. Avoid applying disinfectant to landscaped areas or unimproved natural vegetation.

### ***Natural Waterways***

1. Notify the California Department of Fish and Wildlife through the state dispatch center at (916) 445-0045 if an SSO impacts natural waterways.
2. Follow their professional guidance for effective cleanup in sensitive environments. Swift cleanup is essential to minimize negative impacts, and water used in the cleanup process should be dechlorinated before use.
3. During heavy runoff events, omit additional flushing unless expressly directed by CDFW or RWQCB staff; natural dilution may be sufficient.

#### **6.5.4 Follow-up Activities**

If sewage has reached the storm drain system, the Sewer Cleaning Truck (borrowed from the neighboring City of Gridley) should be used to vacuum/pump out the catch basin and any other portion of the storm drain that may contain sewage. In the event that an overflow occurs at night, the location should be re-inspected as soon as possible the following day. The operator should look for any signs of sewage solids and sewage-related material that may warrant additional cleanup activities.

### **6.6 Reporting**

All SSOs should be thoroughly investigated and documented for use in managing the sewer system and meeting established reporting requirements.

#### **6.6.1 Internal Reporting**

Procedures for internal reporting varies for each SSO category as follows:

##### ***Category 1 SSO***

The responding DPW staff will immediately notify the PWS. The PWS or their designee will meet with field crew(s) at the site of the SSO event to assess the situation and to document the conditions with photos and field notes.

The responding staff will fill out the Sewer Report Form and provide it to the PWS for review of completeness and accuracy.

In the event of a large overflow or an overflow in a sensitive area, the responding staff will notify the PWS who may notify the City Administrator and City Council.

##### ***Category 2 SSO***

The primary responder will fill out the Sewer Report Form and provide it to the PWS for review of completeness and accuracy.

### ***Category 3 SSO***

The primary responder will fill out the Sewer Report Form and provide it to the PWS for review of completeness and accuracy.

### ***Category 4 SSO***

The primary responder will fill out the Sewer Report Form and provide it to the PWS for review of completeness and accuracy.

Internal Annual SSO Performance Review: Each year, the PWS shall prepare an internal report comparing the current year's SSO incidents against the previous ten or more years. The report shall include location, date, frequency, and volume for each incident, and shall incorporate two CIWQS-generated graphs showing total spill volume per year and total number of spills per year, consistent with Section 5.11 of Order WQ 2022-0103-DWQ. This report is retained on file for adaptive management purposes and is made available to regulators upon request. The SSO history shall be organized using the tables below.

## **6.6.2 External Reporting**

The CIWQS electronic reporting system will be used for reporting SSO information to the SWRCB whenever possible. In the event that CIWQS is not available, the PWS, or their designee, will fax all required information to the RWQCB office in accordance with the time schedules identified above. In such an event, the City will submit the appropriate reports using CIWQS as soon as practical. The RWQCB fax number for Region 5R is (530) 224-4857. A sample form with required information is included as Appendix 6-C.

For Category 1 and Category 2 spills (i.e., spills of 1,000 gallons or greater that discharge to, or threaten to discharge to, surface waters), the PWS shall notify the California Office of Emergency Services (OES) by calling the 24-hour reporting line at (800) 852-7550 and obtain a control number as soon as possible but no later than two (2) hours after gaining knowledge of the spill. Notification can be deferred only if doing so would substantially impede cleanup or other emergency measures. Within three (3) business days of gaining knowledge of a Category 1 or Category 2 spill, the PWS or LRO shall submit a Draft Spill Report to the online CIWQS Sanitary Sewer System Database. Refer to Figure 6-1 and Attachment E1 of Order WQ 2022-0103-DWQ for complete external reporting timelines and requirements for all spill categories.

In months when no SSOs occur, the LRO or designee must certify a no-spill report in the online CIWQS Sanitary Sewer System Database before the end of the following calendar month. In addition, the City is required to submit an Annual Report (previously termed the Collection System Questionnaire) to CIWQS each year. The PWS shall ensure both the monthly no-spill certifications and the Annual Report are

completed on schedule.

In addition to the reporting requirement of Section 6.6, the PWS is responsible for ensuring all SSO-related reporting obligations are met. These obligations include:

**Monthly No-Spill Certification:** In any calendar month where no SSOs occur, the LRO or designee shall log into the online CIWQS Sanitary Sewer System Database and certify a no-spill report before the end of the following month.

**CIWQS Annual Report:** Separate from the internal performance review, the City is required to submit a formal Annual Report (previously termed the Collection System Questionnaire) to the SWRCB through the online CIWQS database each year by April 1, per Section 3.9 of Attachment E1 of Order WQ 2022-0103-DWQ. The PWS shall ensure timely submission of this report each year. A list of the past year's SSO incidents shall include location, date, frequency, and volume. The SSOs will be reported with the following structure:

Table 6-1. History of SSOs

| Size of SSO<br>(gallon)           | Current year | Previous year | Fifth year |
|-----------------------------------|--------------|---------------|------------|
| Greater than or<br>equal to 1,000 |              |               |            |
| From 100 to 999                   |              |               |            |
| From 10 to 99                     |              |               |            |
| Less than 10                      |              |               |            |
| Total                             |              |               |            |

Table 6-2. Total Volume (gal)

|                                                                                    | Current<br>year | Previous<br>year | Fifth year |
|------------------------------------------------------------------------------------|-----------------|------------------|------------|
| Total volume contained and<br>returned to sewer system                             |                 |                  |            |
| Total volume reaching<br>waters of the State                                       |                 |                  |            |
| Total volume contained but<br>not reaching waters of the<br>State (everything else |                 |                  |            |
| Total                                                                              |                 |                  |            |

Table 6-3. Causes of SSOs

|                          |                      | # in Main | # in Lateral |
|--------------------------|----------------------|-----------|--------------|
| Blockages                |                      |           |              |
|                          | Roots                |           |              |
|                          | Grease               |           |              |
|                          | Debris               |           |              |
|                          | Debris from laterals |           |              |
|                          | Vandalism            |           |              |
|                          | Animal Carcass       |           |              |
|                          | Construction Debris  |           |              |
|                          | Leaves               |           |              |
|                          | Multiple Causes      |           |              |
| Subtotal from Blockages  |                      |           |              |
| Infrastructure Failure   |                      |           |              |
| Inflow & Infiltration    |                      |           |              |
| Electrical Power Failure |                      |           |              |
| Flow Capacity Deficiency |                      |           |              |
| Natural Disaster         |                      |           |              |
| Bypass                   |                      |           |              |
| Cause Unknown            |                      |           |              |

The tables above do not include SSOs that occurred from private sewer service laterals within the City jurisdiction that were caused by conditions in privately-owned laterals or on private property. The property owners are responsible for the condition and the operation of those sewer service laterals.

## **6.7 *Post-Spill Assessment***

Following the spill event, a failure analysis investigation will be conducted, aimed at determining the cause of the SSO and identifying corrective action(s) needed that will reduce or eliminate future potential for the SSO to recur. The investigation should include reviewing all relevant data to determine appropriate corrective action(s). The investigation should include:

- Reviewing and completing the Sewer Report Form;
- Reviewing past maintenance records;
- Reviewing available photographs;
- Conducting a CCTV inspection to determine the condition of the line segment immediately following the SSO and reviewing the video and logs; and
- Interviewing staff who responded to the spill.

The product of the failure analysis investigation should be the determination of the root cause and the identification of the corrective actions. The Collection System SSO Analysis Form (Appendix 6-D) should be used to document the investigation.

## **6.8 *SSO Response Training***

This section provides information on the training that is required to support this SERP.

### **6.8.1 Initial and Annual Refresher Training**

All City personnel who may have a role in responding to, reporting, and/or mitigating a sewer system overflow should receive training on the contents of this SERP. All new employees should receive training before they are placed in a position where they may have to respond. Current employees receive annual refresher training on this plan and the procedures to be followed.

### **6.8.2 SSO Training Record Keeping**

Records should be kept of all training that is provided in support of this plan. The records for all scheduled training courses and for each overflow emergency response training event should include date, time, place, content, name of trainer(s), and names of attendees.

All contractors working on City sewer facilities will be required contractually to develop a project specific SERP. All contractor personnel will be required to receive training in the contractor's SERP and to follow it in the event that they cause or observe an SSO.

## **6.9 *Documentation and Recordkeeping***

### **6.9.1 Internal Documentation**

The responding DPW staff will complete a work order and the Sewer Report Form (Appendix 6-B) and provide copies to the PWS. For each SSO, the PWS will prepare a file that includes the following information:

- Initial service call information
- Sewer Report Form
- Copies of the CIWQS report forms
- Volume estimate
- Failure analysis investigation results
- The following are required for Category 1 SSOs and optional for Category 2 SSOs:
- Appropriate maps showing the spill location
- Photographs of spill location and GPS coordinates of spill origin (required for Category 1)
- Water quality sampling and test results, if applicable

### **6.9.2 Recordkeeping Requirements**

The WDR requires that individual SSO records be maintained by the City for a minimum of five years from the date of the SSO. This period may be extended when requested by the RWQCB Executive Officer. All records shall be made available for review upon SWRCB or RWQCB staff request. Records shall be retained for all SSOs, including but not limited to the following, when applicable:

- Copy of Certified CIWQS report;
- All original recordings for continuous monitoring instrumentation;
- Service call records and complaint logs of calls received by the City;
- SSO records;
- Steps that have been and will be taken to prevent the SSO from recurring and a schedule to implement those steps;

- Work orders, work completed, and any other maintenance records from the previous five years which are associated with responses and investigations of system problems related to SSOs;
- A list and description of complaints from customers or others from the previous five years; and
- Documentation of performance and implementation measures for the previous five years.
- If water quality monitoring is conducted by the City or its agent(s), as a result of any SSO, records of monitoring information shall include:
  - The date, exact place, and time of sampling or measurements;
  - The individual(s) who performed the sampling or measurements;
  - The date(s) analyses were performed;
  - The individual(s) who performed the analyses;
  - The analytical technique or method used; and
  - The results of such analyses.

### ***6.10 Post-SSO Event Debriefing***

Every SSO event is an opportunity to evaluate the response and reporting procedures. Each overflow event is unique, with its own elements and challenges including volume, cause, location, terrain, and other parameters.

As soon as possible after major SSO events, all of the participants, from the person who received the call to the last person to leave the site, should meet to review the procedures used and to discuss what worked and where improvements could be made in responding to and mitigating future SSO events. The results of the debriefing should be recorded and tracked to ensure the action items are completed.

### ***6.11 Equipment***

The following specialized equipment that is required to support this SERP:

- **CCTV Inspection Unit** – A CCTV Inspection Unit is required to determine the root cause for all SSOs from gravity sewers.
- **Camera** – A digital or disposable camera is required to record the conditions upon arrival, during clean up, and upon departure.
- **Emergency Response Truck** – A utility body pickup truck is required to store and

transport the equipment needed to effectively respond to sewer emergencies. The equipment and tools should include containment and clean up materials.

- **GPS Unit (Global Positioning System)** – A handheld GPS unit is required to determine the coordinates of spills for use in meeting SWRCB SSO reporting requirements.
- **Combination Sewer Cleaning Truck** – A combination high velocity sewer cleaning truck with vacuum tank is required to clear blockages in gravity sewers, vacuum spilled sewage, and wash-down the impacted area following an SSO event.
- **Portable Generators, Portable Pumps, Piping, and Hoses** – The list of portable equipment that is required to support this plan is included as Appendix 6-I.

## Appendix 6-A After Hours/Emergency Contact Information

### *City Personnel*

| Name                       | Role/Title                              | Phone Number   |
|----------------------------|-----------------------------------------|----------------|
| Department of Public Works | After Hours Emergency Notification      | (530) 682-0770 |
| Paul Pratt                 | Public Works Superintendent             | (530) 681-7340 |
| Parker Kent                | Chief Wastewater Operator               | (530) 717-9835 |
| Dave Harden                | Contracted City Engineer                | (530) 906-1806 |
| Nicolas Gauthier           | City Administrator/Management           | (530) 559-5955 |
|                            | California Office of Emergency Services | (800) 852-7550 |

## Appendix 6-B: Sewer Report Form

### SEWER REPORT FORM – PAGE 1

#### INITIAL INFORMATION

DATE: \_\_\_\_\_ CALL RECEIVED: \_\_\_\_\_ AM/PM

RECEIVED BY: \_\_\_\_\_ CALLER'S NAME: \_\_\_\_\_

CALLER'S PHONE #: \_\_\_\_\_ CALLER'S ADDRESS: \_\_\_\_\_

LOCATION OF OVERFLOW: \_\_\_\_\_ CROSS STREET: \_\_\_\_\_

TIME AND NAMES OF CREW MEMBERS CONTACTED: \_\_\_\_\_

DESCRIPTION OF COMPLAINT: \_\_\_\_\_

#### FIELD REPORT: FOR RESPONSE CREW'S USE

TIME ARRIVED AT SITE: \_\_\_\_\_ AM/PM CREW NAMES: \_\_\_\_\_

ASSET #: \_\_\_\_\_ U/S ASSET#: \_\_\_\_\_ D/S ASSET#: \_\_\_\_\_

SIZE OF LINE: \_\_\_\_\_ LENGTH OF LINE: \_\_\_\_\_ EASEMENT: YES ☐ NO ☐

GPS COORDINATES: LATITUDE: 34. \_\_\_\_\_ LONGITUDE: -118. \_\_\_\_\_

COMMENTS: \_\_\_\_\_

#### COMPLETE REMAINDER OF FORM IF AN OVERFLOW HAS OCCURRED

TIME SSO STARTED: \_\_\_\_\_ TIME SSO STOPPED: \_\_\_\_\_ DURATION OF SSO: \_\_\_\_\_ (DAYS/HOURS)

EST. TOTAL VOLUME: \_\_\_\_\_ (GALLONS) RETURNED TO SEWER SYSTEM: \_\_\_\_\_ (GALLONS)

DID SSO REACH SURFACE WATERS? YES ☐ NO ☐

VOLUME TO WATERS (INCLUDING STORM DRAIN) THAT WAS NOT RECOVERED: \_\_\_\_\_ (GALLONS)

SURFACE/RECEIVING WATER LOCATION: \_\_\_\_\_

DESCRIBE HOW OVERFLOW QUANTITY WAS CALCULATED: EYEBALL ESTIMATE ☐ DURATION/FLOWRATE ☐

MEASURED VOLUME ☐ OTHER \_\_\_\_\_

WEATHER: SUNNY ☐ CLOUDY ☐ RAINY ☐ RAIN FOR SEVERAL DAYS \_\_\_\_\_

PRIMARY CAUSE: ROOTS ☐ GREASE ☐ DEBRIS ☐ VANDALISM ☐ CONSTRUCTION DAMAGE ☐ PIPE FAILURE ☐

PUMP STATION FAILURE ☐ POWER FAILURE ☐ CAPACITY (HEAVY RAIN) ☐ OTHER \_\_\_\_\_

SOURCE OF SSO: MANHOLE ☐ GRAVITY MAIN ☐ FORCE MAIN ☐ CLEAN OUT ☐ PRIVATE LATERAL ☐

PUMP STATION ☐ \_\_\_\_\_ (NAME) OTHER \_\_\_\_\_

FINAL SSO DESTINATION: STORM DRAIN ☐ CAPTURED FROM STORM DRAIN (100%) ☐ BUILDING ☐

YARD/LAND ☐ SURFACE WATERS ☐ NO SURFACE WATERS INVOLVED ☐ OTHER \_\_\_\_\_

ADDITIONAL INFORMATION: \_\_\_\_\_

## SEWER REPORT FORM – PAGE 2

SPILL MAGNITUDE: SSO REACHED DRAINAGE CHANNEL AND WAS NOT FULLY RECOVERED ☐  
 MORE THAN 1,000 GALLONS, BUT FULLY RECOVERED AND RETURNED TO SEWER ☐  
 BACKED UP INTO A RESIDENCE OR BUSINESS ☐  
 LESS THAN 1,000 GALLONS AND DID NOT REACH DRAINAGE CHANNEL ☐

TIME CLEANUP BEGAN: \_\_\_\_\_ TIME CLEANUP COMPLETE: \_\_\_\_\_

DESCRIBE CLEANUP METHOD/ACTIONS TAKEN: \_\_\_\_\_

DISINFECTION: No ☐ IF YES, DISINFECTION AMOUNT/TYPE: \_\_\_\_\_

SIGNS POSTED: Yes ☐ No ☐ BARRICADED: Yes ☐ No ☐ NEIGHBORS NOTIFIED: Yes ☐ No ☐

LIST ALL PERSONNEL RESPONDING TO SPILL: \_\_\_\_\_

PICTURES/VIDEO TAKEN: No ☐ Yes / BY: \_\_\_\_\_ SAVED LOCATION: \_\_\_\_\_

SAMPLES TAKEN BY: \_\_\_\_\_ LOCATION OF SAMPLES: \_\_\_\_\_

CALLER/CUSTOMER NOTIFIED RE: STATUS: Yes ☐ No ☐ IF NOT, REASON: \_\_\_\_\_

REGULATORY AGENCIES NOTIFIED: Yes ☐ No ☐ OES SPILL #: \_\_\_\_\_

|                                            | NAME OF CONTACT | DATE/TIME |
|--------------------------------------------|-----------------|-----------|
| OES:                                       | _____           | _____     |
| COUNTY HEALTH:                             | _____           | _____     |
| RWQCB (2-HR/24-HR):                        | _____           | _____     |
| CIWQS (SWRCB):                             | _____           | _____     |
| FISH/GAME:                                 | _____           | _____     |
| OTHER:                                     | _____           | _____     |
| NAME OF PERSON MAKING NOTIFICATIONS: _____ |                 |           |

IF ASSET WAS MANHOLE, PIPE, OR CLEAN OUT, COMPLETE THE FOLLOWING:

OVERFLOWING MANHOLE: # \_\_\_\_\_ LONGITUDE/LATITUDE: \_\_\_\_\_  
 UPSTREAM MANHOLE: # \_\_\_\_\_ LONGITUDE/LATITUDE: \_\_\_\_\_  
 DOWNSTREAM MANHOLE: # \_\_\_\_\_ LONGITUDE/LATITUDE: \_\_\_\_\_  
 CLEAN OUT: # \_\_\_\_\_ LONGITUDE/LATITUDE: \_\_\_\_\_  
 SEWER MAIN: # \_\_\_\_\_ SIZE: \_\_\_\_\_ (INCHES) MATERIAL: \_\_\_\_\_

**SKETCH AREA:** INCLUDE MANHOLES, INTERSECTIONS, LOCATION OF STOPPAGE, ETC.

REPORT COMPLETED BY: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ DATE SUBMITTED: \_\_\_\_/\_\_\_\_/\_\_\_\_

SUBMIT REPORT TO PUBLIC WORKS SUPERINTENDENT AS SOON AS POSSIBLE.

## Appendix 6-C: Sample Fax Form for SSO Reporting

| FAX FORM FOR SSO REPORTING                                                                                                                                                                                                                                                                                                               |                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| This Form is submitted to satisfy the CA SWRCB 2-Hr/24-Hr SSO Reporting Requirement or when CIWQS is unavailable.                                                                                                                                                                                                                        |                                                                                            |
| To: RWQCB, Region 5R – Central Valley-Redding                                                                                                                                                                                                                                                                                            | Fax Number: (530) 224-4857                                                                 |
| Reporting Agency: City of Biggs                                                                                                                                                                                                                                                                                                          | WDID: 5SSO10789                                                                            |
| County where SSO Occurred: Butte                                                                                                                                                                                                                                                                                                         | Ongoing Investigation: Yes <input type="checkbox"/> No / Complete <input type="checkbox"/> |
| Fax Sent At: ___/___/___ at ___:___ (24-Hr)                                                                                                                                                                                                                                                                                              | Voice Message: ___/___/___ at ___:___                                                      |
| OES Control Number: _____                                                                                                                                                                                                                                                                                                                | County Health Called: ___/___/___ at ___:___                                               |
| Overflow Location: Latitude: 39. _____                                                                                                                                                                                                                                                                                                   | Longitude: -121. _____                                                                     |
| Street Address: _____                                                                                                                                                                                                                                                                                                                    |                                                                                            |
| Cross Street: _____                                                                                                                                                                                                                                                                                                                      |                                                                                            |
| City: Biggs                                                                                                                                                                                                                                                                                                                              | Zipcode: 95917                                                                             |
| Date/Time City was Notified of SSO: ___/___/___ at ___:___                                                                                                                                                                                                                                                                               |                                                                                            |
| City Staff Arrived: ___/___/___ at ___:___                                                                                                                                                                                                                                                                                               | SSO Ended: ___/___/___ at ___:___                                                          |
| Was a Private Lateral the Cause of the SSO?                                                                                                                                                                                                                                                                                              | Yes <input type="checkbox"/> No <input type="checkbox"/>                                   |
| Did SSO Enter Drainage Channel or Surface Waters?                                                                                                                                                                                                                                                                                        | Yes <input type="checkbox"/> No <input type="checkbox"/>                                   |
| Was 100% of the SSO Recovered and Returned to Sewer?                                                                                                                                                                                                                                                                                     | Yes <input type="checkbox"/> No <input type="checkbox"/>                                   |
| Were Beaches Impacted?                                                                                                                                                                                                                                                                                                                   | Yes <input type="checkbox"/> No <input type="checkbox"/>                                   |
| Was SSO Posted?                                                                                                                                                                                                                                                                                                                          | Yes <input type="checkbox"/> No <input type="checkbox"/>                                   |
| Estimated SSO Volume Total: _____ (Gallons)                                                                                                                                                                                                                                                                                              | Volume Recovered: _____ (Gallons)                                                          |
| Estimated Spilled Sewage Volume Reaching Surface Waters: _____ (Gallons)                                                                                                                                                                                                                                                                 |                                                                                            |
| SSO Source: Manhole <input type="checkbox"/> Gravity Main <input type="checkbox"/> Force Main <input type="checkbox"/> Clean Out <input type="checkbox"/> Private Lateral <input type="checkbox"/> Pump Station <input type="checkbox"/> Other _____                                                                                     |                                                                                            |
| SSO Destination: Storm drain <input type="checkbox"/> Captured (100%) <input type="checkbox"/> Building <input type="checkbox"/> Yard/Land <input type="checkbox"/> Surface Waters <input type="checkbox"/> None <input type="checkbox"/> Other _____                                                                                    |                                                                                            |
| SSO Cause: Roots <input type="checkbox"/> Grease <input type="checkbox"/> Debris <input type="checkbox"/> Vandalism <input type="checkbox"/> Const. Damage <input type="checkbox"/> Pipe Failure <input type="checkbox"/> Pump Stn <input type="checkbox"/> Power <input type="checkbox"/> Capacity <input type="checkbox"/> Other _____ |                                                                                            |
| <b>Describe Response and Corrective Action Taken:</b>                                                                                                                                                                                                                                                                                    |                                                                                            |
|                                                                                                                                                                                                                                                                                                                                          |                                                                                            |
| Were Samples Taken? No <input type="checkbox"/> Yes: _____ (Agency/Laboratory)                                                                                                                                                                                                                                                           |                                                                                            |
| If Yes, testing for: Total Coliform <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> BOD <input type="checkbox"/> Dissolved Oxygen <input type="checkbox"/> Ammonia <input type="checkbox"/>                                                                                                                             |                                                                                            |
| Reporting Person Name: _____                                                                                                                                                                                                                                                                                                             | Phone Number: _____                                                                        |
| LRO's Name: _____                                                                                                                                                                                                                                                                                                                        | LRO's Phone Number: _____                                                                  |

## Appendix 6-D: Collection System SSO Analysis Form

| COLLECTION SYSTEM FAILURE ANALYSIS FORM                                                                                                                                                                                                                                                                                                                                        |               |                             |                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------|----------------------------|
| INCIDENT REPORT #: _____ PREPARED BY: _____                                                                                                                                                                                                                                                                                                                                    |               |                             |                            |
| ADDRESS/LOCATION OF SSO: _____                                                                                                                                                                                                                                                                                                                                                 |               |                             |                            |
| TOTAL SSO VOLUME: _____ (GALLONS) VOLUME RECOVERED: _____ (GALLONS)                                                                                                                                                                                                                                                                                                            |               |                             |                            |
| CAUSE: ROOTS <input type="checkbox"/> GREASE <input type="checkbox"/> DEBRIS <input type="checkbox"/> VANDALISM <input type="checkbox"/> CONSTRUCTION DAMAGE <input type="checkbox"/> PIPE FAILURE <input type="checkbox"/><br>PUMP STATION FAILURE <input type="checkbox"/> POWER FAILURE <input type="checkbox"/> CAPACITY (HEAVY RAIN) <input type="checkbox"/> OTHER _____ |               |                             |                            |
| SUMMARY OF HISTORICAL SSOS, BACKUPS, SERVICE CALLS, OTHER PROBLEMS                                                                                                                                                                                                                                                                                                             |               |                             |                            |
| RECORDS REVIEWED BY: _____ RECORD REVIEW DATE: _____                                                                                                                                                                                                                                                                                                                           |               |                             |                            |
| EVENT<br>DATE                                                                                                                                                                                                                                                                                                                                                                  | CAUSE/PROBLEM | DATE<br>PREVIOUSLY CLEANED  | CREW<br>RESPONDING TO CALL |
| _____                                                                                                                                                                                                                                                                                                                                                                          | _____         | _____                       | _____                      |
| _____                                                                                                                                                                                                                                                                                                                                                                          | _____         | _____                       | _____                      |
| _____                                                                                                                                                                                                                                                                                                                                                                          | _____         | _____                       | _____                      |
| _____                                                                                                                                                                                                                                                                                                                                                                          | _____         | _____                       | _____                      |
| SUMMARY OF CCTV INFORMATION                                                                                                                                                                                                                                                                                                                                                    |               |                             |                            |
| CCTV INSPECTION DATE: _____ TAPE NAME/NUMBER: _____                                                                                                                                                                                                                                                                                                                            |               |                             |                            |
| CCTV TAPE REVIEWED BY: _____ CCTV REVIEW DATE: _____                                                                                                                                                                                                                                                                                                                           |               |                             |                            |
| CCTV OBSERVATIONS: _____                                                                                                                                                                                                                                                                                                                                                       |               |                             |                            |
| _____                                                                                                                                                                                                                                                                                                                                                                          |               |                             |                            |
| RECOMMENDATIONS                                                                                                                                                                                                                                                                                                                                                                |               |                             |                            |
| <input type="checkbox"/> NO CHANGES OR REPAIRS REQUIRED                                                                                                                                                                                                                                                                                                                        |               |                             |                            |
| <input type="checkbox"/> MAINTENANCE EQUIPMENT _____                                                                                                                                                                                                                                                                                                                           |               |                             |                            |
| <input type="checkbox"/> MAINTENANCE FREQUENCY _____                                                                                                                                                                                                                                                                                                                           |               |                             |                            |
| <input type="checkbox"/> REPAIR (LOCATION AND TYPE) _____                                                                                                                                                                                                                                                                                                                      |               |                             |                            |
| <input type="checkbox"/> ADD TO CAPITAL IMPROVEMENT REHABILITATION/REPLACEMENT LIST _____                                                                                                                                                                                                                                                                                      |               |                             |                            |
| ADDITIONAL INFORMATION: _____                                                                                                                                                                                                                                                                                                                                                  |               |                             |                            |
| _____                                                                                                                                                                                                                                                                                                                                                                          |               |                             |                            |
| _____                                                                                                                                                                                                                                                                                                                                                                          |               |                             |                            |
| PUBLIC WORKS SUPERINTENDENT                                                                                                                                                                                                                                                                                                                                                    |               | REVIEW DATE: ____/____/____ |                            |

## **Appendix 6-E: Private Property Damage Procedures**

### ***Customer Relations Guidelines***

It is important for employees to communicate effectively with the City's customers, especially in a sewage backup situation. How we communicate – on the phone, in writing, or in person – is how we are perceived. Good communication with the homeowner results in greater confidence in our ability to address the problem satisfactorily, less time to resolve the claim, and less damage done to the property.

As a representative of the City, you will occasionally have to deal with an irate homeowner. A backup is a stressful event and even a reasonable homeowner can become irate should he/she perceive us as being indifferent, uncaring, unresponsive, or incompetent.

Although sometimes difficult, effective management of a sewage backup situation is critical. If it is not managed well, the situation can end up in a costly, prolonged process with the homeowner. We want the homeowner to feel assured that we are responsive and the homeowner's best interest is a top priority.

### ***Communication Tips***

- Give the homeowner ample time to explain the situation or to vent. Show interest in what the homeowner has to say, no matter how many times you have heard it before, or how well you understand the problem.
- As soon as possible, let the customer know that you will determine if the source of the sewer backup is in the sewer main and, if it is, will have it corrected as quickly as you can.
- Acknowledge the homeowner's concerns. For example, if the homeowner seems angry or worried about property damage, say something like, "I understand you're concerned about the possible damage to your property, but a professional cleanup crew can restore the area, and if it is determined that the City is at fault, the property owner has the right to file a claim for any reasonable repairs or losses resulting from this incident."
- Express regret for any inconveniences caused by the incident, but do not admit fault.
- As much as possible, keep the homeowner informed on what is being done and will be done to correct the problem.
- Keep focused on getting the job done in a very professional manner. Don't wander from the problem with too much unnecessary small talk with the homeowner.
- Don't find fault or lay blame on anyone.

- Make sure someone follows up with a telephone call to ensure everything is being handled as it should be.

Before you leave, make sure the homeowner has the name and telephone number of someone at the City to call if he/she has questions or wants information. The customer information letter contains this information and you should take the time to review this with the homeowner.

## Appendix 6-F: Methods for Estimating Spill Volume

A variety of approaches exist for estimating the volume of a sanitary sewer spill. This appendix documents the three methods that are most often employed. The person preparing the estimate should use the method most appropriate to the sewer overflow in question and use the best information available.

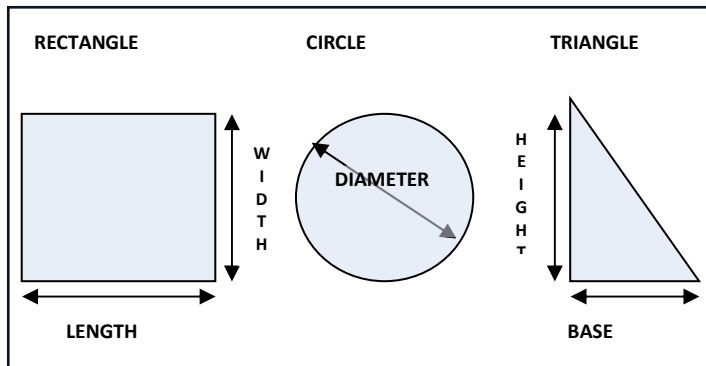
### **Method 1    *Eyeball Estimate***

The volume of small spills can be estimated using an “eyeball estimate”. To use this method imagine the amount of water that would spill from a bucket or a barrel. A bucket contains 5 gallons and a barrel contains 50 gallons. If the spill is larger than 50 gallons, try to break the standing water into barrels and then multiply by 50 gallons. This method is useful for contained spills up to approximately 200 gallons.

### **Method 2    *Measured Volume***

The volume of most small spills that have been contained can be estimated using this method. The shape, dimensions, and the depth of the contained wastewater are needed. The shape and dimensions are used to calculate the area of the spills and the depth is used to calculate the volume.

### **Common Shapes and Dimensions**



Step 1: Sketch the shape of the contained sewage (see figure above).

Step 2: Measure or pace off the dimensions.

Step 3: Measure the depth at several locations and select an average.

Step 4: Convert the dimensions, including depth, to feet.

Step 5: Calculate the area in square feet using the following formulas:

Rectangle: Area = length (feet) x width (feet)

Circle: Area = diameter (feet) x diameter (feet) x 0.785

Triangle: Area = base (feet) x height (feet) x 0.5

Step 6: Multiply the area (square feet) times the depth (in feet) to obtain the volume in cubic feet.

Step 7: Multiply the volume in cubic feet by 7.5 to convert it to gallons.

### ***Method 3 Duration and Flowrate***

Calculating the volume of larger spills, where it is difficult or impossible to measure the area and depth, requires a different approach. In this method, separate estimates are made of the duration of the spill and the flowrate. The methods of estimating duration and flowrate are:

**Duration:** The duration is the elapsed time from the time the spill started to the time that the flow was restored.

**Start time:** The start time is sometimes difficult to establish. Here are some approaches:

Local residents can be used to establish start time. Inquire as to their observations. Spills that occur in rights-of-way are usually observed and reported promptly. Spills that occur out of the public view can go on longer. Sometimes observations like odors or sounds (e.g. water running in a normally dry creek bed) can be used to estimate the start time.

Changes in flow on a downstream flowmeter can be used to establish the start time. Typically the daily flow peaks are “cut off” or flattened by the loss of flow. This can be identified by comparing hourly flow data during the spill event with flow data from prior days.

Conditions at the spill site change over time. Initially there will be limited deposits of toilet paper and other sewage solids. After a few days to a week, the sewage solids form a light-colored residue. After a few weeks to a month, the sewage solids turn dark. The quantity of toilet paper and other materials of sewage origin increase over time. These observations can be used to estimate the start time in the absence of other information. Taking photographs to document the observations can be helpful if questions arise later in the process.

It is important to remember that spills may not be continuous. Blockages are not usually complete (some flow continues). In this case the spill would occur during the peak flow periods (typically 10:00 to 12:00 and 13:00 to 16:00 each day). Spills that occur due to peak flows in excess of capacity will occur only during, and for a short period after, heavy rainfall.

**End time:** The end time is usually much easier to establish. Field crews on-site observe

the “blow down” that occurs when the blockage has been removed. The “blow down” can also be observed in downstream flowmeters.

**Flow Rate:** The flowrate is the average flow that left the sewer system during the time of the spill.

There are three common ways to estimate the flowrate:

**The San Diego Manhole Flowrate Chart:** This chart, included as Appendix 6-G, shows sewage flowing from manhole covers at a variety of flowrates. The observations of the field crew can be used to select the appropriate flowrate from the chart. If possible, photographs are useful in documenting basis for the flowrate estimate.

**Flowmeter:** Changes in flows in downstream flowmeters can be used to estimate the flowrate during the spill.

**Counting Connections:** Once the location of the spill is known, the number of upstream connections can be determined from the sewer maps. Multiply the number of connections by 200 to 250 gallons per day per connection or 8 to 10 gallons per hour per connection.

For example: 22 upstream connections x 9 gallons per hour per connection

= 198 gallons per hour / 60 minutes per hour

= 3.3 gallons per minute

**Spill Volume:** Once duration and flowrate have been estimated, the volume of the spill is the product of the duration in hours or days and the flowrate in gallons per hour or gallons per day.

For example:

Spill start time = 11:00

Spill end time = 14:00

Spill duration = 3 hours

3.3 gallons per minute x 3 hours x 60 minutes/hour = 594 gallons

# Appendix 6-G: Manhole Overflow Flowrate Guide



City of San Diego  
Metropolitan Wastewater Department

Reference Sheet for Estimating Sewer Spills  
from Overflowing Sewer Manholes  
*All estimates are calculated in gallons per minute (gpm)*



Wastewater Collection Division  
(619) 654-4160



5 gpm



25 gpm



50 gpm



100 gpm



150 gpm



200 gpm



225 gpm



250 gpm



275 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.

rev. 4/99

Appendix 6-H: Sample Warning Sign

**DANGER!**  
**CONTAMINATED WATER**  
**KEEP OUT**



**AGUA CONTAMINADA**  
**ALEJESE**  
**PELIGRO!**

**City of Biggs**  
**(530) 682-0770**

## Appendix 6-I: Emergency Response Equipment

| Items                      | Quantity | Comments                                                          |
|----------------------------|----------|-------------------------------------------------------------------|
| Vactor                     | 1        | Available to borrow from City of Gridley, subject to availability |
| Flex Rodder                | 1        |                                                                   |
| Jet Rodder                 | 1        | Available to borrow from City of Gridley, subject to availability |
| Service Truck              | 5        |                                                                   |
| Trash Pump                 | 4        |                                                                   |
| 6-inch potable diesel pump | 2        |                                                                   |

## **7 Sewer Pipe Blockage Control Program**

The Public Works Department evaluated its cleaning program and impact of FOG on City operations. Historical records and experience indicated the FOG related issues are minor as the City treats lift stations monthly with a degreaser. The Public Works Department is planning on implementing basic source inspection schedule and procedures.

The procedures outlined herein constitute a Sewer Pipe Blockage Control Program, with planned program expansion, aimed at assessing and managing potential blockages caused by FOG, rags, and debris within the City's sewer system.

### **7.1 Public Education and Outreach**

Since 2012, the DPW has inspected businesses that generate FOG to educate owners and employees about its impact on the collection system and wastewater treatment plant. During these visits, public works personnel provide literature explaining the business's responsibilities, the effects of FOG, the legal liabilities of releasing FOG, and proper control and disposal methods.

The City employs various outreach strategies to educate the community about proper disposal practices for substances that cause pipe blockages, including:

- A dedicated sewer page on the City's website
- Bill inserts

### **7.2 Evaluation of Service Area**

The DPW systematically evaluates its service area to identify specific sanitary sewer system sections susceptible to FOG blockages. Susceptible locations are periodically monitored. While FOG blockages occasionally impact lateral lines, the City has not experienced sewer main issues related to FOG blockages in the past ten years.

### **7.3 Disposal of Pipe-Blocking Substances**

The DPW disposal plan is conducted on an ongoing basis. Debris collected from the influent is transferred to a designated dumpster for disposal at the landfill.

The City is not capable of collecting or disposing of FOG. The following is a known facility that can and will accept FOGs outside of the City:

North State Rendering  
15 Shippee Road  
Oroville, CA 95965  
(530) 343-6076

## **7.4   *Legal Authority***

Table 3-1 lists the BMC sections that provide the legal authority to prohibit discharges into the system and the authority to identify preventive measures to avert SSOs and blockages.

## **7.5 Grease Removal Devices**

The City requires restaurants and other food service establishments to install grease removal devices, such as grease traps or interceptors, to minimize the discharge of grease into the sewer system. Records of FOG source management devices are maintained by the Public Works Department. Records are kept for all businesses that are required to install and maintain FOG devices by their City operating permit. All businesses are required to maintain records of FOG device maintenance including disposal logs that track the date FOG waste was removed, quantity removed, Disposal Company, and disposal location. All FOG releases into the collection system must be reported within 24 hours of the release.

FOG interceptor and maintenance logs will be inspected annually at a minimum by Public Works Staff, Code Enforcement, or a designated agent. Any establishment that is found to be in violation of FOG ordinances will be subject to more frequent inspection at the discretion of the City.

## **7.6 Source Control Measures**

For areas of the sanitary sewer system prone to FOG blockages, the DPW employs source control measures such as public outreach, routine inspections, maintenance activities, and enforcement actions, as described in previous sections.

Currently, there are no known locations within the City's collection system that experience blockages caused by fats, oils, or grease (FOG). If a hot spot is identified, this section will be updated to include the location and the frequency of required cleaning.

# **8 System Evaluation, Capacity Assurance and Capital Improvements**

This section will refer to the Sewer Master Plan when providing pertinent information for the following reporting information. The Sewer Master Plan is available at City Hall.

## **8.1 System Evaluation and Condition Assessment**

System assets are evaluated using the best practices and technologies available, including visual observations and video surveillance. Condition assessment prioritizes system areas that:

- Hold a high level of environmental consequences if vulnerable to collapse, failure, blockage, capacity issues, or other system deficiencies;
- Are located in or within the vicinity of surface waters, steep terrain, high groundwater elevations, and environmentally sensitive areas;
- Are within the vicinity of a receiving water with a bacterial-related impairment on the most current Clean Water Act section 303(d) List;

The City maintains documents and recordkeeping of system evaluation and condition assessment inspections and activities. The City's record retention procedures and practices

follow guidelines set by the RWQCB.

The City of Biggs has not experienced an SSO within the past ten years. There are no records of any SSO experienced beyond that time.

The Sewer Master Plan has identified a potential condition in which an SSO could occur in the existing system. The North Second Street lift station is assumed to be constructed in the 1960's and 1970's with the original subdivision. The equipment, wiring, mechanical components, and wet well need an evaluation, as it is assumed that the components have exceeded their useful service life. Currently the lift station is in operation and is functioning properly. Should this lift station fail, wastewater will gravity feed to the old lift station on Second Street.

Section eight of the 2003 SMP outlines the capacity improvements including short- and long-term capital projects, alternative analyses, and associated costs. Associated costs include potential User Assessment Fee adjustments for current deficiencies and Impact Fees for future development. Recognizing that the underlying flow data is now two decades old, the City is actively pursuing external funding to prepare an updated capacity assessment and comprehensive I&I study. The planned update will refine project priorities, refresh cost estimates, and confirm fee structures based on current and projected system conditions.

## ***8.2 Capacity Assessment and Design Criteria***

The City does not currently utilize a hydraulic model for its sewer collection system. Instead, capacity evaluations are performed manually using paper copies of the collection system maps and standard engineering calculations. This approach allows for a targeted analysis of key system components to identify any potential hydraulic deficiencies.

The SMP, along with the City's Improvement Standards, establish design criteria for any reconstruction or expansion of the wastewater collection system. All design criteria meet the necessary requirements to provide adequate operation of the existing and future collection system. Design criteria includes an average daily flow around 0.3 MGD and wet weather flows approaching 1.0 MGD.

## ***8.3 Prioritization of Corrective Action***

Prioritization of repair and rehabilitation of system assets considers the following:

- Asset age,
- Existing leaks,
- Severity of potential spills, and
- Consequences of infrastructure failure.

## ***8.4 Capital Improvement Plan***

A formal schedule to implement capacity enhancement measures has not been developed since the City is in the process of seeking grants and loans to finance related projects.

Once developed and finalized, the CIP schedule will provide a roadmap for upgrading and

maintaining the upgraded City sewer infrastructure to ensure reliable service and compliance with regulatory compliance. The CIP schedule will be developed based on findings from periodic condition and capacity assessments.

The City conducts a comprehensive review of its CIP schedule every three years to account for evolving priorities, findings from updated condition assessments, and any changes in funding or regulatory requirements. This iterative review ensures that the CIP remains responsive to the City's infrastructure needs.

## **9 Adaptive Management**

The City uses adaptive management strategies in their implementation of this SSMP. Such strategies include maintaining relevant information, such as audit and inspection findings, to establish and prioritize appropriate SSMP activities.

The Public Works Department makes every effort toward proper maintenance, operations and management of the sanitary sewer collection system. Efforts center on reducing SSO frequency and impacts, improving collection system reliability, and ensuring there is enough capacity in the system to convey peak flows. The following subsections refer to what data is collected and how that data is used to analyze system performance, structural and maintenance related problems, crew productivity and overall success of the Operations and Maintenance and Capital Improvement Programs.

### **9.1 Data Collection**

The DPW utilizes spreadsheets and reports to schedule and record all collection system maintenance activities, to maintain an inventory and parts list of all critical components of the pump stations, and as a backup of all procedure and emergency contact documentation.

### **9.2 SSMP Implementation & Effectiveness Measurements**

The City Administrator and City Engineer will review the implementation and effectiveness of the SSMP on an annual basis. This review is based upon the eleven sections of this SSMP. The following table lists each component and how SSMP implementation and effectiveness is measured. A report is prepared every three years responding to each measurement for records and for action. If the answer to any of these measurements/questions is NO or below acceptable standards then the report will identify the problem, propose resolution options, make recommendations, and provide a resolution completion date.

Table 9-1. Annual SSMP Checklist

| SSMP Component                                                 | Standard Measurements (Section Reference)                                                                                                                                                                                                        | Yes/No |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Goals (Section 1)                                              | Are all of the goals (1) identified in the SSMP appropriate and accurate?                                                                                                                                                                        |        |
| Organization (Section 2)                                       | Is organization chart and SSMP & SSO responsibility (2.2) appropriate and current?                                                                                                                                                               |        |
|                                                                | Is the chain of communication (2.3) for report and responding to SSO appropriate, accurate, and current?                                                                                                                                         |        |
| Legal Authority (Section 3)                                    | Does the SSMP contain excerpts from the current Biggs Municipal Code documenting the City's legal authority to:                                                                                                                                  |        |
|                                                                | Prevent illicit discharges?                                                                                                                                                                                                                      |        |
|                                                                | Require proper design and construction of sewers and connections?                                                                                                                                                                                |        |
|                                                                | Ensure access for maintenance, inspection, or repairs for portions of the laterals owned or maintained by the City?                                                                                                                              |        |
|                                                                | Limit discharges of fats, oils and grease?                                                                                                                                                                                                       |        |
|                                                                | Enforce any violation of its ordinance?                                                                                                                                                                                                          |        |
|                                                                | Were there any difficulties enforcing sewer issues that did or could result in SSOs? Such issues could include FOG, laterals, sewer connections, assessment fee collection. Explain how the legal authority of the City was or will be enhanced. |        |
| Operations & Maintenance (Section 4)                           | Are the wastewater collection system maps complete, current, and sufficiently detailed? (4.1)                                                                                                                                                    |        |
| Preventative Operations & Maintenance Activities (Section 4.2) | Were there any SSOs that were preventable with proper O&M                                                                                                                                                                                        |        |
|                                                                | Was the O&M schedule followed as written?                                                                                                                                                                                                        |        |
|                                                                | Does the SSMP describe current preventative maintenance activities; list all hot spots for prioritizing the cleaning of sewer lines?                                                                                                             |        |
|                                                                | Based upon the SSO information in CIWQS, are the City's preventative maintenance activities sufficient and effective in minimizing SSO and blockages?                                                                                            |        |
|                                                                | Were there any SSOs there were preventable due to incomplete CIP scheduled projects?                                                                                                                                                             |        |
|                                                                | Was the CIP followed and if not then should the CIP be revised?                                                                                                                                                                                  |        |

| SSMP Component                                     | Standard Measurements (Section Reference)                                                                                                                                                                                           | Yes/No |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| SSMP Training (Section 4.3)                        | Are all sewer staff members and emergency response personnel aware of and familiar with the SSMP?                                                                                                                                   |        |
|                                                    | Has sewer staff receive the appropriate training for their position?                                                                                                                                                                |        |
|                                                    | Are the training records complete and current?                                                                                                                                                                                      |        |
| Equipment & Replacement Parts (Section 4.4)        | Does the SSMP list the major equipment and parts needed for daily O&M and for emergency collection system repairs, response including during pump station failure?                                                                  |        |
| Design & Performance Standards (Section Element 5) | Does the SSMP contain current design and improvement standards for the installation of new sanitary sewer systems, lifts stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer system? |        |
| Overflow and Emergency Response Plan (Section 6)   | Are the spill response procedure up to date?                                                                                                                                                                                        |        |
|                                                    | Are all sewer staff members and emergency response personnel and contractors trained on SSO response procedures?                                                                                                                    |        |
|                                                    | Is the SSO external reporting requirements and contact information current?                                                                                                                                                         |        |
|                                                    | Are the one-stop and other emergency contact information complete and current?                                                                                                                                                      |        |
|                                                    | Did responders to SSOs during the past year respond according to procedure and do the procedures need improvement?                                                                                                                  |        |
| Sewer Pipe Blockage Control Program (Section 7)    | Were there any FOG related spills or near spills and if so is any additional enforcement, education, or preventative measures required?                                                                                             |        |
|                                                    | Were all sources of FOG inspected during the year?                                                                                                                                                                                  |        |
|                                                    | Is the current FOG Control Program effective in minimizing blockages of sewer lines resulting from discharges of FOG to the system?                                                                                                 |        |

| SSMP Component                                            | Standard Measurements (Section Reference)                                                                                                                                                                                    | Yes/No |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| System Evaluation and Capacity Assurance Plan (Section 8) | Is there evidence that system capacity at any location is deficient due to system demand? (for example, were there any SSOs or near SSO that could not be explained by blockages or failures of the pipes or pump stations?) |        |
|                                                           | Does the City's capital improvement program (CIP) account for all known major deficiencies that cannot be correct with the O&M budget?                                                                                       |        |
|                                                           | Are all CIP project on schedule for budgeting and construction?                                                                                                                                                              |        |
| Adaptive Management Plan (Section 9)                      | Does the SSMP accurately portray the methods of tracking and reporting selected performance indicators?                                                                                                                      |        |
|                                                           | Is the City able to sufficiently evaluate the effectiveness of SSMP elements based on relevant information?                                                                                                                  |        |
|                                                           | Do the implementation and effectiveness measurement questions in this list need to be added to or enhanced?                                                                                                                  |        |
| SSMP Program Audits (Section 10)                          | Were the results of prior SSMP Audits recorded in a written report?                                                                                                                                                          |        |
|                                                           | Were the actions recommended in the SSMP Audit reports(s) implemented?                                                                                                                                                       |        |
| Communication Program (Section 11)                        | Does the City effectively communicate with the public and other agencies about the development and implementation of the SSMP and continue to address any feedback                                                           |        |
|                                                           | Is the City's website updated with the most recent communications as required by the program?                                                                                                                                |        |

## **10 Internal Audits**

### ***10.1 SSMP Audit Process***

The City performs internal audits of the SSMP and its implementation at least once every three years. These audits are formalized when the LRO submits an audit report into the online CIWQS Sanitary Sewer System Database. Audit procedures involve assessing the SSMP's effectiveness in spill prevention, evaluating DPW's compliance with the General Order, identifying SSMP deficiencies related to ongoing SSOs and discharges, and pinpointing necessary SSMP modifications to address deficiencies.

The City will typically conduct the audits with City Staff. The City may choose to include representatives from other agencies and/or independent contractors to perform portions of or an entire audit. At a minimum, the Audits will be based on the SSMP Implementation and Effectiveness Measurements provided in Section 9.2.

### ***10.2 SSMP Updates***

The City is required to update its SSMP at least every six years and include any significant program changes. The City may determine the need to update the SSMP more frequently based on the results of the triennial audits and performance of its sanitary sewer system using information from the Adaptive Management Section (Section 9). If it is determined that an update is warranted, the process to complete the update will be identified.

Consistent with the SSMP re-certification requirements, City Staff will seek approval from the City Council for any significant changes to the SSMP. The authority for approval of minor changes (e.g., employee names, contact information, limited procedural changes) is delegated to the PWS.

In accordance with the requirements of the Monitoring Reporting Program (MRP), the City must maintain a record of all changes made to the SSMP since its last certification, indicating when an element or subsection(s) was changed and/or updated and who authorized the change or update. These records must be attached to the SSMP. A SSMP Change Log is included in Appendix 10-A.

## Appendix 10-A: SSMP Modifications

| Section Modified                                       | Description of Change or Update          | Date | Authorized by    |
|--------------------------------------------------------|------------------------------------------|------|------------------|
| Document Organization                                  | Added SERP to Elements list              | 2026 | Nicolas Gauthier |
| Location and Description Wastewater Collections System | Updated values                           | 2026 | Nicolas Gauthier |
| 2.2 Organization Chart                                 | Updated contact information              | 2026 | Nicolas Gauthier |
| 4 Operations and Maintenance Program                   | Update equipment list                    | 2026 | Nicolas Gauthier |
| 5 Design and Performance Provisions                    | Reassigned SERP to Element 6             | 2026 | Nicolas Gauthier |
| 6 Overflow and Emergency Response                      | Created new Element                      | 2026 | Nicolas Gauthier |
| 10.2 & Appendix 10-A                                   | Added changes description and Change Log | 2026 | Nicolas Gauthier |
| Entire document                                        | Reformatting                             | 2026 | Nicolas Gauthier |

## **11 Communication Program**

The procedures in the following sections are in place to support communication with the public served by the City's sanitary sewer system and with connected systems. The primary method of communication is via a form available on the City's website or by phone at (530) 868-5493.

### ***11.1 Public Communication***

#### ***Sewer Lateral Maintenance***

The City communicates to all its residents and businesses regarding their responsibility and ownership of the sewer laterals connected to the City's wastewater collection system by way of the City's website listed above, municipal code, and monthly City Newsletter. This information includes this SSMP, lateral ownership responsibility, who to contact during an emergency such as an SSO, latest design and connection requirements, and other sewer related subjects.

#### ***SSMP Performance and Updates***

The development, implementation, and updates of the SSMP will be communicated, providing opportunities for public input during these phases.

Following the internal audits of the SSMP as defined in Section 10, the City will provide the audit report in the Public Works Office upon request. Anyone wishing to provide input regarding the SSMP, the audit, or other related subject is welcome to attend the regularly scheduled City Council meetings. The dates and times of these meetings will be provided on the City's website.

#### ***Sewer Pipe Blockage Control Program***

As described in Section 7, the City will continue to communicate the Sewer Pipe Blockage Control Program to businesses and agencies that the City has determined are sources of FOG. The City will provide FOG related fliers and discuss the program to each business during annual FOG intercept inspections and more frequently as needed.

#### ***SSO Events***

For spills and discharges leading to closures of public areas or affecting drinking water sources, timely and transparent communication will be initiated to inform the public. Routine communication with the public includes literature available on the City website and bill inserts.

### ***11.2 Communication with Connected Systems***

Owners/operators of systems, including satellite systems, connected to the City's system will receive regular communication regarding system operation, maintenance activities, and updates related to capital improvements.

These procedures aim to ensure clear, timely, and informative communication with both the public and connected systems, fostering transparency and community engagement throughout the SSMP's life cycle.