SEWER SYSTEM MANAGEMENT PLAN

WDID 5SSO10845

NPDES Permit CA0078051

Original Adoption March 17, 2009

Readopted May 1, 2018

By Resolution No. 7-2018

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Abbreviations / Acronyms

Acronym	Meaning
ABS	Acrylonitrile butadiene styrene
ACP	Asbestos Cement Pipe
BAT	Best Available Technology
BMP	Best Management Practice
CAL-OSHA	California Occupation, Safety and Health Administration
CCTV	Closed – Circuit Television
CIP	Capital Improvement Plan or Program or Cast Iron Pipe
CIWQS	California Integrated Water Quality System
CMMS	Computerized Maintenance Management System
Conc	Concrete Pipe
CVRWQCB	Central Valley Region Water Quality Board
CWEA	California Water Environment Association
DPW	Department of Public Works or Director of Public Works
EHC	Equivalent House Connection
FOG	Fats, Oil, and Grease
FSE	Food Service Establishments
GIS	Geographical Information System
I/I	Infiltration / Inflow
MRP	Monitoring & Reporting Program-SWRCB Order No. WQ 2013-0058-EXEC
MSR	Municipal Services Review
OERP	Overflow Emergency Response Plan
OES	Office of Emergency Services
PM	Preventative Maintenance
PMP	Preventative Maintenance Program
POTW	Publically Owned Treatment Works
PVC	Polyvinyl Chloride Pipe
PWD	Public Works Director
PWS	Public Works Supervisor
RCP	Reinforced Concrete Pipe
RBCO	Red Bluff Code of Ordinances (Municipal Code)
RWQCB	Regional Water Quality Control Board – Region 5
SMZ	Sewer Maintenance Zone

Acronym	Meaning
SOP	Standard Operating Procedures
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow
SSOERP	Sanitary Sewer Overflow Emergency Response Plan
SWRCB	State Water Resources Control Board
TR	Transite or ACP
UPC	Uniform Plumbing Code
VCP	Vitrified Clay Pipe
WDID	Waste Discharge Identification Number
WDR	Waste Discharge Requirements – SWRCB Order No. 2006-003-DWQ
WQMP	Water Quality Monitoring Plan

Introduction

On May 2, 2006 the State Water Resources Control Board (SWRCB) adopted a Statewide General Waste Discharge Requirements (WDR) and Monitoring and Reporting Program by issuing Order No. 2006-003-DWQ
(http://www.waterboards.ca.gov/water_issues/programs/sso/)
The regulations in the Order were the result of growing concern about the water quality impacts of Sanitary Sewer Overflows (SSO), particularly those that cause beach closures, adverse effects to other bodies of water or pose serious health and safety or nuisance problems.

In 2008 and again in 2013 the SWRCB updated the requirements of the Monitoring and Reporting Program and adopted Order No. WQ 2013-0058-EXEC
(http://www.waterboards.ca.gov/water_issues/programs/sso/)

Additionally, the City sanitary sewer collection system discharges to the Red Bluff Wastewater Reclamation Plant operated by "INFRAMARK" Water Infrastructure Operations as of December 2, 2017, pursuant to a National Pollution Elimination System (NPDES) Permit Order No. R5-2013-0044, NPDES Number CA0078891 issued by the Central Valley Regional Water Quality Control Board (CVRWQCB) on May 30, 2013. This NPDES permit in addition requires that the City comply with all provisions of the WDR and MRP in Section 5d.

Two major components of the WDR are:

1. The requirements that owners and operators of publicly owned collection sewer systems, a mile long or greater, apply for coverage under the WDR; and,

2. That the owners/operators develop and implement a system specific Sewer System Management Plan (SSMP).

In compliance with the first component, the City filed its application form with the SWRCB on October 30, 2006. As a result, the City received its Username and Password for accessing the California Integrated Water Quality System (CIWQS) database. Within that database reporting program, the City completed its "collection system questionnaire" and will file all future updates and required SSO reports. The City's Waste Discharge Identification number in CIWQS is 5SS010845.

In compliance with the second major component, this document has been prepared to meet the objectives contained in the specified Orders. The document is divided into 11 chapters, which align with the respective provisions contained in the WDR. Every section or subsection of each chapter addresses one of the key elements of the WDR requirements.

This document with other existing agency programs referenced herein constitutes the SSMP for the City. By implementing the procedures contained in this SSMP, the occurrence of SSOs should decrease or possibly be avoided throughout the City's Wastewater Collection System.

Finally, the City has also entered into a Settlement Agreement with Riverwatch on October 16, 2014 that requires the City to meet stated deadlines for compliance with several provisions affecting the operations, maintenance and replacement of certain sanitary sewer infrastructure assets. This agreement is effective through December 31, 2019.

Inventory of Sewer Collection Facilities

The Red Bluff population as of 2015 was estimated at 14,048 in a service area (see service area map Figure 1 below) of 7.43 square miles. The City reports that there are 4142 sewer connections to the sanitary sewer collection system. These service connections are further categorized as residential 3672, and 470 commercial/Industrial. The sewer collection system contains approximately 1050 manholes and 60 miles of gravity piping ranging in size from 4 inches to 30 inches. The City does not own, maintain, repair or replace any portion of the sewer laterals. The collection system also includes 19 lift stations and 6.39 miles of force mains as detailed below.

Table No. 1 below provides approximate linear footages of each gravity collection main by pipe diameter as estimated in 2010. Tables 2 and 3 provides further information on pipe materials and pipe age since original construction.

The City also provides extra territorial services to sixty-six (66) individual private parcels in the Lakeside area. The City has entered into separate Utility Services Agreements with these private sewer systems.

Table 1: Gravity Collection System Inventory by Pipe Diameter 2010

Pipe Dia. (inches)	Pipe Segments, each	Linear Feet*
4	9	1,370
6	603	154,445
8	484	124,155
10	57	15,207
12	14	3,620
15	10	2,816
18	32	7,893
21	14	3,166
24	4	1,618
30	1	371
Total, linear feet	**1,228**	**314,661**
Total, miles		**59.59**

**Information from City records as of 4/26/17*

Table 2: Gravity Collection System Inventory by Pipe Material 2010*

Pipe Material	Number of Line Segments	Linear Feet	Percent of System
ABS	8	2,183	0.7
ACP	283	72,003	22.9
CIP	2	420	0.1
CONC	25	9,380	3.0
HDPE	7	1,930	0.6
VCP	551	147,444	46.8
PVC	283	66,356	21.1
SDR	1	95	0.1
TR (ACP)	62	12,635	4.0
Unidentified	7	2,215	0.7
Total	**1,228**	**314,661**	**100.00**

**Information from City records dated 4/26/17*

Table 3: Gravity Collection System Inventory by Pipe Age*

Construction Period	Percent of Total	Linear Feet
2000 current	14	44,053
1980 to 1999	18	56,639
1960 to 1979	20	62,932
1940 to 1959	10	31,466
1920 to 1939	10	31,466
1900 to 1919	10	31,466
Before 1900	18	56,639
Total	**100**	**314,661**

**Information from City CIWQS Collection System Questionnaire 6/12/17*

Table 4: Summary of Lift Station Information

Lift Station Name	Install Date	Number of Pumps	Pump Manufacturer	Pump Capacity, gpm	Standby Generation,
Forward Park L.S.	4/1/2004	2	Flygt	363	**Yes**
Forward Park	4/1/2004	1			**No**
Lassen View L.S.	2004	2	Flygt	177	**Yes**
Dog Island L.S.	1963	2	Smith & Loveless	550	**Yes**

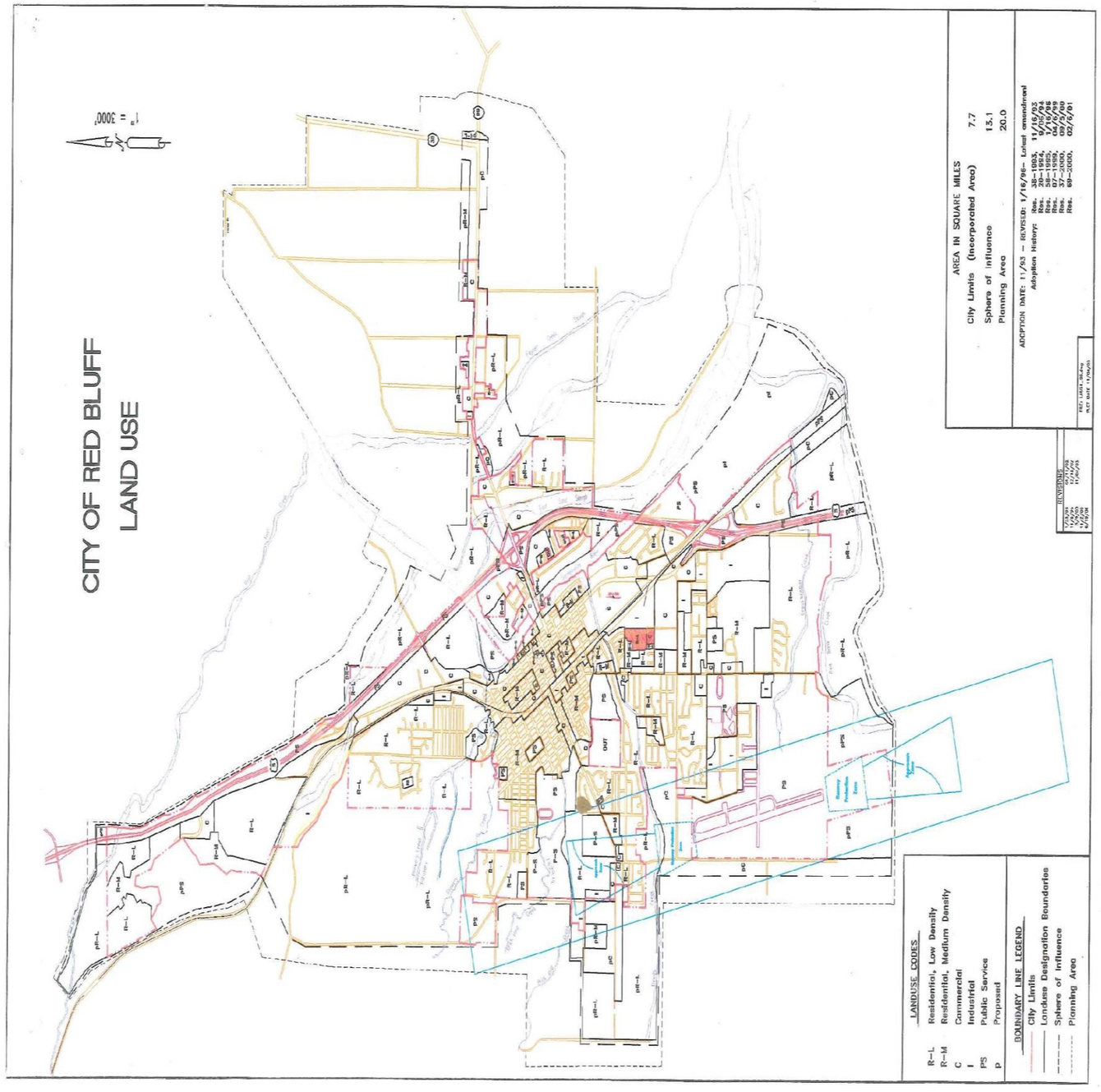
Lift Station Name	Install Date	Number of Pumps	Pump Manufacturer	Pump Capacity, gpm	Standby Generation,
Denny's L.S.	1981	2	Smith & Loveless	116	**Yes**
Motel 6 L.S.	5/1/63	2	Smith & Loveless	200	**Yes**
Bidwell L.S.	1999	2	Flygt	112	**Yes**
Reeds Cr L.S.	1980	3	Flygt	1900	**Yes**
Northern View	2005	2	Smith & Loveless	100	**Yes**
Elks L.S.	1986	2	Davis	185	**Yes**
Meadow Brook L.S.	2011	2	Smith & Loveless	150	**Yes**
Raley's L.S.	1990	2	Smith & Loveless	175	**Yes**
Riverside L.S.	1/15/51	2	Smith & Loveless	550	**Yes**
Willow Cr L.S.	1994	2	Smith & Loveless	300	**Yes**
Montgomery L.S.	1989	2	EMEAS	196	**No**
Orleans L.S.	1981	2	Flygt	175	**Yes**
St Elezabeth L.S.	2000	2	Flygt	350	**Yes**
Fairway Oaks L.S.	7/1/83	2	Flygt	116	**Yes**
Highland Bluff	1991	2	Smith & Loveless	75	**Yes**

Table 5: Summary of Force Main Information

Force Main Name	Force Main Installation Date	Force Main Material	Force Main Size, in	Force Main Length, LF
Highland Bluffs	10/1/1991	PVC	8	1861
Ludlow Ave (Northern View LS)	5/2/2005	PVC	10	1710
Forward Park	4/1/2004	PVC	4	190
Forward Park	4/1/2004	AC	10	730
Monroe	4/1/2004	S/C	6	162
Monroe	5/1/2000	S/C	6	5095
Main	3/1/65	PVC	8	2253
Center	1981	S/C	12	2276

Force Main Name	Force Main Installation Date	Force Main Material	Force Main Size, in	Force Main Length, LF
Center	5/1/65	S/C	16	2441
Oak St	5/1/00	CI	8	2115
Riverside	11/5/51	PVC	4	523
So Main	6/1/64	PVC	6	800
I-5	2/1/72	CIP	6	330
Carl Ct	4/1/94	PVC	4	3390
So Main	6/1/92	PVC	4	44
WWTP	1/15/51	CI	6	476
Kimball	1994	PVC	6	626
Montgomery	10/1/92	PVC	8	6106
I-5	4/1/66	PVC	8	1861
Total, Linear Feet				**32,989**
Total, Miles				**6.25**

Figure 1: Service Area Map (Ref: Sewer System Capacity Evaluation)



Executive Summary

This SSMP was prepared in compliance with a formal order issued by the State Water Resources Control Board (2006-0003-DWQ), which requires every owner and operator of publicly owned sewer systems of greater than one mile and discharging to a publically owned treatment works (POTW) to develop and implement a system specific Sewer System Management Plan (SSMP) The plan sets forth goals and actions to be followed, and guidelines for various activities involved in managing, operating, maintaining, repairing, replacing and expanding the sewer system. Chapter 6 describes actions to follow when responding to a Sewer System Overflow (SSO) occurrence within the community, including reporting obligations. There are chapters that describe legal authorities for managing the system and ministerial actions required in monitoring, auditing, reporting and communicating with the public and the regulators.

There are specific requirements for accomplishing public involvement and reporting/modifying changes in the plan. These later requirements are intended to raise public awareness of the hazards associated with SSO events and to minimize the occurrence of such events. In addition, effective September 9, 2013 the Executive Officer of the SWRCB issued revised Monitoring and Reporting Program (MRP) requirements that modified SSO categories, revised SSO reporting and filing requirements, defined appearance points, required a new SSMP Change Log to identify all changes to the SSMP and required that the SSMP and all referenced documents be placed on the agency webpage along with the Council adoption document or submitted to the CIWQS reporting system and certified by the LRO.

- The initial plan was approved and certified on March 17, 2009.
- The plan is to be monitored and updated no less frequent than every five years from March 2009.
- The plan must be periodically audited for effectiveness, a report compiled and kept on file and such audits must occur no less frequent than every two years from March 2009.
- There are reporting timeframes for both emergency and routine reporting events to the State of California.
- The adoption of and any significant revision to the plan must be accomplished utilizing public notification and public hearing procedures as identified in the plan and order and documented in the SSMP Change Log (Appendix K).

A key element of the plan was the sewer system capacity evaluation utilizing a hydraulic model of the sewer system to evaluate pipe capacity and probable constraints and the development of performance measures to allow the agency to evaluate the effectiveness of implementation of the SSMP subsequent to its formal adoption by the governing board.

The City must also comply with the terms and conditions of a settlement agreement with California River Watch that was effective October 16, 2014. The term of the agreement is five years and includes requirements for sewer system inspections and repairs and SSO reporting and responses.

References:

- State Water Resources Control Board (SWRCB) , Statewide General Waste Discharge Requirements (WDR) and Monitoring and Reporting Program Order No. 2006-003-DWQ (http://www.waterboards.ca.gov/water_issues/programs/sso/)
- SWRCB updated the requirements of the Monitoring and Reporting Program and adopted Order No. WQ 2013-0058-EXEC (http://www.waterboards.ca.gov/water_issues/programs/sso/)
- Central Valley Regional Water Quality Control Board Order Number R5-2013-0044, NPDES Permit No. CA0078891
- Settlement Agreement and Mutual Release of Claims, California Riverwatch and the City of Red Bluff dated October 16, 2014.

Chapter 1 Goals

(i) **Goal**: The goal of the SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system. This will help reduce and prevent SSOs, as well as mitigate any SSOs that do occur.

The goals for the City of Red Bluff to comply with the WDR requirements are as follows:

A. To properly manage, operate and maintain all portions of the City of Red Bluff's wastewater collection system.

B. To provide adequate capacity to convey the peak wastewater flows.

C. To eliminate or minimize the frequency of SSO's (Sanitary Sewer Overflows)

D. To mitigate the impacts that are associated with any SSO that may occur.

E. To meet all applicable regulatory notification and reporting requirements

References

None

Chapter 2 Organization

(ii) **Organization**: The SSMP must identify:

(a) The name of the responsible or authorized representative as described in Section J of this Order.

(b) The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. The SSMP must identify lines of authority through an organization chart or similar document with a narrative explanation; and

(c) The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, Regional Water Board, and/or State Office of Emergency Services (OES)).

2.1 Management

The sewer system is managed and maintained by the Red Bluff Public Works Department, which consists of 9 budgeted, full time positions, including the Public Works Director (DPW), Supervisor, and two Lead positions. Four (4) additional INFRAMARK contract Wastewater Treatment Plant personnel operate the Wastewater Treatment Plant, but do not typically assist with the sewer collection system operations. In addition to the sewer collection system, the Public Works Department also operates and maintains other City infrastructure systems including the water distribution system, storm drain system, streets, facilities, buildings and grounds maintenance.

City staff is augmented by Building Inspector Services and contract City Engineering Consultant services. The Building Inspector ensures compliance with appropriate building and plumbing codes as well as assistance with FOG Program monitoring and enforcement. The contract City Engineer performs special studies, investigations and reports concerning sewer infrastructure

The distribution of the Public Works Department personnel is depicted in the organization chart presented in Section 2.3.1 of this program. These personnel maintain facility record plans and administer preventive maintenance and sewer construction programs.

2.2 Authorized Representative

The PWD is responsible for the execution of the compliance actions required under the WDR. This includes, but is not limited to, signing and certification of all reports and correspondence as required under this order. The City has also designated the Collection Supervisor, Lead Man, and a senior maintenance worker as Legally Responsible Officials (LROs) to allow

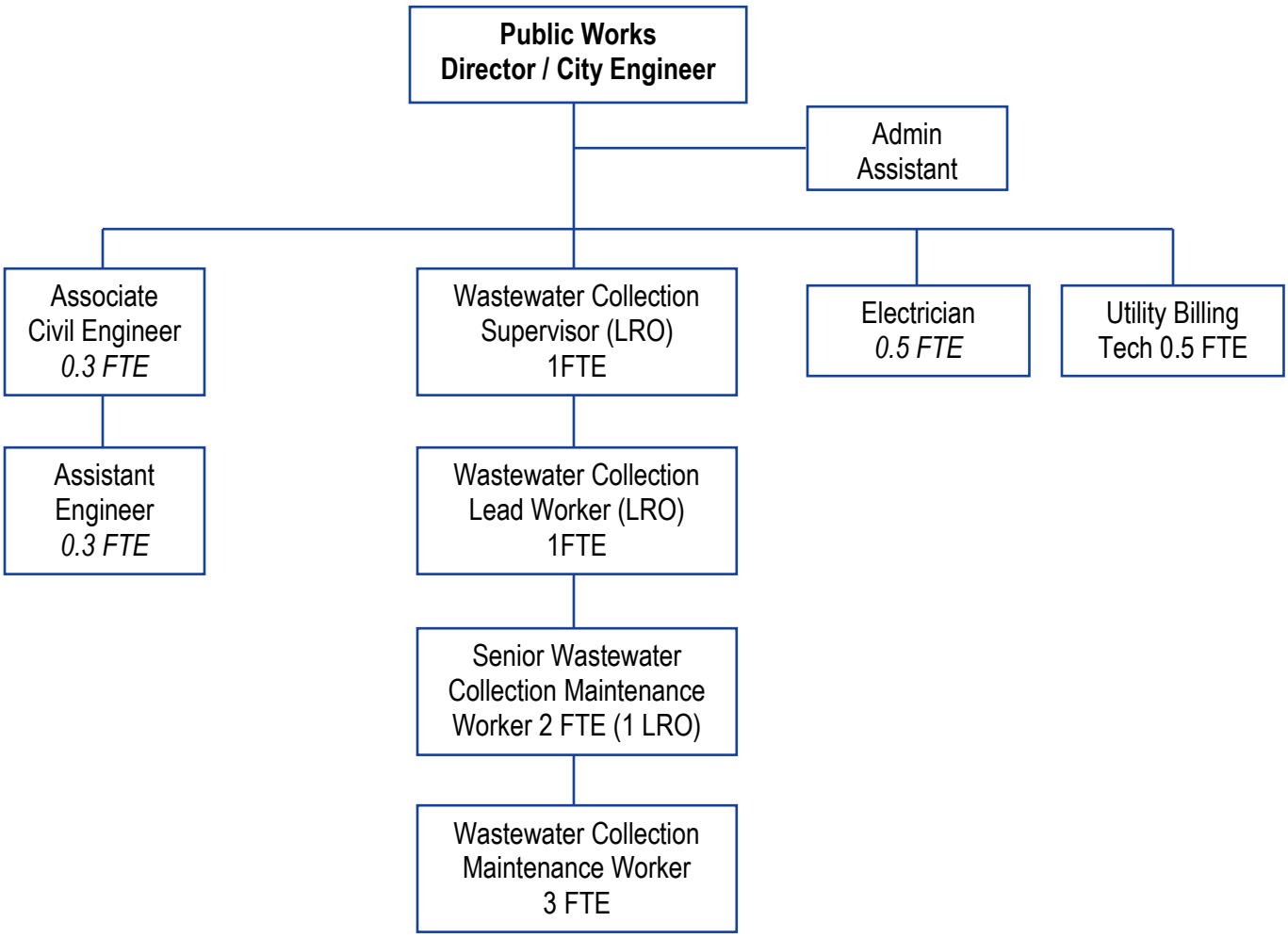
SSOs to be reported and certified in the State Reporting System CWIQS in the absence of the PWD.

2.3 Organization Chart and Responsibilities

The organization chart showing the structure and relationships of all Public Works Department administrative, management and field positions is presented in Figure 2 (below) and the description of responsibilities is presented in Sections 2.3.1 and 2.3.2.

2.3.1 Description of Responsibilities

Figure 2: Organization Chart for the Public Works Maintenance Department



The description of the roles and/or responsibilities of each classification especially as related to SSOs are as follows:

- **City Council** – Responsible for establishing new and amending existing regulation, resolutions and policies governing the operations of the Public Works Department and

approving all Public Works Department contracts and agreements. Review and adoption of the City Sewer System Management Plan.

- **City Manager** – The City Manager is responsible for the overall implementation of the City Councils policies and philosophies. The position provides administrative direction and management to the Public Works Department.
- **Director of Public Works/City Engineer (Part Time Contract Services)** – Establishes Public Works Department policy within the scope of the City Council's policy and legal requirements, directs its execution, and evaluates work accomplished by Public Works Department. Directs the development and enactment of new regulations and directs the enforcement of Plumbing Codes involving illegal connections, upkeep of sewer house laterals and the design and construction of new and rehabilitation of existing collection sewer systems. Directs the development, monitoring and enforcement of the FOG Program.
- **Wastewater Collections Supervisor** – Designated as a Legally Responsible Official. Responsible for the oversight of the field crew personnel and operation and maintenance activities of the storm drainage system, and the sewer collection system. Coordinates the City FOG control and pretreatment program.
- **Wastewater Collections Lead Worker** – Designated as a Legally Responsible Official – Specializes in the sewer collection system department. Responsible for assigning work and has oversight for the activities of a crew of at least two field personnel. Reports to the Wastewater Collections Supervisor.
- **Senior Maintenance Worker** – Designated as a Legally Responsible Official. Specializes in sewer collection system department. Responsible for assigning work and has oversight for the activities of a crew of at least two field personnel. Reports to the Wastewater Collections Lead Worker.
- **Electrician** – performs maintenance on switches, panels, pumps and generators associated with the lift stations located within the sewer collection system.
- **Administrative Assistant** – Assist in the preparation of the Public Works Department budget, Board letters, and other correspondence, and are responsible for the sewer service charge direct assessments.
- **Building Inspector**– Responsible for ensuring conformity with appropriate Building and Plumbing Codes, and assists with the monitoring and enforcement of the FOG Program.
- **Associate Engineer** – Performs complex engineering work in the provision of office administration, engineering and field engineering support for, water, sewer, street, storm drainage and other Public Works projects and programs ensuring technical competence and compliance with all current codes and criteria; serves as a Project Manager.
- **Assistant Engineer** – Performs complex engineering related work for environmental, water, sewer, street, and other Public Works projects and programs applying the principles, methods, and techniques of civil engineering technology and ensures compliance with all current codes and criteria; may serve as a Project Manager.

- **Senior WWTP Operator (Contract)** – Provides operations and maintenance services for the WWTP including testing, analysis, reporting and compliance with all applicable laws and City discharge permits.
- **Service Contractors** – The City contracts for the Director of Public Works and Engineering Services.

2.3.2 City Positions Responsible for Implementing Specific Measures of the SSMP

Table 6 following provides the details of the City positions responsible for the implementation of the specific Chapters and documents required to comply with the WDR and MRP. This Table provides the position title and direct contact information for each of the eleven WDR Elements, the SSMP Introduction and the appendices required by the regulations.

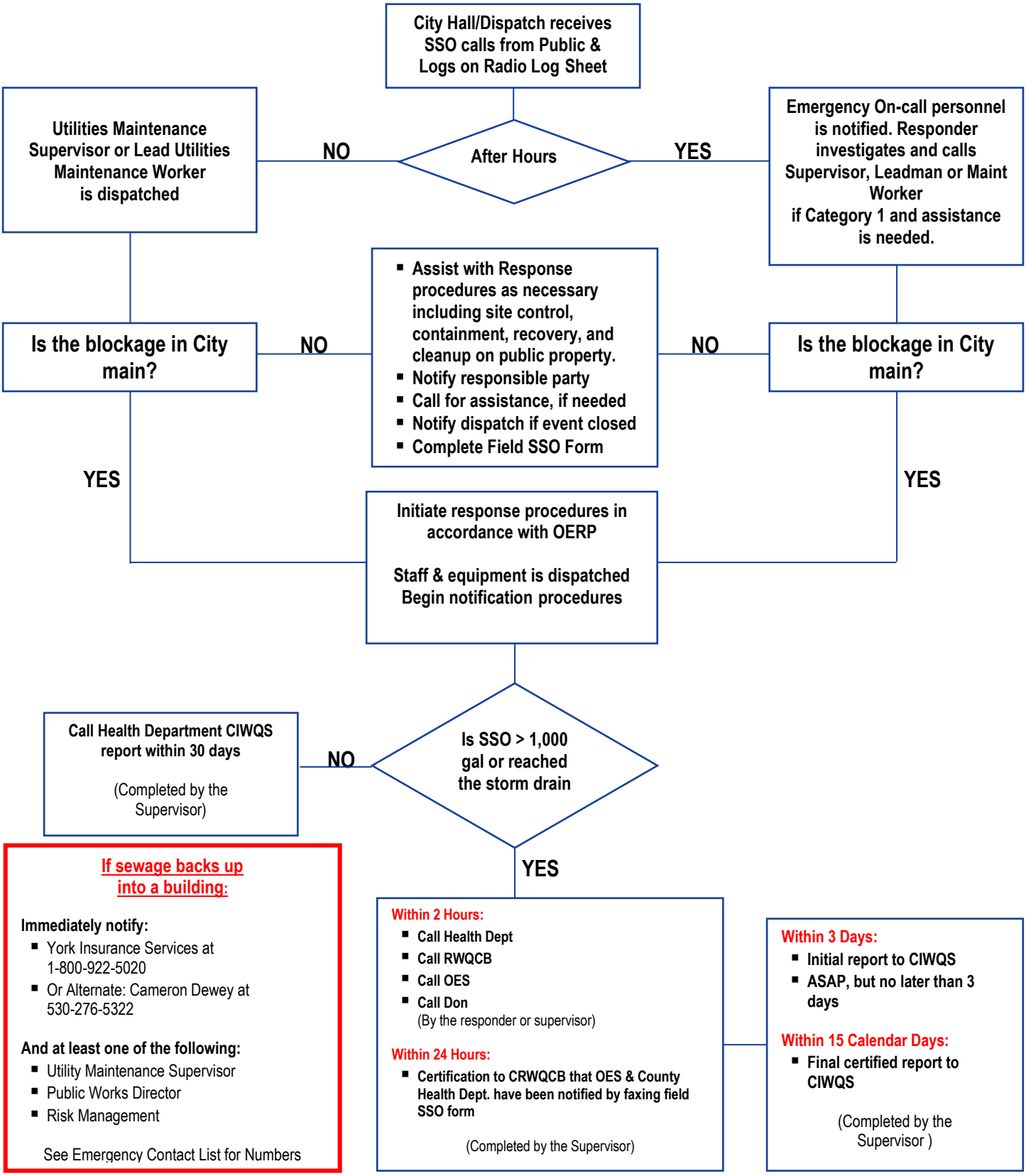
2.3.3 Chain of Communication for SSO Reporting

The chain of communication for reporting SSOs, from receipt of a complaint or other information to reporting to appropriate regulatory agencies, is presented in Section 2.3.4 below.

2.3.4 SSO Reporting Procedures Flow Chart

(See flow chart on the next page)

Figure 3: Notification and Reporting Procedures for SSO Events



2.3.5 City's Contact Directory for SSO Responding and Reporting

The full list of City contacts for responses to emergency situations is found in Appendix A, Table A-1.

Table 6: List of Responsible City Staff for SSMP Chapters

SSMP Chapter		Responsible City Position	Phone Number	Email Address
0	Introduction	Collections Supervisor	530-527-4300	dbrown@cityofredbluff.org
1	Goals	Director of Public Works	530-527-2605	rkampmann@cityofredbluff.org
2	Organization	Director of Public Works	530-527-2605	rkampmann@cityofredbluff.org
3	Legal Authority	Director of Public Works	530-527-2605	rkampmann@cityofredbluff.org
4	O&M Program	Collections Supervisor	530-527-4300	dbrown@cityofredbluff.org
5	Design & Performance Provisions	City Engineer	530-527-2605	rkampmann@cityofredbluff.org
6	Overflow Emergency Response Plan	Collections Supervisor	530-527-4300	dbrown@cityofredbluff.org
7	FOG Control Program	Collections Supervisor	530-527-4300	dbrown@cityofredbluff.org
8	System Evaluation & Capacity Assurance Plan	City Engineer	530-527-2605	rkampmann@cityofredbluff.org
9	Monitoring, Measurement and Program Modifications	Collections Supervisor	530-527-4300	dbrown@cityofredbluff.org
10	SSMP Program Audits	Collections Supervisor	530-527-4300	dbrown@cityofredbluff.org
11	Communication	Director of Public Works	530-527-2605	rkampmann@cityofredbluff.org
Appendices A – H				
Appendix SSMP Adoption Documents		Director of Public Works	530-527-2605	rkampmann@cityofredbluff.org
Appendix SSMP Change Log		Collections Supervisor	530-527-4300	dbrown@cityofredbluff.org
Appendix SSMP Audit Reports		Collections Supervisor	530-527-4300	dbrown@cityofredbluff.org

2.4 References: None

Chapter 3 Legal Authority

(iii) **Legal Authority**: Each Enrollee must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

(a) Prevent illicit discharges into its sanitary sewer system (examples may include I/I, stormwater, chemical dumping, unauthorized debris and cut roots, etc.); State Water Resources Control Board Order No. 2006-0003-DWQ Page 11 of 20 Statewide General WDR For Wastewater Collection Agencies 5/2/06

(b) Require that sewers and connections be properly designed and constructed;

(c) Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency;

(d) Limit the discharge of fats, oils, and grease and other debris that may cause blockages, and

(e) Enforce any violation of its sewer ordinances.

3.1 Statutory Authority

Pursuant to the California Government Code, Sections 37100 and 54350, the City Council, as the local legislative body, may by ordinances and resolutions make and enforce all rules and regulations necessary for the administration of the City's sanitary sewer collection system and SSMP. Such actions include, but are not limited to, the design, cleaning, repair, construction, reconstruction, rehabilitation, replacement, operation, and maintenance of wastewater collection system within the City. Consistent with the law, several ordinances have been established by the City Council to govern the Sewer Operations and Maintenance Plan. Legal authorities for the specific areas stipulated in the WDR are discussed below and are generally found in Chapters 5 and 18 Construction Regulations and Sewers.

In addition, Red Bluff Code of Ordinances (RBCO) Section 5.23 entitled "Adoption of California Plumbing Uniform Code and Section 15.32.010 entitled "Adoption of the California Plumbing Code", adopted by reference the then current edition of the California Plumbing Code, and all future amendments or revisions thereto, to govern plumbing applications in the City. Finally, the City has adopted Sanitary Sewer Design Standards, Land Division and Engineering Standards in Section 5 of these standards.

Table 7, Summary of Collection System Legal Authorities below provides a summary list of the legal authorities.

3.2 References

- City of Red Bluff Municipal Code Chapters 5 and 18

Table 7: Summary of Collection System Legal Authorities

Requirement	Legal Authority Reference Red Bluff Code of Ordinances, Chapter 18 unless otherwise designated below
Prevent illicit discharges into the wastewater collection system	18.5 18.29 18.30
Limit the discharge of fats, oils, and grease and other debris that may cause blockages	18.4(B) 18.13 18.35(C) Uniform Plumbing Code 5.23, 5.54
Require that sewers and connections be properly designed and constructed	18.8
Require proper installation, testing, and inspection of new and rehabilitated sewers	18.12 18.13 Sanitary Sewer Design Standards – Land Division and Engineering Standards, Section 5
Clearly define City responsibility and policies related to sewer services (private sewer laterals)	18.1 5.54
Ensure access for maintenance, inspection, or repairs for collection system lines maintained by the City	18.59
Control infiltration and inflow (I/I) from private service laterals	26.5-3
Requirements to install grease removal devices (such as traps or interceptors), design standards for the grease removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements	18.35(C) 5.23(B)(3)
Authority to inspect grease producing facilities	18.59
Enforce any violation of its sewer ordinances	5.4 18.20 18.78 18.79

Chapter 4 Operation and Maintenance Program

(iv) **Operation and Maintenance Program**. The SSMP must include those elements listed below that are appropriate and applicable to the Enrollee's system:

(a) Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities;

(b) Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders;

(c) Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;

(d) Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and

(e) Provide equipment and replacement part inventories, including identification of critical replacement parts.

4.1 Preventive Maintenance Program

The City does prioritize its preventive maintenance activities. The preventive maintenance program includes random inspection of all sewer lines, scheduled focused cleaning, root control of problem areas, and regular inspection of pump stations, as well as investigation of customer complaints. All maintenance services are conducted from the City Corporation Yard located at 1055 Kimball Street. The following subsections summarize the City's preventive maintenance activities.

The following is a summary of key preventive maintenance activities and where applicable, frequencies for these services have been included:

4.1.1 Sewer Maintenance Mapping System

The City has block book maps of their sewer and storm drain systems in .dwg file format, with each block book sheet covering approximately 30 acres or 0.05 sq. mile. Maps are printed into a map book for use by maintenance and engineering staff. Each manhole and sewer line has an assigned ID based on the block book grid in which it falls. The MH and sewer lines information is then stored in a searchable database by MH No. or sewer line No. The excel data base is printed out in accordance with sewer line No. and MH No. and placed in binders for use by the engineering staff and field personnel. The sewer line data base includes the sewer line No., pipe length, pipe material, pipe diameter, start and end MH No., date installed, street address, and plan No. reference for the sewer lines. The MH data base includes the MH No., Street Address of closest structure, Rim Elev., Flow Line Out Elev., Number of pipes entering MH. The City also has pump station plans or as-built drawings for reference.

In 2007 the existing sewer maps were uploaded to the new GIS program. The GIS database includes fields for pipe inverts, manhole inverts, and pipe size. These fields have not yet been populated but the process to accomplish this was started in June of 2008.

4.1.2 Pump Station and Force Main Maintenance

Currently there are 19 lift stations and force mains in the city system and these assets are each described in Intro Tables 4 and 5. The City's maintenance staff performs maintenance on the City's lift stations weekly. The lift station maintenance consumes approximately 40 % of the time of the single crew available. The required maintenance varies from one lift station to another. Depending on the specific lift station, the weekly maintenance will consists of cleaning of the sensors and repair if require, check for buildup of solids in the wet well, clean wet well with VacCon as needed, scrap grease from sides of wet well, run the pumps and check the performance of check valves, compare the Elapsed Time Meters to verify equal performance of both pumps, clean sensor bowls as needed, check air compression performance with a vacuum gauge, run pumps to confirm prime, perform general housekeeping at site. In addition to the weekly maintenance every six months all of the lift stations will have their pumps lubricated and de-ragged and the emergency generator tested.

Force main alignments are inspected once a year for evidence of problems and discharge manholes are regularly inspected to evaluate corrosion of the concrete in the discharge manhole from hydrogen sulfides released as the flow goes from high velocity and turbulent to gravity flow in the collection system.

Annual assessments of lift stations and force mains are documented for each set of assets in the Lift Station/Force main Condition Assessment Checklist in Appendix B.

4.1.3 Maintenance Management and Work Orders

The City's Maintenance Division uses a verbal work order system. There is currently no computerized system of work order tracking and no plans to purchase or implement one.

Sewer cleaning records identify the line and its location using the Map Grid system set up over the City limits. The location of a line is given by the Map Grid Number and then the number of the line in that Map Grid. The other information included in the cleaning record is the condition causing the blockage, date of cleaning and footage cleaned.

4.1.4 Sewer Line Cleaning

Cleaning is the City's primary sewer maintenance activity. The random inspection of existing sewer lines consists of a designated employee with a pager systematically driving through the City streets and lifting manhole covers and checking for a significant differential in flow quantity between manholes. The difference in flow would indicate a partial blockage in the line. The line is then cleaned. The weekly assignment to perform the random checks is traded off each week to a different employee.

The focused cleaning program for sewer lines is discussed below. At this time, it is not feasible to have a cyclical cleaning program due to other Public Works responsibilities. Currently the collections department has only one crew which is occupied full time performing focused cleaning, maintaining the 19 lift stations, and responding to customer complaints.

Approximately 37,400 lf of sewers (11.8% of the system) are included in the focused cleaning program, with cleaning from once every year to seven times per year. Cleaning frequency depends on the history and causes of stoppages or overflows on a line. Currently the cleaning records are stored in spiral bound note books stored in the office of the Collection Systems Lead Worker. The historical cleaning and frequency of blockages records are reviewed by the Collection Systems Lead Worker and a listing of chronic problem areas is determined along with an appropriate schedule of preventive cleanings. Problem areas are identified by line number and the preferred method of cleaning.

Table 8 summarizes the total length of sewers cleaned by frequency, and shows which sewers are cleaned in the range of three to seven times per year. Tables 9 and 10 provide to historical cleaning performance for both focused and general cleaning.

Currently the City uses power Rodding and VacCon pressure washing for cleaning. The City has one H.V.C. (VacCon) and two Power Rodders. The equipment is located at the City's Corporation Yard at 1055 Kimball Street. The City's experience with the use of its present cleaning equipment has been very good. The crews have not experienced any damage to existing infrastructure from the use of the equipment.

Table 8: Length of Sewers in Focused Cleaning Program

Cleaning Frequency times per year	Length (feet)
One to two times per year	28,950
Three to four times per year	7,800
Five to seven times per year	650

Cleaning Frequency times per year	Length (feet)
Total (feet)	**37,400**
Total (feet/year)	**67,000**

Table 9: Historical Focused Cleaning Performance

Frequency	Footage of Lines in Hot Spot Program	Totals Linear feet/year
One to two times	28,950	56,000
Three to four times	7,800	23,400
Five to seven times	650	3,200
Total	37,400	82,600

Table 10: Historical General Line Cleaning Performance

Fiscal Year	Linear Feet Cleaned *Projected	Miles Cleaned
2012	58,640	11.10
2013	79,698	15.09
2014	111,373	21.09
2015	149,634	28.37
2016	149,779	28.36
2017	180,876	34.25
Total	**730,000**	**138.26**
Average per year	**121,667**	**23.04**

4.1.5 CCTV

The City has hired staff resources to TV existing sewer lines continuously. The current monitoring program consists of performing visual inspections of manholes and sewer line flows by individual crew members. The visual inspections are performed on a very limited number of locations and the majority of the City's sewer infrastructure has never been inspected after it was originally installed. There is no ongoing flow monitoring program as recommended in The Sewer Master Plan for the same lack of personnel and there is a need to hire additional personnel to perform these inspections. The State of California considers that 10 percent of the collection system lines be CCTVed and condition assessed each year resulting in a complete system inspection every ten years as a proper management performance. A systematic plan to CCTV and condition assess all of the City's existing sewers should be undertaking even if it takes longer than 10 years to complete. Included at the end of this section is the proposed plan to accomplish this.

Table 11: Historical CCTV Results

Fiscal Year	Line Footage Inspected/Assessed
2012	3,074
2013	2,202
2014	6,979
2015	0
2016	3,483
2017	59,359
Total	75,097
Average per year	**12,516**

4.1.6 Root Control

The City's root control program is implemented on an as needed basis when there is sufficient crew time available. Root control is performed with the City's Power Rodder and VacCon with chain flail attachments on the jetters.

Chemical cleaners have been tried by the City over the years. These include the use of Hot Rod, RootX, Root-b-Gone, and Vaporoot. None of these products have been found to be effective in the control of roots.

4.1.7 Siphon Maintenance

The City collection system includes four (4) system siphons that are maintained by the City staff. The siphon asset information is included in Table 12, Siphon Asset Information below. The City regularly monitors these siphons and provides maintenance as found necessary.

Table 12: Siphon Asset Information

Siphon Name	Length, linear feet	Size, inches	Pipe Material	Date of Construction
Bidwell	190	8	ACP	1978
Olive Street	135	8	Concrete	1977
Reed Creek (M10-107)	220	10	VCP	1956
Reed Creek (M10-108)	200	6	CCP	1950

4.2 Rehabilitation and Replacement Plan

In April 2002 Pace Engineering prepared a Master Sewer Plan ("Master Plan") for the City of Red Bluff. Pace Engineering made several recommendations for improvement in the current collection system, requirements for the system in 2020, and for the ultimate build out of the city.

The primary improvements in regard to the collection system are listed below:

1. Develop a comprehensive ongoing Infiltration and Inflow reduction program and implement it over the next 20 years. The flow-monitoring program that was developed as part of the study should be continued in order to provide reliable data for verification of the estimated flows, as well as provide flow information needed for evaluating the ongoing Infiltration and Inflow (I&I) reduction program.

2. Parallel relief sewers or bypass sewers are needed in some areas to relieve current or impending surcharging and to provide sufficient capacity for the projected ultimate conditions. In some areas where Infiltration and Inflow are extremely high, or the sewers are in poor conditions, it may be necessary to replace existing sections of sewer instead of adding a parallel relief sewer.

4.2.1 Parallel Relief or Bypass Sewers

A review of the upgrade recommendations on pages 33 thru 41 the Master Plan was performed in 2008. A revised Sewer Rehabilitation and Replacement Plan was developed.

Short term improvements were estimated to cost $2,309,000 in 2009 dollars and were to be completed between the years 2008 and 2012. Intermediate improvements are estimated to cost $340,500 and are to be completed between the years 2012 to 2022. Long term improvements are estimated to cost $6,491,000 and to be completed between the years 2022 to Ultimate build out of the current City. These estimates were based on estimated growth rates and specific locations of that growth. These may vary over time and the Rehabilitation and Replacement Plan needs to be reviewed on yearly bases so that it remains current.

4.3 Equipment Maintenance and Replacement Inventories

The City maintains an equipment inventory. All sewer maintenance equipment and replacement parts are stored at the City's Corp Yard. Equipment and replacement parts are periodically replaced based on the estimated useful and remaining life. The City's equipment inventory list is included in Appendix D.

The City keeps spare/replacement parts in inventory to minimize facility downtime in the event of an unplanned failure. Spare parts include spare manhole lids; hoses, valves, and heads for maintenance and emergency response equipment; and 4, 6, 8 and 10-inch diameter PVC

pipe and necessary couplings. The City's pump stations include redundant systems to reduce impacts of a failure.

Pump stations and the City's trunk main are considered as "critical" parts of the system. Contingency equipment stored by City to support an effective response to emergency conditions include sewer bypass pumps and piping, emergency backup generator, and Vac-Con truck. The City stores an adequate inventory for responding to overflow emergencies. The list of equipment is included in Appendix "D".

4.4 Training for Field Operations Personnel and Contractors

The City budgets for training its sewer maintenance staff each year, and the Maintenance Division has an extensive training program and will continue to review its training program to meet the demands of maintaining the sewer system. The City requires sewer staff to become California Water Environment Association certified and provides training opportunities to enable all sewer maintenance staff to become and remain certified. The City assists with certifications by paying for the certification exams and required continuing education. The City also provides training manuals for employees for both work and home study. As nearly all of the City's current sewer maintenance staff is certified, the current focus is on continuing education to maintain certification.

The City uses numerous outside programs, as well as providing in-house and on-the-job training for sewer maintenance crews. Training programs that the City uses are listed below:

- California Water Environment Association
- California Water Pollution Control Association
- Maintenance Superintendent Association
- Vendor sponsored training
- In-house training by supervisor and lead worker
- Safety tailgate meetings by experienced staff or vendors

For in-house training the City uses the Operation and Maintenance of Wastewater Collection Systems (by Kenneth D. Kerri). All field training is supervised by an experienced certified operator. New employees and operators work with an experienced lead worker for at least three months or until they can demonstrate competency in each skill set. Though the training listed is mainly for the maintenance crews, occasionally the training sessions are attended by the engineering staff as well.

To ensure that contractors for the City have appropriate training, the City will only contract with licensed contractors and it is a requirement of all City Contracts that all contractors by qualified to perform any work on City facilities.

Individual employee training is tracked with a Training Documentation form signed by the employee and kept on file.

The City annually conducts both classroom and field exercises for collection system and collection system emergency response personnel. This training includes training on the WDR and MRP, as well as the following City specific collection system documents; the SSMP, the OERP and the WQMP and confined space entry. The staff also participates in field exercises for volume estimation, SSO start times, overflow sampling procedures and general emergency response procedures. Finally, the City conducts traditional annual safety and general staff required training for things like traffic control, CPR, Hazmat, excavation safety and sexual harassment.

To ensure that contractors for the City have appropriate training, the City will only contract with licensed contractors and it is a requirement for all City Contracts that all contractors be qualified to perform any work on City facilities. The City also requires contractors to have emergency response plans for sewer overflows at least as detailed as the City OERP when working in and around City sewer facilities. Additionally, all preconstruction meetings and many progress meetings with a contractor include discussions of emergency response requirements and proper notification of City personnel for any sewer related overflow or emergency response incident.

4.5 References

- 2002 Sewer Master Plan, Pace Engineering

Chapter 5 Design and Performance Provisions

(v) **Design and Performance Provisions**:

(a) Design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems; and

(b) Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

5.1 Design and Construction Standards and Specifications

The standard Design criteria for the City of Red Bluff sanitary sewer collection system is contained in the Master Plan, and the Land Development and Engineering Design Standards ("Standards") revised in 2016 and online on the City website.

Section 5 of the Standards provides specific design formulas, pipe sizes, and contribution rates to the system by facility use. The contribution from I&I is averaged to 600 gallons per day per acre.

Section 5 also provides requirements for minimum pipe sizes, allowable pipe materials, and design formulas for pipe capacities. Sub sections 5.07 thru 5.13 detail the requirements for, pipe cover, horizontal alignment, service laterals, manholes and onsite connections.

Section 6 of the Standards provides the requirements for the construction of Wastewater Pump Stations and Section 6.12 provides requirements for force mains.

The standard specifications for construction of new portions of the collection system are provide in the City of Red Bluff Land Development and Engineering Design Standards and the Green Book" Standard Specifications for Public Works Construction". These documents also include by reference to the California Building Code, and the requirements of the Tehama County Health Department.

The Land Division and Engineering Design Standards provide standard construction details for collection system piping, manholes, and pump stations. For piping and manholes, the drawings are numbered 05xx. For the pump station the drawings are number 06xx.

The Land Division and Engineering Design Standards were revised in April of 2008 and approved by the City Council in April of 2008. The Master Sewer Plan was completed in April of 2002 by Pace Civil Inc. It projected the needs of the City of Red Bluff sewer collection system up to the year 2020. The above specifications and design standards cover

only new construction. Rehabilitation and repair design is provided by in house design and/or outside consulting engineering firms.

The above specifications and design standards are required to be referenced and used by all developers and design consultants for their proposed new or rehabilitation sewer construction work. No formal committee is assigned the task of reviewing the City of Red Bluff Design and Construction standards for the collection system. This duty is performed on a variable time schedule by the Director of Public Works, the Engineering Department and the Manager of the collection system.

At the transfer of ownership of a property testing the private sewer lateral by using CCTV, air testing or water testing would be done at the option of the purchasers. Testing would be accomplished through the services of a private home inspection company prior to transfer at the request of the purchaser. Repairs to the private portions of the sewer system would be the responsibility of the parties to the transfer.

The Standards contains a plan check list for Subdivision Improvement Plans. A portion of this check list includes items for the review of the proposed sewer design. Analysis of the existing capacity of the sewer system is done prior to allowing new connections. The proposed new flow is compared to the capacity which is available in the Master Sewer plan for that area of the collection system. Only if the add on system will introduce a considerable quantity of new flow will flow metering be performed.

The Master Plan was a model of the exiting collection system. The model was also used to predict the required sewer capacity based on different scenarios of build out for the City. In projecting capacity requirements, it also projected what new construction would be required to provide this additional capacity. It is against this model that the capacities of new connections are compared during City review and approval.

5.2 Standards for Inspection and Testing

Inspection of new construction is performed by the City of Red Bluff public works staff. Public works inspectors for completed sewerage lines should have at least 6 months experience and at least 1 months training under an experienced staff inspector. At the current time inspection is supervised by the Assistant Engineer and the Director of Public Works.

New pipe construction is tested by air in accordance with the “Green Book” pg 339 to 343. After the line has successfully passed the air test a mandrel is pulled thru the line to verify clearance and shape. New construction is not currently televised.

All new construction is built to standard specifications set by the City Engineering Department and/or the state of California. All new work is warranted for one year from the date of final acceptance of the completed work for construction defects. Just prior to expiration of the one-year warranty period an inspection is performed. Material warranties are provided by the manufacturer and normally extend past the one-year period

5.3 References

- City of Red Bluff Land Division and Engineering Design Standards, Section 5 and 6, revised 2016
- "Green Book" Standard Specifications for Public Works Construction

Chapter 6 Sanitary Sewer Overflow Emergency Response Plan

(vi) **Overflow Emergency Response Plan** -Each Enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

(a) Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;

(b) A program to ensure an appropriate response to all overflows;

(c) Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the MRP. All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDRs or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification;

(d) Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;

(e) Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and

(f) A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

6.1 Action Items for prevention and response to SSO's:

6.1.1 Purpose

The purpose of the City of Red Bluff Emergency Response Plan (OERP) is to support an orderly and effective response to Sanitary Sewer Overflows (SSOs). The OERP provides guidelines for City personnel to follow in responding to, cleaning up, and reporting SSOs that may occur within the City's service area. This OERP satisfies the State Water Resources Control Board (SWRCB) Statewide General Waste Discharge Requirements (GWDR), which require wastewater collection agencies to have an OERP. The complete City OERP and all response packets used by City staff in reporting of SSOs is attached in Appendix E-1. The District Water Quality Monitoring Plan for sampling and monitoring of sewage overflows by City staff is appended to this document in Appendix F. These two documents comply with the revised MRP requirements effective September 9, 2013 and further outlines the requirements

for a Technical Report for overflows greater than 50,000 gallons or as directed by the RWQCB or the SWRCB.

6.1.2 Policy

The City's employees are required to report all wastewater overflows found and to take the appropriate action to secure the wastewater overflow area, properly report to the appropriate regulatory agencies, relieve the cause of the overflow, and ensure that the affected area is cleaned as soon as possible to minimize health hazards to the public and protect the environment. The City's goal is to respond to sewer system overflows as soon as possible following notification. The City will follow reporting procedures in regard to sewer spills as set forth by the Central Valley Regional Water Quality Control Board (CVRWQCB) and the California State Water Resources Control Board (SWRCB) in the WDR and MRP**.**

6.1.3 Goals

The City's goals with respect to responding to SSOs are:

- Work safely;
- Respond quickly to minimize the volume of the SSO;
- Eliminate the cause of the SSO;
- Prevent sewage system overflows or leaks from entering the storm drain system or receiving waters to the maximum extent practicable;
- Contain the spilled wastewater to the extent feasible;
- Minimize public contact with the spilled wastewater;
- Mitigate the impact of the SSO;
- Meet the regulatory reporting requirements;
- Evaluate the causes of failure related to certain SSOs; and
- Revise response procedures resulting from the debrief and failure analysis of certain SSOs.
- Document all emergency response action with photos or video.

6.1.4 Authority

- Health & Safety Code Sections 5410-5416
- CA Water Code Section 13271
- Fish & Wildlife Code Sections 5650-5656
- State Water Resources Control Board Order No. 2006-0003-DWQ
- State Water Resources Control Board Order 2013-009-DWQ effective September 9, 2013

6.2 References

- Sanitary Sewer Emergency Response Plan, October 2016, DKF Solutions Group, LLC
- Appendix A: Regulatory Notifications Packet
- Appendix B: Sanitary Sewer Overflow/Backup Response Packet
- Appendix C: Field Sampling Kit
- Appendix D: Contractor Orientation
- City of Red Bluff Water Quality Monitoring Plan, November 5, 2016

Chapter 7 Fog Control Program

(vii) **FOG Control Program**: Each Enrollee shall evaluate its service area to determine whether a FOG control program is needed. If an Enrollee determines that a FOG program is not needed, the Enrollee must provide justification for why it is not needed. If FOG is found to be a problem, the Enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include the following as appropriate:

(a) An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;

(b) A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area;

(c) The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;

(d) Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements;

(e) Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance;

(f) An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section; and

(g) Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (f) above.

7.1 General Program Definition

The City has determined that a FOG control program is necessary. Over 58 food service facilities are located within City limits and discharge to City sewers. The City has adopted a Policy for Oil and Grease Interceptors that is included at the end of this Chapter and outlines the roles and responsibilities for the design, operations, maintenance and repair of private interceptors. Operations and maintenance staff have also noted the tendency for grease buildup in specific sewer lines. This section discusses measures the City takes to control FOG.

The City's FOG control program consists of focused cleaning and maintenance as well as source control and education. The following subsections discuss identification and cleaning of grease-prone areas, legal authority to prohibit grease discharge or to require a grease removal device, facility inspection, and public outreach.

7.2 Public education and outreach program

Currently the city does not have a specific or organized public education program. Discussions concerning the development of a public education program are ongoing. Final decisions on a program will be made by the time of the next SSMP audit in 2019.

7.3 Disposal methods for FOG generated within the system service area

Each establishment which has a FOG control device (grease interceptor) is required to contract on their own a FOG disposal and pumping company to have their grease trap pumped and the FOG disposed of. These companies must submit a monthly pumping report to the City listing the name and address of the establishment that they have used to pump the interceptor along with the date, amount disposed of and the normal frequency of visits to that particular site.

Businesses that provide Oil and Grease Interceptor Pumping Services are:

North State Rendering
P.O. Box 1478
Chico, CA 95927
1-800-351-4446

SRC Pumping
11350 Kiefer Boulevard
Sacramento, CA 95830-9498
1-800-772-8727

7.4 Legal authority to prohibit discharges to the system and control measures to prevent SSOs and blockages caused by FOG.

Legal authority to prohibit illicit discharges (i.e. FOG, etc.) to the sewer system is discussed in City Municipal Code Article I Paragraph 18.4 A & B and Article II Paragraph 18.35 (C) of the Red Bluff City Code as follows:

18.4 Screening and Pretreatment of sewage entering the System

(A) The Director of Public Works may require screening at the source of any flow of commercial or industrial or other sewage as is required to protect the usefulness of the sewer system and maintain proper operation of the equipment and treatment plant of the City. In such cases, the screen shall be of a size and type approved by the Director of Public Works.

(B) The Director of Public Works may require pretreatment of industrial waste discharge into the sewer system and reduction to a household equivalent or impose an additional charge for treatment.

18.35 Additional pretreatment Measures

(C) Grease, oil and sand interceptors shall be provided when; in the opinion of the City they are necessary for the proper handling of wastewater containing excessive amounts of grease and oil or sand, except that the interceptors shall not be required for residential users. All interceptors shall be of type and capacity approved by the City and shall be so located to be easily accessib*l*e for cleaning and inspection. The interceptors shall be inspected, cleaned and repaired regularly, as needed by the user at their expense.

The City Municipal Code in Chapter 5, Article II, and Section 5.23 adopts the current California Plumbing Code which provides the authority and the requirements to design and install grease limiting devices and for the sizing and placement of any required devices.

7.5 Requirements for design, installation, maintenance, BMPs, record keeping and reporting of grease removal devices.

This section covers the requirements to install grease removal devices and reporting and record keeping requirements. The City of Red Bluff Department of Public Works "Policy for Oil and Grease Interceptor" covers the topics of design, maintenance, and BMP. This document is included at the end of this section.

Sizing of the interceptor is based on the requirements of the latest California Plumbing Code. The minimum size of interceptor to be used shall be determined using the tables provided in the Plumbing Code.

An Oil and Grease interceptor is not considered to be properly maintained if the following conditions exist:

a) For any reason it is not in good working condition with all internal required plumbing of proper design and length in place, or

b) The operational fluid capacity has been reduced by more than 25%, by accumulation of floatable (oil/grease) and settled solids or,

c) The effluent concentration of animal and vegetable oil and grease exceeds 300 mg/l in a grab sample as determined by the partition-gravimetric testing method, or

d) Emulsification or bacterial additives or agents are being introduced into the facilities plumbing an OGI or existing grease trap, to break down accumulated grease in lieu of regular pumping for disposal (unless approved by the Wastewater Division of the Department of Public Works)

7.6 Authority to inspect grease producing facilities, enforcement authorities, and evidence of adequate staffing to inspect and enforce the FOG control ordinance.

Chapter 18 Article I Paragraph 18.13 (C) of the City Code, provides the authority to inspect grease producing facilities. Chapter 18 Article I Paragraph 18.20 (B) details the enforcement measures available to the city.

The staff provides monitoring and enforcement only when a specific problem with an establishment is reported or develops. Grease trap pumping logs are required to be transmitted to the treatment plant by the companies that perform the pumping.

7.7 Cleaning schedule for identified FOG prone sewer segments

The area around the Denny's lift station located at Belle Mill, Center, and Front Street is the area that has the most FOG accumulation problems in the City. This area is on the focused cleaning schedule and is cleaned 4 times per year. In July of 2008 a new grease trap was installed at the Denny's restaurant to reduce the accumulation of FOG in the adjacent sewer lines.

The other areas of high FOG accumulation are, El Cerrito from David to Aloha, Burgess Street from Kimball to Givens, the line behind the homes on Shasta between Cascade and Poplar, and Douglas Street from Park Ave to Second Street. All of these areas are in the focused cleaning program and are cleaned 3 to 4 time each year.

7.8 Source control measures developed and implemented for "hot spots"

At this time FOG accumulation is not at a level that additional source control is required. The focused cleaning program is able to maintain the sewers so that there are not any SSO's at these locations. Where the FOG accumulation is at a problematic level, such as at the Denny's lift station, remedial action has been taken.

7.9 References

- City of Red Bluff Municipal Code
- City of Red Bluff Department of Public Works "Policy for Oil and Grease Interceptor"
- 2016 California Plumbing Code

CITY OF RED BLUFF
DEPARTMENT OF PUBLIC WORKS
POLICY FOR OIL AND GREASE INTERCEPTORS

PURPOSE AND INTENT

This policy statement deals with gravity separation interceptors in a very distinct application of grease and solids separation at restaurants and other food preparation facilities. These types of facilities utilize an oil and grease gravity separation interceptor (OGI) for the purpose of pretreating wastewaters prior to discharge to the City's sewer lines; thereby, reducing sewer line maintenance costs and preventing sewer line blockages caused by industrial or commercial grease accumulations. Such blockages can be very costly to the City and they can create public health hazards.

The establishment of a uniform and equitable City policy regarding standard gravity separation interceptor requirements and design is desirable from the standpoint of positive public relations with industry and a uniform perception of fairness to all concerned with the consistent application of these pretreatment requirements.

Business that typically must use OGI's include, but are not limited to the following:

- Restaurants
- Markets
- Meat-cutting facilities
- Food preparation facilities
- Churches
- Day-care centers/facilities
- Hospitals
- Industrial, commercial, or school cafeterias

REQUIREMENTS

Industrial and commercial OGI requirements will be established through a food preparation facility survey and/or on-site inspections. These surveys are part of the City's building permit/plan checking process and the wastewater treatment division's pretreatment program. Whenever pretreatment of wastewater effluent is necessary to capture greased, oils or food solids following an evaluation of a food preparation facility survey, an OGI will be required.

Sizing

All OGI's will be sized from industry submitted, certified survey information. The sizing will follow the 2007 California Plumbing Code Chapter 10. The minimum standard 1,250 gallon (OGI) shall be used in the application of this policy. For very large OGI requirements, the maximum size requirement will be established on a case by case basis.

Adjustments for extenuating circumstances will include consideration of the establishment of an agreed upon OGI maintenance (pumping) schedule, between the facility owner/operator and the City, as a basis for limiting excessive sizing. The governing factor will be the adequacy of the OGI's grease removal with properly scheduled and contracted pumping.

DESIGN

All new construction and upgrades, having an OGI requirement, shall be constructed to include a sample monitoring station and shall meet standard authorized designs on file in the City's Land Division and Engineering Design Standards

Required pretreatment equipment covered in this policy statement shall be purchased, installed, and maintained at the facility's owner/operator expense, as per Section 18.13, Red Bluff City Code

MAINTENANCE

The owner/operator shall properly maintain all OGI's and grease trap units by having them regularly cleaned or pumped and shall maintain the pumping receipts on site, of such unit cleaning for City inspection. A copy of the record shall also be transmitted to the Collections Supervisor at the City wastewater treatment plant from the contractor who performs the pumping.

An OGI unit shall not be considered to be properly maintained if:

a) For any reason it is not in good working condition with all internal required plumbing of proper design and length in place, or
b) The operational fluid capacity has been reduced by more than 25%, by the accumulation of floatable (oils/grease) and settled solids, or
c) The effluent concentration of animal and vegetable oil and grease exceeds 300 mg/l in a grab sample as determined by the partition-gravimetric testing method, or
d) Emulsification or bacterial additives or agents are being introduced into the facilities plumbing and OGI or existing grease trap, to break down accumulated grease in lieu of regular pumping for disposal (unless approved by the Wastewater Division of the Department of Public Works)

Failure to comply with these pretreatment requirements will result in enforcement actions, as per Section 18.20, Red Bluff City Code.

Chapter 8 System Evaluation and Capacity Assurance Plan

(viii) **System Evaluation and Capacity Assurance Plan**: The Enrollee shall prepare and implement a capital improvement plan (CIP) that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event. At a minimum, the plan must include:

(a) **Evaluation**: Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events;

(b) **Design Criteria**: Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria; and

(c) **Capacity Enhancement Measures**: The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.

(d) **Schedule**: The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a)-(c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D. 14.

8.1 Capacity Evaluation Discussion

The City completed a comprehensive Master Sewer Plan. This Master Sewer Plan includes a capacity evaluation and identifies capacity-related improvement projects. The Master Sewer Plan is a separate document from this SSMP. This section of the SSMP summarizes key capacity related portions of the Master Sewer Plan. The complete Master Sewer Plan is available at City Hall and on the City of Red Bluff website.

The capacity assessment completed as part of the City's Master Sewer Plan was based on hydraulic modeling of the City's collection system under current and future design flows. The following sub-section provides a brief summary of the modeled system, flow estimates, and evaluation criteria used for the City's sewer system capacity evaluation.

The City plans to update the Master Sewer Plan in the next two years or no later than the expiration of the term of the 2002 Master Plan in 2020. Thereafter the City will update its Sewer Master Plan as part of updates along with the City General Plan revisions.

8.2 Hydraulic Model

As a part of the City's Master Sewer Plan, a hydraulic model was developed using the Hydra computer modeling software to evaluate existing and future capacity. Future capacity requirements were estimated to the year 2020 and ultimate build out of the City. Refer to page 25 of the Master Sewer Plan for a complete discussion of the model development.

All of the City's sewer lines ranging in diameter from 6 inches to 30 inches were included in the model.

8.3 Flow Estimates

Existing and future flows were estimated based on the City's then current general plan and with an estimate growth rate of 1.5 percent in 2001. The City was divided into 83 sub-areas ranging in size from 1 to 340 acres. The extent of each sub-area was based upon existing sewer locations, topography, land use, and other pertinent factors (such as lot lines, existing streets, etc.).

After defining the sub-area boundaries in the Hydra model, the sewered acreage within each sub-area was calculated by the program. From this area data, the ultimate number of single-family, multi-family, and commercial/industrial equivalents in each sub-area was determined utilizing equivalent house connection factors shown in Table 2 of the Master Sewer Plan for various land use designations.

The flow rate for per equivalent house connections (EHC) was estimated at 250 gallons per day (GPD). This figure was estimated by dividing the Average Dry Weather Flow in August at the City wastewater reclamation plant by an estimated EHC of 5740 existing at that time

Inflow and Infiltration (I&I) rates were extrapolated from flow monitoring data that had been collected during the preparation of the Plan. In existing sub-areas with measured I&I rates of 1,500 gallons per acre per day (GPAD), it was assumed that these areas would have minimum I&I rates of 1500 GPAD. I&I flows in sub-areas that had values above 3,500 GPAD were reduced in future years based on a reasonable estimate of reducing future I&I in those areas. In existing sub-areas that had values between 1,500 and 3,500 GPAD, it was assumed they would remain the same in the future. All future sewered areas were assigned an I&I allowance of 1,500 GPAD.

The Hydra computer program computes the ultimate average dry weather flow for each sub-service area by determining what land use areas are located inside each sub-service area. Each land use area's EHC density is then multiplied times the corresponding area inside the affected sub-service area times 250 GPD per EHC. ADWF can then be distributed throughout a 24-hour period by raking ADWF times the appropriate diurnal curve (distributes total flow

per day over a 24-hour period) for each land use area. Hydra computed the I&I for each sub-area by multiplying the estimated I&I rate for the sub-area by the sewered area and then add the diurnal ADWF. This modeling technique assumes that a rain event will last for 24 hours and that I&I is constantly introduced into the collection system during this rain event. The composite diurnal sewage and I&I hydrographs for the various sub-areas are then merged together in a real time model of the system. Thus, the model takes into account the potential flow dampening due to the lag time associated with the flow from each service area reaching the treatment plant.

8.4 Capacity Evaluation Criteria

The capacity evaluation criteria used in the Master Sewer Plan are summarized below:

- Flow Criteria. An existing sewer will be considered adequate if it has a projected flow that will result in no more than 1-foot surcharge above the existing capacity. At that point a parallel sewer is to be considered to increase capacity.
- Force Main Capacity. Force mains were considered to be capacity deficient if the modeled peak velocity is 7 fps.

8.5 Capacity Evaluation Results and Recommended Improvement Projects

The capacity evaluation indicated that there were four areas that need improvement. These areas were:

Dog island lift station/Monroe Street Interceptor
It is recommended that the Dog Island Lift Station force main be extended from Main Street to Monroe Street along Crittenden Street. This new 12-inch force main extension would discharge into the 18-inch relief sewer running down Monroe Street and terminate at the existing 18-inch trunk sewer at Oak Street and Monroe.

Rio Street Trunk Sewer
This is a very old sewer and is in very poor condition. It is currently being spot repaired on an as needed basis. Replacement of this sewer is recommended once the Dog Island Lift Station flow is diverted to the Monroe Street Interceptor.

Aloha Street Relief Sewer
Construct a 15-inch relief sewer along Aloha Street from Aloha Court to the 18-inch sewer at South Jackson Street. This will relieve the flow through the existing 8-inch siphon under Reeds Creek from Aloha Court to Olive Street and the flow through the down street 10-inch sewer along Musick Avenue.

South Jackson/Musick Avenue Relief Sewers
To provide for additional capacity along the South Jackson Street corridor and additional relief for the 10-inch sewer along Musick Street.

All of the above projects have not been completed and additional projects have been identified. New capacity projects resulting from historical overflow events and staff experiences during storm events and regular maintenance activities are evaluated annually for inclusion in the City capital improvement program.

8.6 CIP Schedule

The current scheduling of Capital projects is contained in Appendix 'C'.

8.7 References

- City of Red Bluff, 2001 Master Sewer Plan, Pace Civil, Inc. dated April10, 2002
- City of Red Bluff Public Works Capital Improvement Plan Project List, June 18, 2013
- City of Red Bluff Original Budget 2016-2017 adopted May 3, 2016, pages 94-108
- City of Red Bluff Original Budget 2017-2018, pages 94-108

Chapter 9 Monitoring, Measurement and Program Modifications

(ix) **Monitoring, Measurement, and Program Modifications**: The Enrollee shall:

(a) Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities;

(b) Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;

(c) Assess the success of the preventative maintenance program;

(d) Update program elements, as appropriate, based on monitoring or performance evaluations; and

(e) Identify and illustrate SSO trends, including: frequency, location, and volume.

9.1 Monitoring

The City will track several performance measures through tracking logs and annual reports. This includes but is not limited to; the number, cause, and location of stoppages; the number, cause, location, and volume of SSO's; the length of pipe cleaned, frequency of cleaning, type of debris found, method of cleaning. The City plans to continue to track all performance measures that are currently tracked.

In order to monitor the effectiveness of the SSMP, however, the City has selected certain, specific parameters that can be documented and compared on an annual basis in a simple format. These parameters were selected because they are straightforward, quantitative, and focused on results. Although the parameters may not track everything associated with SSMP implementation, changes in these parameters over time will indicate the overall success of the SSMP or, conversely, underlying problems that can then be investigated further.

Table 13 lists each SSMP element, the overall purpose of the SSMP element, and the specific parameters that the City plans to track that will help in evaluating the effectiveness of the SSMP.

Table 13: SSMP Monitoring Parameters, by SSMP Element

SSMP Element	Summary of Element Purpose	Parameters for Tracking Effectiveness (Annual)
Goals	Establish priorities of City	None Needed
Organization	Document organization of City staff and chain of communications for SSO response	None Needed

SSMP Element	Summary of Element Purpose	Parameters for Tracking Effectiveness (Annual)
Legal Authority	Ensure that the City has sufficient legal authority to properly maintain the system	None Needed
Operations and Maintenance	Minimize blockages and SSO's by properly maintaining the system and keeping the system in good condition	Total number and volume of SSO's Number of repeat SSO's (same location as any previous SSO, regardless of year of occurrence) Total Number of mainline blockages Number of pump station failures Number of pipe failures Length of pipe CCTV'd 3-yr backlog for rehabilitation and repair
Design & Performance	Ensure new facilities are properly designed and constructed	None Needed
Overflow Emergency Response Plan	Provide timely and effective response to SSO emergencies and comply with regulatory reporting requirements	Average and maximum response time Percent of total overflow volume contained or returned to sewer
Fats Oil & Grease Control	Minimize blockages and overflows due to FOG	Number of Blockages due to FOG Number of overflows due to FOG Number of FOG producing facilities inspected
System Evaluation and Capacity Assurance	Minimize SSO's due to insufficient capacity by evaluating system capacity and implementing necessary projects	Number of SSO's due to capacity limitations or wet weather Date of completion of most recent capacity evaluation 3-year backlog for capacity improvement projects
Monitoring Measurement and Program Modifications	Evaluate effectiveness of SSMP, keep SSMP up-to-date, and identify necessary changes	SSMP Change Log Current
Program Audits	Formally identify SSMP effectiveness. Limitations. And necessary changes every two years	Date of Completion of last annual audit
Communication Program	Communicate with the public and satellite agencies	None Needed

The City will use the specific tracking parameters listed in Table 12 to assist in completion of the audit described in Section 10. As noted previously, the City will also continue to collect data for all performance measures currently tracked. This additional information that the City collects, such as length of pipe cleaned, and description of the blockage will be used to support or further evaluate the success and limitations of the SSMP as needed.

The annual results of the performance monitoring parameters in Chapter 9 will be reported to the City Council and placed in Appendix G, Summary of Maintenance Productivity – Graphs and Charts.

9.2 SSMP Modifications

The SSMP needs to be updated periodically and at least every five years readopted by the City Council to maintain current information, and programs need to be enhanced or modified if they are determined to be less effective that needed. The City will review the success and any needed improvements of the SSMP as part of the alternate year audits described in Section 10

City staff will update critical information, such as contact numbers and the SSO response chain of communication as needed. A comprehensive SSMP update will occur in conjunction with the update on the Master Plan Update.

9.3 References:

CIWQS Data from Calendar 2008 to 2016, WDID 5SSO10845

Chapter 10 SSMP Program Audit and Certification

(x) **SSMP Program Audits** - As part of the SSMP, the Enrollee shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the Enrollee's compliance with the SSMP requirements identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them.

10.1 SSMP Program Audit

The City, in the future, will conduct periodic internal audits and prepare an LRO certified audit report, at a minimum of every two years beginning in March 2019 and every two years thereafter. The audit will focus on evaluating operational and cost effectiveness of the SSMP as well as the City's compliance with all elements of the SSMP. The Audit Report Form at the end of the Chapter should be used to initiate the audit and the results should form the basis for the Final Audit Report to City Council that should include:

- identification of any deficiencies in the SSMP
- steps to correct any identified deficiencies
- notes of interviews with key responding personnel and any contractors utilized
- notes of operational observations, especially of each SSO event
- notes of related equipment inspections
- findings of all reviews of related records

The most recent audit report, after presentation to the City Council, will be kept on file in the City Clerk's Office, the Director of Public Works (DPW), Office and the field maintenance yard site. A certified copy of the Audit Report will also be appended to the SSMP in Appendix I.

10.2 SSMP Certification

The SSMP shall be certified by the Wastewater Collections Supervisor to be in compliance with all requirements set forth in the WDR and be presented to the City Council for review and adoption at a public meeting. Following any necessary revisions, the Final SSMP will be adopted by the City Council, and the City's LRO must then complete the certification portion in CIWQS by checking the appropriate milestone box, printing and signing the automated form. In addition, he/she shall place a copy of the Council adoption document into Appendix J.

If all of the SSMP documentation is not publicly available on the City website after Council approval, the DPW shall submit an **electronic** copy of the approved SSMP, critical supporting

documents referenced in the SSMP, and proof of local governing board approval of the SSMP to the State Water Board, within 30 days of that approval and within 30 days of any subsequent SSMP re-certifications, to the following mailing address:

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

10.3 Plan Modification and Re-certification

The SSMP must be reviewed updated and readopted by the City Council every five years from the original adoption date by the City Council to keep it current. When significant amendments are made to any portion or portions of the SSMP, it must be resubmitted to the City Council for a re-hearing, adoption and re-certification. The re-certification shall be in accordance with the certification process described in Section 10.2 above and the LRO shall recertify this adoption in the CIWQS system. Once adopted, the revised SSMP along with all references will be placed on the City website as required by the MRP. All changes to the SSMP will be logged into the SSMP Change Log in Appendix K including the person approving the change, the date of the change and the specific section of the SSMP where the change was made.

10.4 References

None

City of Red Bluff
Sewer System Management Plan
Audit Report Form

The purpose of the SSMP Audit is to evaluate the effectiveness of the City of RED BLUFF's (City's) SSMP and to identify any needed for improvement.

Directions: Please check YES or NO for each question. If NO is answered for any question, describe the updates/changes needed and the timeline to complete those changes.

Element I – Goals	**YES**	**NO**
A. Are the goals stated in the SSMP still appropriate and accurate?	☐	☐
Discussion:		

Element II – Organization	**YES**	**NO**
A. Is the List of City Staff Responsible for SSMP, Table 2-1 current?	☐	☐
B. Is the Sanitary Sewer Overflow Responder List current?	☐	☐
C. Is Figure 2-1 of the SSMP, the City Organization Chart, current?	☐	☐
D. Are the position descriptions an accurate portrayal of staff responsibilities?	☐	☐
E. Is Table 2-2 in the Chain of Communication for Reporting and Responding to SSOs section accurate and up-to-date?	☐	☐
Discussion:		

Element III – Legal Authority	**YES**	**NO**
Does the SSMP contain current references to the RED BLUFF Municipal Code documenting the City's legal authority to:		
A. Prevent illicit discharges?	☐	☐
B. Require proper design and construction of sewers and connections	☐	☐
C. Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the City?	☐	☐
D. Limit discharges of fats, oils and grease?	☐	☐
E. Enforce any violation of its sewer ordinances?	☐	☐
F. Were any changes or modifications made in the past year to City Sewer Ordinances, Regulations or standards?	☐	☐
Discussion:		

Element IV – Operations & Maintenance	YES	NO
Collection System Maps		
A. Does the SSMP reference the current process and procedures for maintaining the City's wastewater collection system maps?	☐	☐
B. Are the City's wastewater collection system maps complete, current and sufficiently detailed?	☐	☐
C. Are storm drainage facilities identified on the collection system maps? If not, are SSO responders able to determine locations of storm drainage inlets and pipes for possible discharge to waters of the state?	☐	☐
Prioritized Preventive Maintenance		
C. Does the SSMP describe current preventive maintenance activities and the system for prioritizing the cleaning of sewers?	☐	☐
D. Based upon information in the Annual SSO Report, are the City's preventive maintenance activities sufficient and effective in minimizing SSOs and blockages?	☐	☐
Scheduled Inspections and Condition Assessments		
E. Is there an ongoing condition assessment program sufficient to develop a capital improvement plan addressing the proper management and protection of infrastructure assets? Are the current components of this program documented in the SSMP?	☐	☐
Contingency Equipment and Replacement Inventory		
F. Does the SSMP list the major equipment currently used in the operation and maintenance of the collection system and documents the procedures of inventory management?	☐	☐
G. Are contingency and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance?	☐	☐
Training		
H. Does the SSMP document current training expectations and programs?	☐	☐
Outreach to Plumbers & Building Contractors		
I. Does the SSMP document current outreach efforts to plumbers and building contractors?	☐	☐
Discussion:		

Element V – Design & Performance Standards	YES	NO
A. Does the SSMP reference current design and construction standards for the installation for new sanitary sewer systems, pump stations and other appurtenances and for the rehabilitation and repair of existing sanitary sewer systems?	☐	☐
B. Does the SSMP document current procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and the rehabilitation and repair of existing sewer lines?	☐	☐
Discussion:		

Element VI – Overflow & Emergency Response Plan	YES	NO
A. Does the City's Sanitary Sewer Overflow Emergency Response Plan establish procedures for the emergency response, notification, and reporting of SSOs?	☐	☐
B. Is City staff and contractor personnel appropriately trained on the procedures of the Sanitary Sewer Overflow Emergency Response Plan?	☐	☐
C. Considering SSO performance data, is the Sanitary Sewer Overflow Emergency Response Plan effective in handling SSOs in order to safeguard public health and the environment?	☐	☐
D. Are all SSO and claims reporting forms current or do they require revisions or additions?	☐	☐
E. Do all SSO event recordkeeping meet the GWDR requirements? Are all SSO event files complete and certified in the CIWQS system?	☐	☐
F. Is all information in the CIWQS system current and correct? Have periodic reviews of the data been made during the year to assure compliance with GWDR? Have all Technical Report and Water Quality Sampling requirements been met and uploaded to the CIWQS data management system?	☐	☐
Discussion:		

Element VII – Fats, Oils & Grease (FOG) Control Program	YES	NO
A. Does the FOG Control Program include efforts to educate the public on proper handling and disposal of FOG?	☐	☐
B. Does the FOG Control Program identify sections of the collection system subject to FOG blockages, establish a cleaning schedule and address source control measures to minimize these blockages?	☐	☐
C. Are requirements for grease removal devices, best management practices (BMP), record keeping, and reporting established in the City's FOG Control Program?	☐	☐
D. Does the City have sufficient legal authority to implement and enforce the FOG Control Program?	☐	☐
E. Is the current FOG program effective in minimizing blockages of sewer lines resulting from discharges of FOG to the system	☐	☐
F. Was required training on SSMP and OERP completed and documented? Were field exercises with field staff on SSO volume estimation conducted and documented?	☐	☐
G. Did all public improvement plans and specifications that could impact collection system operations include requirements for OERP training or were contractor OERP programs at least as stringent as the City OERP? Were regular items included in project meeting agendas to discuss emergency response procedures and communications?	☐	☐
Discussion:		

Element VIII – System Evaluation & Capacity Assurance Plan	YES	NO
A. Does the City of RED BLUFF Sanitary Sewer Master Plan evaluate hydraulic deficiencies in the system, establish sufficient design criteria and recommend both short and long-term capacity enhancement and improvement projects?	☐	☐
B. Does the City's Capital Improvement Plan (CIP) establish a schedule of approximate completion dates for both short and long-term improvements and is the schedule reviewed and updated to reflect current budgetary capabilities and activity accomplishment?	☐	☐
Discussion:		

Element IX – Monitoring, Measurement & Program Modifications	**YES**	**NO**
A. Does the SSMP accurately portray the methods of tracking and reporting selected performance indicators?	☐	☐
B. Is the City able to sufficiently evaluate the effectiveness of the SSMP elements based on relevant information?	☐	☐
C. Were the consent decree performance metrics met?	☐	☐
Discussion:		

Element X – SSMP Audits	**YES**	**NO**
A. Will the SSMP Audit be completed, reviewed and filed in Appendix B?	☐	☐
Discussion:		

Element XI – Communication Program	**YES**	**NO**
A. Does the City effectively communicate with the public and other agencies about the implementation of the SSMP and continue to address any feedback?	☐	☐
B. Did the City Council receive and review the Annual Sewer System Report? Was the annual report uploaded to the City Sewer Section website and added to Appendix C?	☐	☐
C. Did City staff conduct and document meetings with satellite collection systems? Are all agreements with satellite systems current or are changes necessary to these agreements?	☐	☐
Discussion:		

Change Log	**YES**	**NO**
A. Is the SSMP Change Log, current and up to date?	☐	☐
Discussion:		

Audit Team: _____ **Prepared By:** _____

Reviewed By: _____ **Approved for Filing On:** _____

Date

Chapter 11 Communication Program

(xi) **Communication Program** – The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented.

The Enrollee shall also create a plan of communication with systems that are tributary and/or satellite to the Enrollee's sanitary sewer system.

11.1 Communication

The City will provide the City Council, all stakeholders, interested parties, the general public and other agencies, with status updates on the development, revisions, implementation, performance of the SSMP, and consider comments received from them in conformance with the WDR, Section D-13(xi).

The City will utilize various outreach means to communicate issues surrounding the use and operation of the City's wastewater collection system such as: letters, quarterly newsletter, water bill inserts, brochures, annual reports, notices in local newspapers, the City's home web page and the "Government Access" Cable TV, Channel 15.

The City shall regularly communicate with the extraterritorial service areas and shall document these discussions through agendas, attendance listings and meeting minutes.

11.2 SSMP Availability

Copies of the SSMP and all references will be maintained in the offices of the DPW, the City Clerk, the sewer maintenance service yard, and placed on the City's home web page along with all references. The document will also be made readily available to the RWQCB (Region 5) or the SWRCB representatives upon request and to the operators of any collection system or treatment facility downstream of the City wastewater collection system.

11.3 References

None

Chapter 12 Appendices

Appendix	Title
Appendix A	City Contact Directory for SSO Responding and Reporting/Contact List for Outside Agencies
Appendix B	Lift Station/Force Main Condition Assessment Checklist
Appendix C	List of Capital Replacement Projects
Appendix D	Inventory of Sewer Maintenance Equipment
Appendix E	Overflow Emergency Response Plan
Appendix F	City of Red Bluff Water Quality Monitoring Plan
Appendix G	Summary of Maintenance Productivity- Graphs and Charts
Appendix H	Sewer “Hot Spots” List
Appendix I	SSMP Audit Reports
Appendix J	SSMP Adoption Documents
Appendix K	SSMP Change Log

Appendix A: City Contact Information

Table A-1: City Contact Directory for SSO Responding

Responsible Party	Telephone	Cell Phone
Robin Kampmann, Director of Public Works/City Engineer	530-527-2605 ext. 3055	
Don Brown, Wastewater Collection Supervisor	530-527-4300 ext. 6	
Jerry Stephens, Plant Operator	530-527-1292	
Vinnie Pagnano, Assistant Engineer	530-527-2605 ext. 3054	
Ron Purcell, Wastewater Collection Lead Worker	Pager 530-390-8048	
Dusty Brown, Senior Maintenance Worker	Pager 530-390-8048	

Table A-2: Contact List for Outside Agencies

Agency	Telephone
State Office of Emergency Services	800-852-7550
Environmental Health	530-527-8020
Regional Water Quality Control Board	530-224-4845

Appendix B: Lift Station/Force Main Condition Assessment Checklist

Inspection Information	
Inspection date	
Inspection participants	
Facility name	
Facility address	
Comments	

Background Information (prior 12 months)	
SSOs	
Equipment failures	
Alarm history *(attach copy)*	
Major maintenance activities *(attach list if applicable)*	
Pending work orders *(attach copies)*	
Operating problems *(attach copy of operating log)*	
Comments	

Security Features	
Fence and gate	
External lighting	
Visibility from street	
Doors and locks	
Intrusion alarm(s)	
Signs with emergency contact information	
Other security features	
Comments	

Safety Features & Equipment	
Signage *(confined space, automatic equipment, hearing protection, etc.)*	
Fall protection	
Emergency communication	
Equipment hand guards	
Hand rails and kickboards	
Platforms and grating	
Tag out and lock out equipment	
Hearing protection	
Eye wash	
Chemical storage	
Comments	

External Appearance	
Fence	
Landscaping	
Building	
Control panels	
Other external features	
Comments	

Building / Structure	
PS building	
Control room	
Dry well	
Wet well	
Other structures	
Comments	

Instrumentation & Controls (Including SCADA Facilities)	
Control panel	
Run time meters	
Flow meter	
Wet well level	
Alarms	
SCADA	
Other instrumentation and controls	
Comments	

Electrical & Switch Gear	
Power drop	
Transformers	
Transfer switches	
Emergency generator and generator connection	
Starters	
Variable frequency drives	
Electrical cabinets	
Conduit and wireways	
Other electrical	
Comments	

Motors	
Lubrication	
Insulation	
Operating current	
Vibration and alignment	
Other	
Comments	

Pumps	
Lubrication	
Vibration and alignment	
Seals	
Indicated flow and discharge pressure	
Shutoff head	
Corrosion and leakage evidence	
Drive shaft	
Other	
Comments	

Valves & Piping	
Valve operation	
Valve condition	
Pipe condition	
Pipe support	
Other	
Comments	

Other	
Lighting	
Ventilation	
Support systems (air, water, etc.)	
Signage	
Employee facilities	
Sump pump	
Overhead crane	
Portable pump connections	
Portable pumps	
Comments	

Appendix C: List of Capital Replacement Projects

Table C-1: Capital Replacement Projects, $1,000

Project Title	FY 2016/17	FY 2017/18	Total
Riverwatch Agreement Improvements	250	40	290
Antelope Bridge Force Main Design	350	350	700
Jackson Street Siphon	500	500	1,000
SCADA Alarm @ Pump Stations	20	150	170
Miscellaneous Pump Station Repairs	30	30	60
Sewer Line Replacement Program	650	600	1,250
Totals	**1,800**	**1,670**	**3,470**

Appendix D: Inventory of Sewer Maintenance Equipment

	Equipment Type/Description	Year Purchased	Equipment Location
321	Chevy 1500	2001	1055 Kimball
323	Chevy 3500 Service Truck	2003/2006	1055 Kimball
324	Chevy 2500 Truck	2000	1055 Kimball
325	Dodge 1500	2001	1055 Kimball
327	97 Ford 250 Rodder Truck	1999	1055 Kimball
329	97 Ford 32K Water Truck 2500 gallons	2000	1055 Kimball
336	Vacon	2004	1055 Kimball
421	Dodge 2500 Service Truck	2004	1055 Kimball
1029307	Cues TV Inspection Trailer	1996	1055 Kimball
308817	Trailer Rodder	1990	1055 Kimball
313232	Confined Space Trailer	1996	1055 Kimball
408917	Blue Diesel 4” Bypass Pump	1990	1055 Kimball
546195	Generac Portable Generator (tan)	2004	1055 Kimball
GR70	Geneese Portable Generator (white)	2002	1055 Kimball

Appendix E Overflow Emergency Response Plan

City of Red Bluff

Overflow Emergency Response Plan

Effective Date: _____

Revised Date: _____

Approved by: _____

Signature: _____

Date: _____

Prepared by David Patzer, DKF Solutions Group
(707) 373-9709 dpatzer@dkfsolutions.com

Table of Contents

Sanitary Sewer Overflow Emergency Response Plan (OERP)

(ref. SWRCB Order No. 2006-0003-DWQ Element VI)

Appendix A: Regulatory Notifications Packet

Appendix B: Sanitary Sewer Overflow/Backup Response Packet

Appendix C: Field Sampling Kit

Appendix D: Contractor Orientation

Sanitary Sewer Overflow Emergency Response Plan

(ref. SWRCB Order No. 2006-0003-DWQ Element VI)

1. Purpose

The purpose of the City of Red Bluff Emergency Response Plan (OERP) is to support an orderly and effective response to Sanitary Sewer Overflows (SSOs). The OERP provides guidelines for City personnel to follow in responding to, cleaning up, and reporting SSOs that may occur within the City's service area. This OERP satisfies the State Water Resources Control Board (SWRCB) Statewide General Waste Discharge Requirements (GWDR), which require wastewater collection agencies to have an Overflow Emergency Response Plan.

2. Policy

The City's employees are required to report all wastewater overflows found and to take the appropriate action to secure the wastewater overflow area, properly report to the appropriate regulatory agencies, relieve the cause of the overflow, and ensure that the affected area is cleaned as soon as possible to minimize health hazards to the public and protect the environment. The City's goal is to respond to sewer system overflows as soon as possible following notification. The City will follow reporting procedures in regard to sewer spills as set forth by the Central Valley Regional Water Quality Control Board (CVRWQCB) and the California State Water Resources Control Board (SWRCB)**.**

3. Definitions as Used in This OERP

BUILDING DRAIN – The building drain is that part of the lowest wastewater piping which receives the discharge from drain pipes inside the walls of a building or structure and conveys it to the private lateral (generally connecting within 2' of the building wall).

BUILDING SEWER – Private Sewer Facilities that convey wastewater from the premises of a Customer to the Public Sewer System.

BUILDING WASTEWATER PIPELINES – The building wastewater pipelines are those black or grey water pipes installed within the walls of a building or structure that connect to the building drain. Building wastewater pipelines may include interior sump systems, grease traps or other appurtenances.

CALIFORNIA INTEGRATED WATER QUALITY SYSTEM (CIWQS): Refers to the State Water Resources Control Board online electronic reporting system that is used to report SSOs, certify completion of the Sewer System Management Plan (SSMP), and provide information on the sanitary sewer system.

FOG – Fats, Oils, and Grease: FOG refers to fats, oils, and grease typically associated with food preparation and cooking activities that can cause blockages in the sanitary sewer system.

LEGALLY RESPONSIBLE OFFICIAL (LRO): Refers to an individual who has the authority to certify reports and other actions that are submitted through CIWQS.

MAINLINE SEWER: Refers to the City's wastewater collection system piping that is not a private lateral connection to a user.

MAINTENANCE HOLE OR MANHOLE: Refers to an engineered structure that is intended to provide access to a sanitary sewer for maintenance and inspection.

NOTIFICATION OF AN SSO: Refers to the time at which the City becomes aware of an SSO event through observation or notification by the public or other source.

NUISANCE - California Water Code section 13050, subdivision (m), defines nuisance as anything that meets all of the following requirements:

a. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.

b. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.

c. Occurs during, or as a result of, the treatment or disposal of wastes.

PREVENTATIVE MAINTENANCE: Refers to maintenance activities intended to prevent failures of the wastewater collection system facilities (e.g. cleaning, CCTV, inspection).

PRIVATE SEWER DISPOSAL SYSTEM – The pipelines and points of connection of a building drain to a grease interceptor, an individual sewage disposal system (septic system), holding tank or other private point of disposal unaffiliated with the public sewer comprises a private sewer disposal system.

PRIVATE SEWER FACILITIES – Sewer facilities that are privately constructed and not dedicated and accepted as a Public Sewer Facility by the City. Private Sewer Facilities generally include sewer facilities within a privately-owned building, service laterals, private pump stations, grease interceptors, and all other facilities located between the sewer customer and the connection to the collection line, including the integral wye fitting that connects the lateral to a collection line. Sewer facilities intended for dedication to the City are Private Sewer Facilities until such time as they are accepted by the City.

PUBLIC SEWER – A public sewer is the sewer collection system owned by the City lying within limits of public streets, roads, easements, reserves, non-exclusive easements or other public rights of way and downstream of the wye or cleanout on a Private lateral nearest to a sewer main. The location of a Private lateral within any public street or right of way does not convert it to a public sewer owned by the City unless the City has taken an affirmative action to accept ownership. Public sewer facilities owned and maintained by the City, including facilities designed and constructed by the City and facilities that have been dedicated and accepted by the City. Private Sewer Facilities constructed for dedication to the City do not become public sewers until they have been accepted by the City Council.

PUBLIC SEWER FACILITIES OR PUBLIC SEWER SYSTEM – Sewer facilities owned and maintained by the City, including facilities designed and constructed by the City and facilities that have been dedicated and accepted by the City. Private Sewer Facilities constructed for dedication to the City do not become Public Sewer Facilities until they have been accepted by the City Council.

ROOTS (R) Tree root (R) invasion presents an additional problem. If a mat of root hair forms in the sewer line it slows the flow of wastewater and exacerbates the rate of accumulation of FOG materials.

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

SANITARY SEWER OVERFLOW (SSO) - Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs include:

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

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

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

SSOs that include multiple appearance points resulting from a single cause will be considered one SSO for documentation and reporting purposes in CIWQS.

NOTE: Wastewater backups into buildings caused by a blockage or other malfunction of a building lateral that is privately owned are not SSOs.

SSO Categories:

Category 1: Discharge of untreated or partially treated wastewater of any volume resulting from a sanitary sewer system failure or flow condition that either:

- Reaches surface water and/or drainage channel tributary to a surface water; or
- Reached a Municipal Separate Storm Sewer System (MS4) and was not fully captured and returned to the sanitary sewer system or otherwise captured and disposed of properly.

Category 2: Discharge of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from a sanitary sewer system failure or flow condition that either:

- Does not reach surface water, a drainage channel, or an MS4, or
- The entire SSO discharged to the storm drain system was fully recovered and disposed of properly.

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

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

SENSITIVE AREA: Refers to areas where an SSO could result in a fish kill or pose an imminent or substantial danger to human health (e.g. parks, aquatic habitats, etc.)

SERVICE LATERAL OR LOWER LATERAL – Sewer pipeline from the cleanout or in the absence of a cleanout located in public streets, roads, easements, reserves, non-exclusive easements or other public rights of way to the collection line are City assets. Lower laterals intended for dedication to the City are Private Sewer Facilities until such time as they are accepted by the City Council.

SEWER SERVICES: The sewers leading from the sewer mains to and serving the property on either side are called sewer services.

UNTREATED OR PARTIALLY TREATED WASTEWATER: Any volume of waste discharged from the sanitary sewer system upstream of a wastewater treatment plant headworks.

WATERS OF THE STATE*:* Waters of the State (or waters of the United States) means any surface water, including saline waters, within the boundaries of California. In case of a sewage spill, storm drains are considered to be waters of the State unless the sewage is completely contained and returned to the wastewater collection system and that portion of the storm drain is cleaned.

4. State Regulatory Requirements for Element 6, Overflow Emergency Response Plan

General Waste Discharge Requirement (GWDR)
The collection system agency shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

(a) Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;
(b) A program to ensure appropriate response to all overflows;
(c) Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, regional water boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the Monitoring and Reporting Program (MRP). All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board Waste Discharge Requirements or National Pollutant Discharge Elimination System (NPDES) permit requirements. The Sewer System Management Plan should identify the officials who will receive immediate notification;
(d) Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;
(e) Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and
(f) A program to ensure that all reasonable steps are taken to contain untreated wastewater and prevent discharge of untreated wastewater to Waters of the United States and minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

The Sewer System Management Plan (SSMP) and critical supporting documents are made available to the public on the City's website: www.cityofredbluff.org.

5. Goals

The City's goals with respect to responding to SSOs are:

- Work safely;
- Respond quickly to minimize the volume of the SSO;
- Eliminate the cause of the SSO;
- Prevent sewage system overflows or leaks from entering the storm drain system or receiving waters to the maximum extent practicable;
- Contain the spilled wastewater to the extent feasible;
- Minimize public contact with the spilled wastewater;
- Mitigate the impact of the SSO;
- Meet the regulatory reporting requirements;

- Evaluate the causes of failure related to certain SSOs; and
- Revise response procedures resulting from the debrief and failure analysis of certain SSOs.

6. SSO Detection and Notification

ref. SWRCB Order No. 2006-0003-DWQ VI(a)

The processes that are employed to notify the City of 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.

In the event of any pump failure at a City wastewater lift station, the high-level sensor activates the SCADA alarm system and the City is contacted. To prevent overflow, wastewater from the wet well can either be pumped into a vacuum truck for disposal to a nearby sanitary sewer manhole or bypassed around the station into the sanitary sewer system.

6.1 PUBLIC OBSERVATION

Public observation is the most common way that the City is notified of blockages and spills. Contact numbers and information for reporting sewer spills and backups are in the phone book and on the City's website: www.cityofredbluff.org. **The City's telephone number for reporting sewer problems is (530) 527-2605.**

Normal Work Hours

Public observation is a common way that the City is notified of blockages and spills. When a report of a sewer spill or backup is made, the front desk at City Hall receives the call, takes the information from the caller, and completes a Work Order Form. They then contact a Sewer Crew via radio for dispatch.

After Hours

The main number will instruct callers to call 911 for sewer emergencies. 911 dispatch will contact the Standby Employee who will respond. The Standby Employee will contact the City Hall front desk the following day to complete a Work Order.

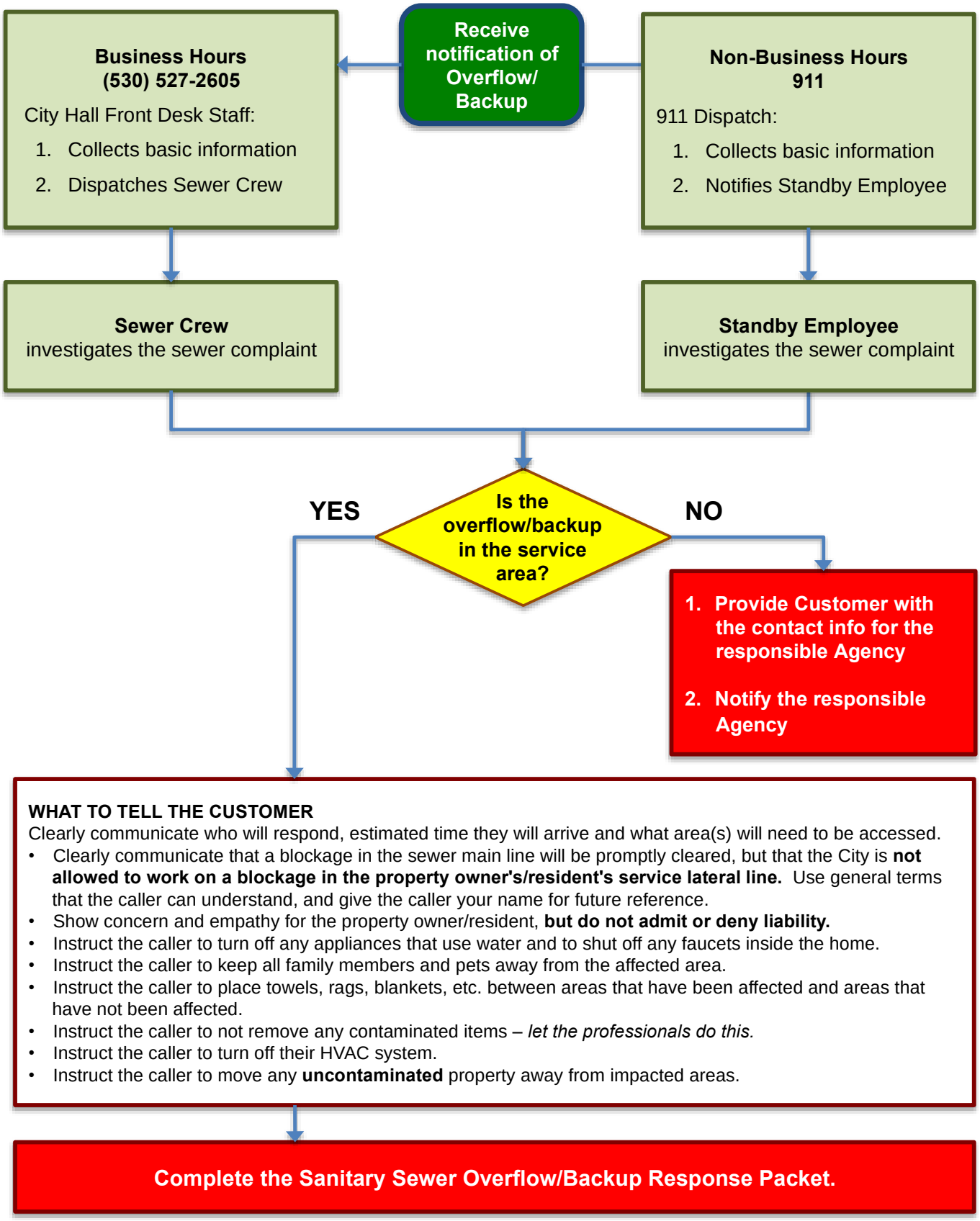
The Sewer Crew will complete the service request and will contact City Hall front desk with information on the service request and the resolution. The completed work orders will be kept in a Work Order Closed Binder.

When calls are received, either during normal work hours or after hours, the individual receiving the call will collect the following information:

- Time and date of call
- Specific location of potential overflow or incident
- Nature of call
- In case of SSO, estimated start time of overflow and how long it has been occurring
- Caller's name, telephone number and address
- Caller's observations (e.g., odor, duration, location on property, known impacts, indication if surface water impacted, appearance at cleanout or manhole)
- Other relevant information

Figure 6.1 is an overview of the procedure for receiving a sewage overflow or backup report *(see next page):*

Fig. 6.1 Overview of Receiving a Sewage Overflow or Backup Report Procedure



6.2 CITY STAFF OBSERVATION

City staff conducts periodic inspections of its sewer system facilities as part of their routine activities. Any problems noted with the sewer system facilities are reported to appropriate City staff that, in turn, responds to emergency situations. Work orders are issued to correct non-emergency conditions.

6.3 CONTRACTOR OBSERVATION

The following procedures are to be followed in the event that a contractor causes or witnesses a Sanitary Sewer Overflow. If the contractor causes or witnesses an SSO they should:

1. Immediately notify the City by calling (530) 527-2605.
2. Protect storm drains.
3. Protect the public.
4. Provide information to the Sewer Crew such as start time, appearance point(s), suspected cause, weather conditions, etc.
5. Direct ALL media and public relations requests to the City Manager at (530) 527-2605.

Appendix D includes a handout for Contractors with a flowchart of the above procedures.

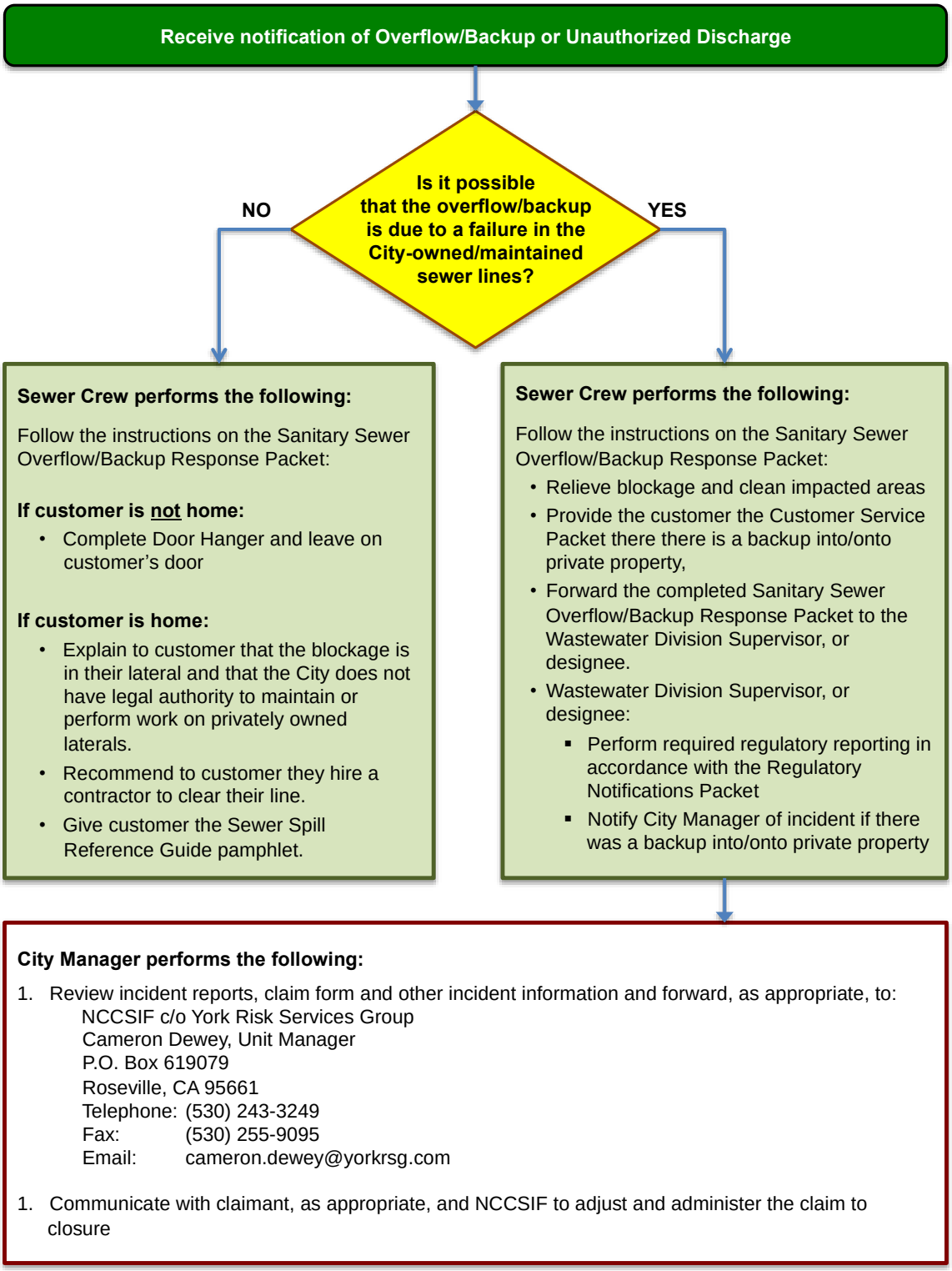
7. SSO Response Procedures

ref. SWRCB Order No. 2006-0003-DWQ Element 6(b)

7.1 Sewer Overflow/Backup Response Summary

The City will respond to SSOs as soon as feasible following notification of an overflow/backup or unauthorized discharge. The following (Figure 7.1) is an overview of the response activities.

Figure 7.1 Overview of SSO/Backup Response



7.2 First Responder (Sewer Crew) Priorities

The first responder's priorities are:

1. To follow safe work practices.
2. To respond promptly with the appropriate and necessary equipment.
3. To contain the spill wherever feasible.
4. To minimize public access to and/or contact with the spilled sewage.
5. To restore the flow as soon as practicable.
6. To photograph and document affected and unaffected areas from a spill.
7. To restore the area to its original condition (or as close as possible).
8. To return the spilled sewage to the sewer system.
9. To promptly notify the Wastewater Division Supervisor in event of major SSO.

7.3 Safety

The first responder is responsible for following safety procedures at all times. Special safety precautions must be observed when performing sewer work. There may be times when City personnel responding to a sewer system event are not familiar with potential safety hazards associated with sewer 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 starting the job. This includes use of gas monitoring detectors for air quality in manholes (follow confined space procedures) and traffic controls at the site.

7.4 Initial Response

The first responder must respond to the reporting party/problem site and visually check for potential sewer stoppages or overflows.

The first responder will:

- Note arrival time at the site of the overflow/backup.
- Verify the existence of a public sewer system spill or backup.
- Determine if the overflow or blockage is from a public or private sewer.
- Identify and assess the affected area and extent of spill.
- Contact caller if time permits.
- If the spill is large or in a sensitive area, document conditions upon arrival with photographs. Decide whether to proceed with clearing the blockage to restore the flow or to initiate containment measures. The guidance for this decision is:
    - Small spills (i.e., spills that are easily contained) – proceed with clearing the blockage.
    - Moderate or large spill where containment is anticipated to be simple – proceed with the containment measures.
    - Moderate or large spills where containment is anticipated to be difficult – proceed with clearing the blockage; however, whenever deemed necessary, call for additional assistance and implement containment measures.
- Take steps to contain the SSO. For detailed procedures refer to Appendix B: Sanitary Sewer Overflow and Backup Response Procedures.

7.6 Initiate Spill Containment Measures

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

- Determine the immediate destination of the overflowing sewage.

- Plug storm drains using air plugs, sandbags, and/or plastic mats to contain the spill, whenever appropriate. If spilled sewage has made contact with the storm drainage system, attempt to contain the spilled sewage by plugging downstream storm drainage facilities.
- Contain/direct the spilled sewage using dike/dam or sandbags.
- Pump around the blockage/pipe failure.

For detailed procedures refer to Appendix B: Sanitary Sewer Overflow and Backup Response Procedures.

7.5 Restore Flow

Using the appropriate cleaning equipment set up downstream of the blockage and hydro-clean upstream from a clear manhole. Attempt to remove the blockage from the system and observe the flows to ensure that the blockage does not reoccur downstream. If the blockage cannot be cleared within a reasonable time from arrival, or sewer requires construction repairs to restore flow, then initiate containment and/or bypass pumping. If assistance is required, immediately contact other employees, contractors, and equipment suppliers. For detailed procedures refer to Appendix B: Sanitary Sewer Overflow and Backup Response Procedures.

7.6 Equipment

This section provides a list of specialized equipment that may be used to support this Overflow Emergency Response Plan.

- *Closed Circuit Television (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 Trucks* -- A utility body pickup truck, or open bed is required to store and transport the equipment needed to effectively respond to sewer emergencies. The equipment and tools will include containment and clean up materials.
- *Portable Generators, Portable Pumps, Piping, and Hoses* – Equipment used to bypass pump, divert, or power equipment to mitigate an SSO.
- *Combination Sewer Cleaning Trucks* -- Combination high velocity sewer cleaning trucks with vacuum tanks are required to clear blockages in gravity sewers, vacuum spilled sewage, and wash down the impacted area following the SSO event.
- *Air plugs, sandbags and plastic mats*
- *SSO Sampling Kits*

Standard operating procedures for City equipment that may be necessary in the event of a sanitary sewer overflow or backup can be found at the Corp Yard.

7.7 Outside Assistance

Responders will refer to the current City-approved vendor list as necessary for assistance with the response.

8. Recovery and Cleanup

ref. SWRCB Order No. 2006-0003-DWQ Element 6(e)

The recovery and cleanup phase begins immediately after the flow has been restored and the spilled sewage has been contained to the extent possible. The SSO recovery and cleanup procedures are:

8.1 Estimate the Volume of Spilled Sewage

Use the methods outlined in the Sanitary Sewer Overflow and Backup Response Procedures (Appendix B), and/or the Field Guide to estimate the volume of the spilled sewage. Wherever possible, document the estimate using photos and/or video of the SSO site before and during the recovery operation.

8.2 Recovery of Spilled Sewage

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

8.3 Clean-up and Disinfection

Clean up and disinfection procedures will be implemented to reduce the potential for human health issues and adverse environmental impacts that are associated with an SSO event. The procedures described are for dry weather conditions and will be modified as required for wet weather conditions. Where cleanup is beyond the capabilities of City staff, a cleanup contractor will be used.

Private Property
City crews are responsible for the cleanup when the property damage is minor in nature and is outside of private building dwellings, such as in front, side and backyards, easements, etc. In all other cases, affected property owners can call a water damage restoration contractor to complete the cleanup and restoration. If the overflow onto private property is definitely the result of City system failure, the property owner can call out a water damage restoration contractor to complete the cleanup and restoration. In both cases, City claim forms may be issued if requested by the property owners.

Hard Surface Areas
Collect all signs of sewage solids and sewage-related material either by protected hand or with the use of rakes and brooms. Wash down the affected area with clean water and/or deozyme or similar non-toxic biodegradable surface disinfectant until the water runs clear. The flushing volume will be approximately three times the estimated volume of the spill. Take reasonable steps to contain and vacuum up the wastewater. Allow area to dry. Repeat the process if additional cleaning is required.

Landscaped and Unimproved Natural Vegetation
Collect all signs of sewage solids and sewage-related material either by protected hand or with the use of rakes and brooms. Wash down the affected area with clean water until the water runs clear. The flushing volume will be approximately three times the estimated volume of the spill. Either contain or vacuum up the wash water so that none is released. Allow the area to dry. Repeat the process if additional cleaning is required.

Natural Waterways
The Department of Fish and Wildlife will be notified by CalOES for SSOs greater than or equal to 1,000 gallons.

Wet Weather Modifications
Omit flushing and sampling during heavy storm events (i.e., sheet of rainwater across paved surfaces) with heavy runoff where flushing is not required, and sampling would not provide meaningful results

8.4 Public Notification

Signs will be posted, and barricades put in place to keep vehicles and pedestrians away from contact with spilled sewage. County Environmental Health instructions and directions regarding placement and language of public warnings will be followed when directed. Additionally, the Wastewater Division Supervisor or designee will use their best judgment regarding supplemental sign placement in order to protect the public and local environment. Signs will not be removed until directed by County Environmental Health, the Wastewater Division Supervisor, or designee.

Creeks, streams and beaches that have been contaminated as a result of an SSO will be posted at visible access locations until the risk of contamination has subsided to acceptable background bacteria levels. The warning signs, once posted, will be checked at least every day to ensure that they are still in place. Photographs of sign placement will be taken.

In the event that an overflow occurs at night, the location will be inspected first thing the following day. The field crew will look for any signs of sewage solids and sewage-related material that may warrant additional cleanup activities.

When contact with the local media is deemed necessary, the City Manager or their designee will provide the media with all revelvant information.

9. Water Quality

ref. SWRCB Order No. 2006-0003-DWQ Element 6(f)

9.1 Water Quality Sampling and Testing

Water quality sampling and testing is required for Category 1 SSOs of 50,000 gallons or greater to determine the extent and impact of the SSO. The water quality sampling procedures must be implemented within 48 hours and include the following:

- The Sewer Crew will collect water samples as soon as possible after the discovery and mitigation of the SSO event.
- The water quality samples will be collected from upstream of the spill, from the spill area, and downstream of the spill in flowing water (e.g. creeks). The water quality samples will be collected near the point of entry of the spilled sewage.
- The samples will then be brought to the Wastewater Reclamation Plant Laboratory for analysis at a contract laboratory.

9.2 Water Quality Monitoring Plan

The City Water Quality Monitoring Plan will be implemented immediately upon discovery of any Category 1 SSO of 50,000 gallons or more in order to assess impacts from SSOs to surface waters. The SSO Water Quality Monitoring Program will:

1. Contain protocols for water quality monitoring.
2. Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.)
3. Within 48 hours of the City becoming aware of the SSO, require water quality sampling for ammonia and total and fecal coliform. Water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.
4. Require monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy.
5. Observe proper chain of custody procedures.

9.3 SSO Technical Report

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

<u>Causes and Circumstances of the SSO:</u>

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

<u>City's Response to SSO:</u>

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

<u>Water Quality Monitoring:</u>

- Description of all water quality sampling activities conducted including analytical results

and evaluation of the results.
- Detailed location map illustrating all water quality sampling points.

10. Sewer Backup Into/Onto Private Property Claims Handling Policy

It is the policy of the City that a claims form shall be offered to anyone wishing to file a claim. The following procedures will be observed for all sewer overflows/backups into/onto private property:

- City staff will offer a City claim form irrespective of fault whenever it is possible that the sanitary sewer backup may have resulted from an apparent blockage in the City-owned sewer lines or whenever a City customer requests a claim form. The claim may later be rejected if subsequent investigations into the cause of the loss indicate the City was not at fault.

- It is the responsibility of the Sewer Crew to gather information regarding the incident and notify the City Manager.

- It is the responsibility of the City Manager to review all claims and to oversee the adjustment and administration of the claim to closure.

11. Notification, Reporting, Monitoring and Recordkeeping Requirements

ref. SWRCB Order No. 2006-0003-DWQ Element 6(c)

In accordance with the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SSS GWDRs), the City maintains records for each sanitary sewer overflow. Records include:

- Documentation of response steps and/or remedial actions
- Photographic evidence to document the extent of the SSO, field crew response operations, and site conditions after field crew SSO response operations have been completed. The date, time, location, and direction of photographs taken will be documented.
- Documentation of how any estimations of the volume of discharged and/or recovered volumes were calculated including all assumptions made.

Regulator required notifications are outlined in Section 11.1 on the following page.

11.1 Requirements Table

ELEMENT	REQUIREMENT	METHOD
NOTIFICATION	Within two hours of becoming aware of any Category 1 SSO greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it probably will be discharged to surface water, the City will notify the California Office of Emergency Services (CalOES) and obtain a notification control number.	Call Cal OES at: **(800) 852-7550**
REPORTING	• Category 1 or Category 2 SSO: The City will submit draft report within three business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date. • Category 3 SSO: The City will submit certified report within 30 calendar days of the end of month in which SSO the occurred. • SSO Technical Report: The City will submit within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or greater are spilled to surface waters. • "No Spill" Certification: The City will certify that no SSOs occurred within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred. • Collection System Questionnaire: The City will update and certify every 12 months	Enter data into the CIWQS Online SSO Database[1] (http://ciwqs.waterboards.ca.gov/)certified by the Legally Responsible Official(s) [2]. All information required by CIWQS will be captured in the Sanitary Sewer Overflow Report. Certified SSO reports may be updated by amending the report or adding an attachment to the SSO report within 120 calendar days after the SSO end date. After 120 days, the State SSO Program Manager must be contacted to request to amend an SSO report along with a justification for why the additional information was not available prior to the end of the 120 days.
WATER QUALITY MONITORING	The City will conduct water quality sampling within 48 hours for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.	Water quality results will be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.
RECORD KEEPING	The City will maintain the following records: • SSO event records. • Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP. • Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters. • Collection system telemetry records if relied upon to document and/or estimate SSO Volume. • In accordance with City records retention schedule, paper (hard copy) records are maintained.	Self-maintained records shall be available during inspections or upon request.

[1] In the event that the CIWQS online SSO database is not available, the Wastewater Division Supervisor or designee will notify SWRCB by phone or email in accordance with the time schedules identified above. In such an event, the City will submit the appropriate reports using the CIWQS online SSO database when the database becomes available. A copy of all documents that certify the submittal in fulfillment of this section shall be retained in the SSO file.

[2] The City always has at least one LRO. Any change in the LRO(s) including deactivation or a change to contact information, will be submitted to the SWRCB within 30 days of the change by calling (866) 792-4977 or emailing help@ciwqs.waterboards.ca.gov.

For reporting purposes, if one SSO event of any category results in multiple appearance points in a sewer system, a single SSO report is required in CIWQS that includes the GPS coordinates for the location of the SSO appearance point closest to the failure point, blockage or location of the flow condition that cause the SSO, and descriptions of the locations of all other discharge points associated with the single SSO event.

11.2 Complaint Records

The City maintains records of all complaints received whether or not they result in sanitary sewer overflows. The information collected includes:

- Date, time, and method of notification
- Date and time the complainant or informant first noticed the SSO or occurrence related to the call
- Narrative description describing the complaint
- A statement from the complainant or informant, if they know, of whether or not the potential SSO may have reached waters of the state
- Name, address, and contact telephone number of the complainant or informant reporting the potential SSO (if not reported anonymously)
- Follow-up return contact information for each complaint received (if not reported anonymously)
- Final resolution of the complaint with the original complainant
- Work service request information used to document all feasible and remedial actions taken

Completed Sanitary Sewer Overflow Reports and records are kept in the SSO Binder at the Corp Yard for a minimum of five years whether or not the incidents resulted in an SSO.

12. Post SSO Event Debriefing

ref. SWRCB Order No. 2006-0003-DWQ Element 6(d)

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

As soon as possible after Category 1 and Category 2 SSO events, all of the participants, from the person who received the call to the last person to leave the site, will meet to review the procedures used and to discuss what worked and where improvements could be made in preventing or in responding to and mitigating future SSO events. The results of the debriefing will be documented and tracked to ensure the action items are completed as scheduled.

13. Failure Analysis Investigation

ref. SWRCB Order No. 2006-0003-DWQ Element 6(d)

The objective of the failure analysis investigation is to determine the "root cause" of the SSO and to identify corrective action(s) needed that will reduce or eliminate future potential for the SSO to recur or for other SSOs to occur.

The investigation will include reviewing all relevant data to determine appropriate corrective action(s) for the line segment. The investigation will include:

- Reviewing and completing the Sanitary Sewer Overflow Report (in Appendix B) and any other documents related to the incident
- Reviewing the incident timeline and other documentation regarding the incident,
- Reviewing communications with the reporting party and witness.
- Review volume estimate, volume recovered estimate, volume estimation assumptions and associated drawings,
- Reviewing available photographs,
- Interviewing staff that responded to the spill.
- Reviewing past maintenance records,
- Reviewing past CCTV records,
- Conducting a CCTV inspection to determine the condition of all line segment(s) immediately following the SSO and reviewing the video and logs,
- Reviewing any Fats, Oil and Grease (FOG) related information or results
- Review any root related information
- Post SSO debrief records
- Interviews with the public at the SSO location

The product of the failure analysis investigation will be the determination of the root cause and the identification and scheduling of the corrective actions. The Collection System Failure Analysis Form (in Appendix B) will be used to document the investigation.

14. SSO Response Training

ref. SWRCB Order No. 2006-0003-DWQ Element 6(d)

This section provides information on the training that is required to support this Overflow Emergency Response Plan.

14.1 Initial and Annual Refresher Training

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

Affected employees will receive annual training on the following topics by knowledgeable trainers:

- The City's Overflow Emergency Response Plan and Sanitary Sewer Management Plan
- Sanitary Sewer Overflow Volume Estimation Techniques
- Researching and documenting Sanitary Sewer Overflow Start Times
- Impacted Surface Waters: Response Procedures
- State Water Resources Control Board Employee Knowledge Expectations

- Employee Core Competency Evaluations on Sanitary Sewer Operations
- Water Quality Sampling Plan

The City will verify that annual safety training requirements are current for each employee, and that employees are competent in the performance of all core competencies. This will be verified through electronic testing, interviews and observations. The City will address, through additional training/instruction, any identified gaps in required core competencies.

Through SWRCB Employee Knowledge Expectations training the employee will be able to answer the following:

1. Please briefly describe your name and job title.
2. Please describe for us approximately when you started in this field and how long you have worked for your agency.
3. Please expand on your current position duties and role in responding in the field to any SSO complaints.
4. Please describe your SOPs used to respond/mitigate SSOs when they occur.
5. Describe any training your agency provides or sends you to for conducting spill volume estimates.
6. We are interested in learning more about how your historical SSO response activities have worked in the field. We understand from discussions with management earlier that you use the OERP from the SSMP. Please elaborate on how you implement and utilize the procedures in the plan.
7. Historically, before any recent changes, can you please walk us through how you would typically receive and respond to any SSO complaints in the field?
8. Can you tell us who is responsible for estimating SSO volumes discharged? If it is you, please describe how you go about estimating the SSO volume that you record on the work order/service request forms?
9. What other information do you collect or record other than what is written on the work order form?
10. Describe if and when you ever talk with people that call in SSOs (either onsite or via telephone) to further check out when the SSO might have occurred based on what they or others know? If you do this, can you tell us where this information is recorded?
11. We understand you may be instructed to take pictures of some sewer spills/backups into structures. Other than these SSOs, when else would you typically take any pictures of an SSO?
12. Please walk us through anything else you'd like to add to help us better understand how your field crews respond and mitigate SSO complaints.

14.2 SSO Response Drills

Periodic training drills or field exercises will be held to ensure that employees are up to date on these procedures, equipment is in working order, and the required materials are readily available. The training drills will cover scenarios typically observed during sewer related emergencies (e.g. mainline blockage, mainline failure, force main failure, pump station failure, and lateral blockage). The results and the observations during the drills will be recorded and action items will be tracked to ensure completion.

14.3 SSO Training Record Keeping

Records will be kept with Human Resources 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 and will include date, time, place, content, name of trainer(s), and names and titles of attendees.

14.4 Contractors Working on City Sewer Facilities

All construction contractors working on City sewer facilities will be required to develop a project-specific OERP, will provide project personnel with training regarding the content of the contractor's OERP and their role in the event of an SSO, and to follow that OERP in the event that they cause or observe an SSO. Emergency response procedures shall be discussed at project pre-construction meetings, regular project meetings and after any contractor involved incidents.
All service contractors will be provided and required to observe contractor procedures. See Appendix D: Contractor Orientation.

15. Authority

- Health & Safety Code Sections 5410-5416
- CA Water Code Section 13271
- Fish & Wildlife Code Sections 5650-5656
- State Water Resources Control Board Order No. 2006-0003-DWQ
- State Water Resources Control Board Order 2013-009-DWQ effective September 9, 2013

16. References

- Sanitary Sewer Overflow and Backup Response Field Guide, 2014, DKF Solutions Group, LLC
- Appendix A: Regulatory Notifications Packet
- Appendix B: Sanitary Sewer Overflow/Backup Response Packet
- Appendix C: Field Sampling Kit
- Appendix D: Contractor Orientation

Appendix A

REGULATORY NOTIFICATIONS PACKET

Regulatory Notifications Packet

Instructions:

1. Receive call from on-site crew reporting a Sanitary Sewer Overflow.
2. Open this packet.
3. Refer to the Regulatory Reporting Guide (A-1) for instructions.
4. Use the SSO Reporting Checklist for the appropriate category of spill (A-2a or A-2b) to document that all notifications are made according to the reporting schedule.

Contents:

Print on 6”x9” envelope

Reporting Instructions				
Deadline	**See reverse side for contact information and definitions of the categories** of spills of untreated or partially treated wastewater from publically owned sanitary sewer system			**Spill from Private Lateral**
	Category 1	**Category 2**	**Category 3**	
2 hours after awareness of SSO	If the SSO is greater than or equal to 1,000 gallons, call CalOES at (800) 852-7550	-	-	-
48 Hours after awareness of SSO	If 50,000 gal or more will likely reach receiving waters, begin water quality sampling and initiate impact assessment	-	-	-
3 Days after awareness of SSO	Submit Draft Spill Report in the CIWQS* database	Submit Draft Spill Report in the CIWQS* database	-	-
15 Days after response conclusion	Certify Spill Report in CIWQS*. Update as needed until 120 days after SSO end time	Certify Spill Report in the CIWQS* database. Update as needed until 120 days after SSO end time	-	-
30 Days after end of calendar month in which SSO occurred	-	-	Certify Spill Report in the CIWQS* database. Update as needed until 120 days after SSO end time	-
45 days after SSO end date	If 50,000 gal or more were not recovered, submit SSO Technical Report using CIWQS*	-	-	-

* In the event that the CIWQS online SSO database is not available notify the State Water Resources Control Board (SWRCB) by phone or email until the CIWQS online SSO database becomes available.

Note: For reporting purposes, if one SSO event results in multiple appearance points, complete one SSO report in the CIWQS SSO Online Database, and report the location of the SSO failure point, blockage or location of the flow condition that caused the SSO, in the CIWQS SSO Online Database, including all the discharge points associated with the SSO event.

Contact Information

Contact	Telephone/Fax/Email
CalOES	(800) 852-7550
City Manager	(530) 527-2605
York Risk Services Group Cameron Dewey, Unit Manager	(530) 243-3249 Cameron.Dewey@yorkrsg.com
Tehama County Environmental Health	(530) 527-8020
Central Valley Regional Water Quality Control Board (CVRWQCB):	Telephone: (530) 224-4845 Fax: (530) 224-4857
State Water Resources Control Board (SWRCB):	
Russell Norman, P.E.	(916) 323-5598 Russell.Norman@waterboards.ca.gov
Gil Vazquez, Water Resources Control Engineer	(916) 322-1400 Gil.Vasquez@waterboards.ca.gov

Authorized Personnel

The following are authorized to perform regulatory reporting:

Title	Telephone
Wastewater Division Supervisor*	(530) 527-4300
Lead Worker	(530) 527-2605
City Manager	(530) 527-2605

* This individual is the City's Legally Responsible Official (LRO) and is authorized to perform regulatory reporting and electronically sign and certify SSO reports in CIWQS.

Definitions of SSO Categories

The response crew will complete the SSO Report form in the SSO Packet to document how the category was determined.

Category	Definition
Category 1:	Discharge of untreated or partially treated wastewater of any volume resulting from a sanitary sewer system failure or flow condition that either: • Reaches surface water and/or drainage channel tributary to a surface water; or • Reached a Municipal Separate Storm Sewer System (MS4) and was not fully captured and returned to the sanitary sewer system or otherwise captured and disposed of properly.
Category 2:	Discharge of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from a sanitary sewer system failure or flow condition that either: • Does not reach surface water, a drainage channel, or an MS4, or • The entire SSO discharged to the storm drain system was fully recovered and disposed of properly.

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

Regulatory Notifications Packet
Category 1 SSO Reporting Checklist

A-2a

Use this Checklist for Category 1 SSOs only

STEP 1: Receive call from crew.

STEP 2: 2-hour Notification
If the SSO is greater than or equal to 1,000 gallons, notify CalOES within 2 hours of the time the agency was notified of the SSO.

☐ ***Notify CalOES*** *at (800) 852-7550:*

- *Date Called:* _____
- *Time called:* _____ : _____ ☐AM ☐PM
- *CalOES Control number:* _____
- *City personnel who called CalOES: Name* _____

  Title _____
- *Individual they spoke to at CalOES:* _____

STEP 3: Within 2 hours after awareness of SSO

☐ If SSO impacts private property that may be due to a failure in the City sewer and/or if the City believes a claim for damages may be submitted against the City, contact York Risk Services Group.

STEP 4: Within 48 hours after awareness of SSO

☐ *Only if 50,000 gallons or more was not recovered, implement Water Quality Monitoring Plan.*

STEP 5: Within 3 Days after awareness of SSO

☐ *Submit a Draft Spill Report using the CIWQS online reporting database.*

STEP 6: Within 15 Days after response conclusion

☐ *LRO must certify the Spill Report using the CIWQS online reporting database. Amendments to the Spill Report may be made for up to 120 days following the conclusion of the SSO Response.*

STEP 7: Within 45 Days after SSO end date

☐ *Within 45 days after the SSO end date, submit an SSO Technical Report using the CIWQS online reporting database only if 50,000 gallons or more was spilled to surface waters.*

This form completed by: _____ _____ _____

Name *Title* *Date*

Regulatory Notifications Packet
Category 2 & 3 SSO Reporting Checklist

A-2b

Use this Checklist for Category 2 and 3 SSOs only

STEP 1: Receive call from crew.

STEP 2: Within 2 hours after awareness of SSO

☐ If SSO impacts private property that may be due to a failure in the City sewer and/or if the City believes a claim for damages may be submitted against the City, contact York Risk Services Group.

STEP 3: Submit Draft Spill Report (Category 2 only)

☐ *Submit a Draft Spill Report using the CIWQS online reporting database within 3 days after awareness of Category 2 SSO.*

STEP 4: Certify Spill Report

☐ *Certify the Spill Report using the CIWQS online reporting database:*
- *Category 2 SSO: Within 15 days after the conclusion of the response*
- *Category 3 SSO: Within 30 days after the end of the calendar month in which the SSO occurred*

☐ *Updates to the Spill Report may be made for up to 120 days following the conclusion of the SSO Response.*

This form completed by: _____ (*Name*) _____ (*Title*) _____ (*Date*)

Appendix B

SANITARY SEWER OVERFLOW/BACKUP RESPONSE PACKET

Sanitary Sewer Overflow/Backup Response Packet
Table of Contents

For pre-assembled packets contact DKF Solutions Group at (707) 373-9709 or losscontrol@sbcglobal.net

Sanitary Sewer Overflow/Backup Response Packet

If this is a Category 1 SSO greater than or equal to 1,000 gallons immediately contact the Wastewater Division Supervisor at (530) 527-4300 to make the 2-hour notification to CalOES.

Notifications Trigger:	Contact Immediately:
For all backups into/onto private property possibly due to problems in the public sewer	York Risk Services Group Cameron Dewey, Unit Manager (530) 243-3249
For restoration/remediation	Wastewater Division Supervisor (530) 527-4300 or City Manager: (530) 527-2605
For any media requests*	City Manager: (530) 527-2605

** Refer to the Media and Public Relations Guidelines on Page 4 of the SSO/Backup Response Flowchart.*

Check here if you believe that fats, roots, oils and/grease (FROG) caused/contributed to the SSO: ☐

Sewer Crew:

- ☐ Follow the instructions on the Sanitary Sewer Overflow/Backup Response Flowchart. Note: If there is a backup and multiple dwelling units are affected, use one packet per unit and check here: ☐
- ☐ If indicated on the flowchart, give the customer the Bubbled Toilets Letter and/or the Customer Service Packet and have them initial here:
  Customer acknowledgement of receipt of Bubbled Toilets Letter: _____
  Customer acknowledgement of receipt of Customer Service Packet: _____
- ☐ Place completed forms in this envelope, complete the Chain of Custody record (right) and forward this packet to the Wastewater Division Supervisor.

CHAIN OF CUSTODY

Print Name: _____

Initial: _____

Date: _____

Time: _____

Wastewater Division Supervisor:

- ☐ Follow the instructions on the bottom of the Sanitary Sewer Overflow/ Backup Response Flowchart.
- ☐ Complete the Regulatory Notifications Packet.
- ☐ Complete the Chain of Custody record (right).
- ☐ If there is a backup:
  - ☐ Complete the Claims Submittal Checklist.
  - ☐ Forward this completed packet to the City Manager
- ☐ If no backup, file this completed packet in accordance with City policy.

CHAIN OF CUSTODY

Print Name: _____

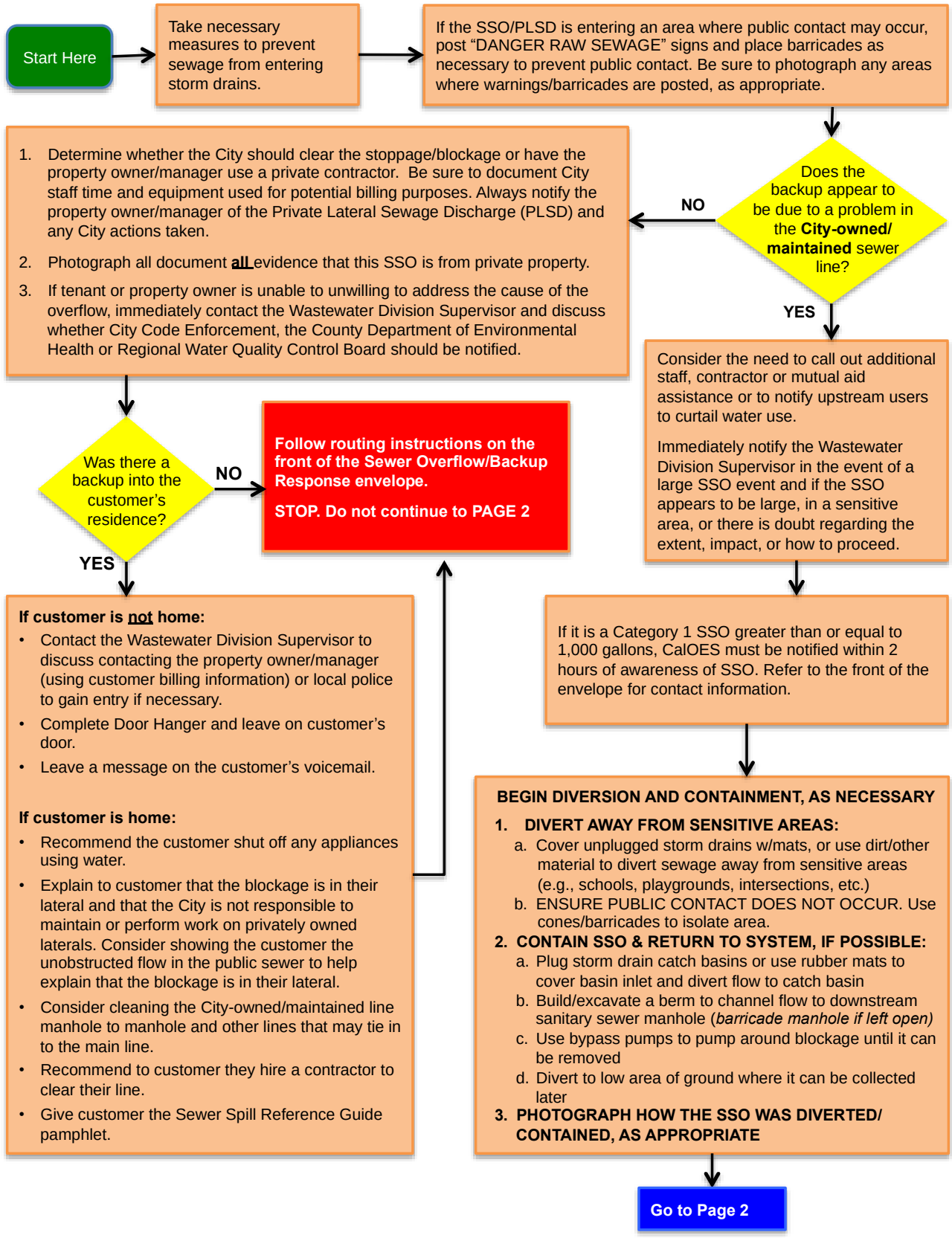
Initial: _____

Date: _____

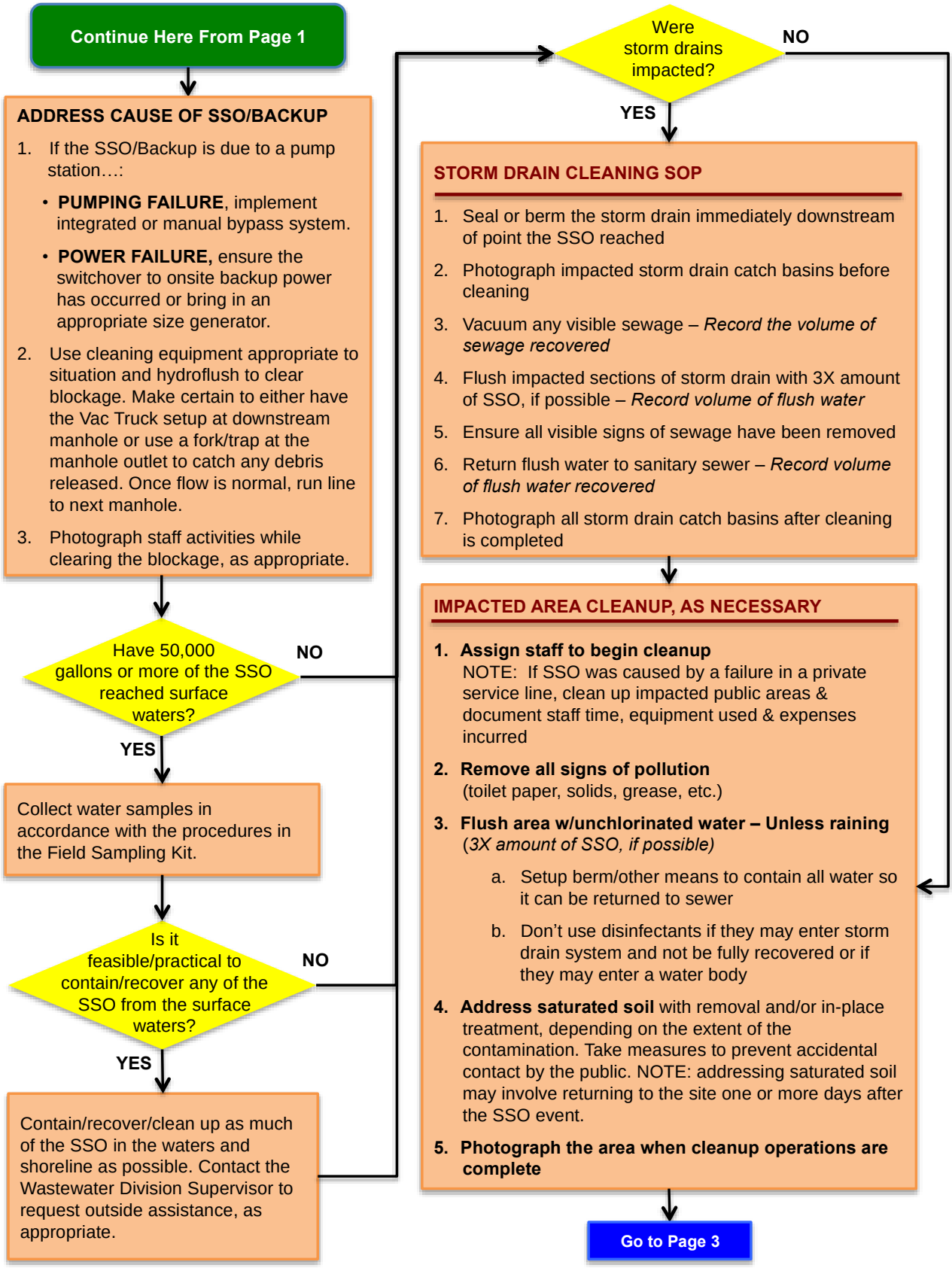
Time: _____

City Manager: Refer to the Claims Submittal Checklist.

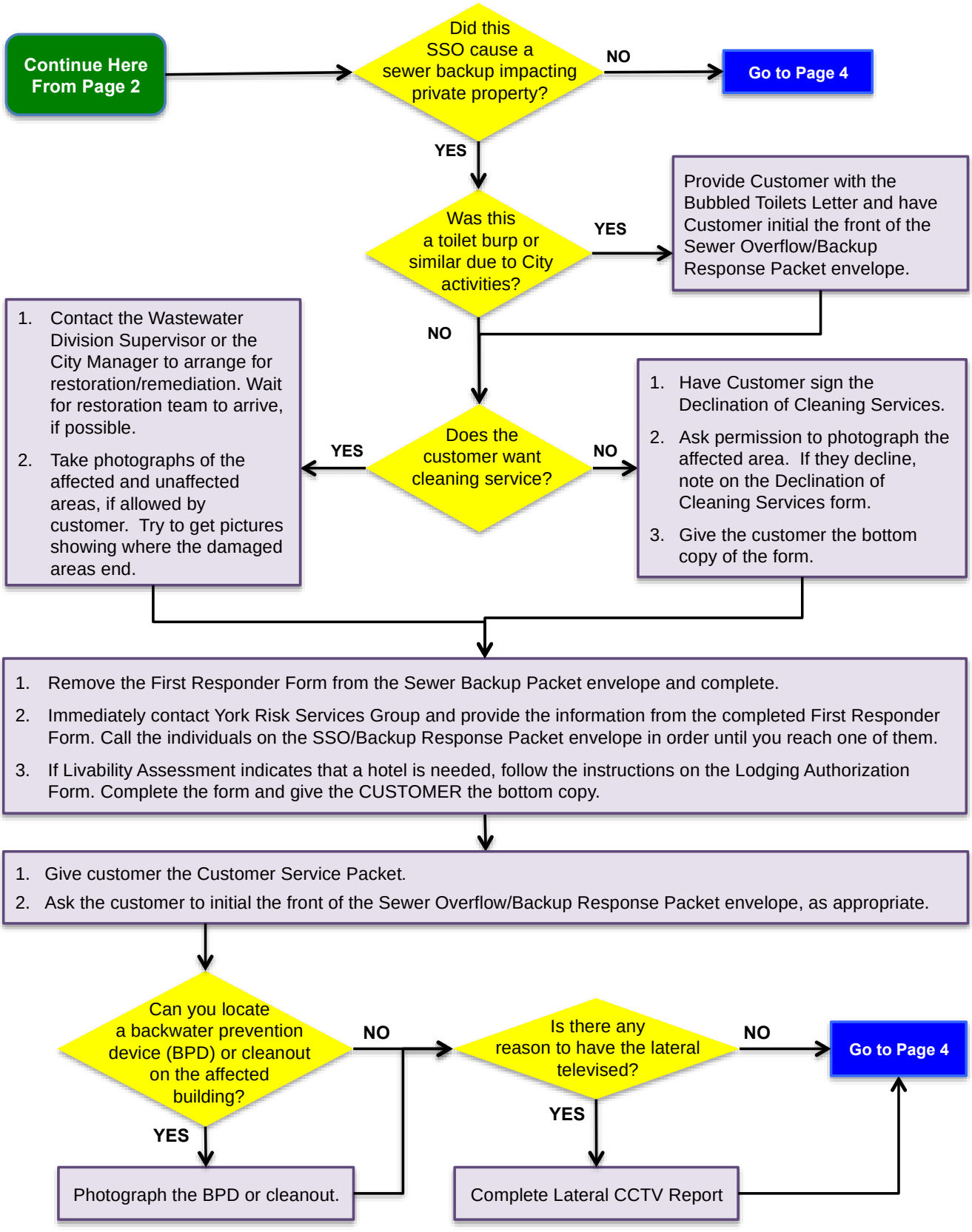
Sanitary Sewer Overflow/Backup Response Flowchart



Sanitary Sewer Overflow/Backup Response Flowchart



Sanitary Sewer Overflow/Backup Response Flowchart



Sanitary Sewer Overflow/Backup Response Flowchart

Continue Here From Page 3

DETERMINE START TIME AND ESTIMATE SSO VOLUME

1. Complete the Start Time Determination form. Remember – the SSO was probably occurring for a period of time before it was reported.
2. Estimate and document SSO volume using two or more of the worksheets provided.
3. Complete the Start Time and Volume Estimation sections on the Sanitary Sewer Overflow Report.

DOCUMENTATION AND REPORTING

1. Complete the Sanitary Sewer Overflow Report.
2. Make notifications indicated on the Sanitary Sewer Overflow/ Backup Response Packet envelope
3. Complete the Lateral CCTV Report as necessary

Place in Sewer Overflow Packet envelope and follow paperwork routing instructions indicated on the front of the envelope:

1. **All completed forms**
2. **Digital or disposable camera**
3. ***All* notes/documentation made**
4. **Document the service call according to City procedures**

MEDIA AND PUBLIC RELATIONS GUIDELINES:

In most cases, refer media requests to the media coordinator indicated on the front of the Sewer Overflow Packet envelope.

Exercise caution in contacts with the public or media when you respond to a spill. Any information you provide or statements you make may become pertinent in the event of possible court action, it is important to **AVOID THE FOLLOWING**:

- Giving out the wrong information,
- Speculating about the situation you are responding to
- Making accusations against customers, businesses or other agencies
- Providing incorrect facts about a company or other agency

Be courteous and attempt to provide accurate information to questions within the limits above. In some cases, it may be appropriate to say that we do not have any information, or to delay answering a question and then to say when an answer might be available.

Dear City of Red Bluff Customer,

Thank you for informing us that your toilet bubbled while our crews were working in proximity of your property. We apologize for the inconvenience and hope that this letter will answer some of your questions about bubbling toilets.

1. **Is this a health risk?**
   The water that came out of your toilet is potable water from the toilet bowl. Unless your toilet was in use when this occurred, this water is no different than that encountered while cleaning your toilet.

2. **What is the City doing in the street?**
   In order to insure reliable sewer service, the City inspects, cleans, and repairs its sewer system on a continuous basis.

3. **How does sewer cleaning cause my toilet to bubble?**
   Typical industry cleaning equipment uses high-pressure water to clean sewers. The first step is to use the high-pressure water jets to propel the hose and cleaning nozzle upstream as far as 800 feet. During this process, air within the main pipe is displaced and sometimes goes up the private lateral pipe and releases though the toilet. This can also happen during the cleaning phase, when high-pressure water is pulled downstream to the cleaning truck.

4. **What causes the air to come from my toilet?**
   Over the years, City crews have found that the bubbling of toilets have many causes, some of which are:
   - Obstructed vent pipes;
   - Vent pipes that are positioned too far from the toilet;
   - Lateral pipes that may be in use as the crew is cleaning (e.g. draining washing machine, draining bathtub, etc.);
   - Lateral pipes that may have obstructions that are causing them to hold water (e.g. roots, grease, etc.).

5. **What does City staff do, once informed of a bubbling toilet?**
   Once notified of a bubbling toilet, the crew leader explains to the customer what has happened and checks to see if there is a clean-out in the customer's yard that could be opened in the future during cleaning. The crew leader then makes notes and completes paperwork that puts the address on the City's computerized notification list. In the future, crews will notice that this address was "bubbled" at one time, and, before commencing the cleaning, they will notify the occupant of the possibility of bubbling toilets. In the event the occupant is not present when the cleaning begins, the crews will attempt to open clean-outs and/or lower water pressure to avoid bubbling.

6. **What can I do to prevent my toilet from bubbling?**
   When a sewer begins to drain slowly, it may be a sign that it needs to be cleaned or repaired. Trees and shrubs may have root structures that are entering the lateral pipe. The homeowner needs to make sure to have a clean-out for accessing the line. It is the homeowner's responsibility to keep the sewer lateral pipe in good working condition.

It is always a good idea to keep the toilet lid down when not in use, and not install carpets in the bathroom unless they can be easily removed and cleaned. For more information please contact the Wastewater Division Supervisor at (530) 527-4300.

Sincerely,

City of Red Bluff

Estimado cliente de la ciudad de Red Bluff:

Gracias por informarnos que su inodoro burbujeó mientras nuestros equipos trabajaban en las cercanías de su propiedad. Pedimos disculpas por las molestias y esperamos que esta carta responda algunas de sus preguntas sobre los inodoros que burbujean.

1. **¿Es un riesgo para la salud?**
   El agua que salió de su inodoro es agua potable de la taza del inodoro. A menos que el inodoro haya estado en uso cuando esto sucedió, esta agua no es diferente a la que se encuentra cuando limpia el inodoro.

2. **¿Qué realiza la Ciudad en la calle?**
   A fin de asegurar un servicio de alcantarillado confiable, la Ciudad inspecciona, limpia y repara el sistema de alcantarillado de manera continua.

3. **¿De qué manera la limpieza del alcantarillado provoca que mi inodoro burbujee?**
   El equipo industrial típico de limpieza utiliza agua a alta presión para limpiar el alcantarillado. El primer paso es utilizar el chorro de agua a alta presión para impulsar la manguera y la boquilla de limpieza contracorriente con un alcance de hasta 243,8 m (800 pies). Durante este proceso, el aire dentro de la tubería principal se desplaza y algunas veces sube por la tubería lateral privada y se libera a través del inodoro. Esto también puede ocurrir durante la fase de limpieza, cuando el agua a alta presión se arrastra aguas abajo hasta el camión de limpieza.

4. **¿Qué provoca que el aire se libere por mi inodoro?**
   A través de los años, los equipos de la Ciudad descubrieron que el burbujeo de los inodoros ocurre debido a varias causas, entre las cuales encontramos las siguientes:
   - tubos de ventilación obstruidos;
   - tubos de ventilación que se colocan demasiado lejos del inodoro;
   - tuberías laterales que pueden estar en uso mientras el equipo realiza la limpieza (por ejemplo, el drenaje de la lavadora, el drenaje de la bañera, etc.);
   - tuberías laterales que pueden tener obstrucciones que hacen contener el agua (por ejemplo, raíces, grasa, etc.).

5. **¿Qué hace el personal de la Ciudad una vez que se le informa de un inodoro que burbujea?**
   Una vez que se notifica un inodoro que burbujea, el líder del equipo le explica al cliente lo que ha sucedido y comprueba si hay un registro de alcantarillado en el patio del cliente que podría abrirse en limpiezas futuras. Luego, el líder del equipo toma notas y completa documentación para incluir la dirección en la lista automatizada de notificaciones de la Ciudad. En el futuro, los equipos notarán que en esta dirección hubo “burbujeos” en un momento y, antes de comenzar la limpieza, notificará al ocupante acerca de la posibilidad de que burbujeen los inodoros. En caso de que el ocupante no esté presente cuando la limpieza se inicia, los equipos intentarán abrir los registros de alcantarillado y bajar la presión del agua para evitar el burbujeo.

6. **¿Qué puedo hacer para evitar que mi inodoro burbujee?**
   Cuando un alcantarillado comienza a drenar lentamente, puede ser un signo de que es necesario limpiarlo o repararlo. Los árboles y arbustos pueden tener estructuras de raíz que entren en la tubería lateral. El propietario debe asegurarse de tener un registro de alcantarillado para acceder a la línea. Es responsabilidad del dueño de casa mantener la tubería lateral de la alcantarilla en buen funcionamiento.

Siempre es una buena idea mantener la tapa del inodoro baja cuando no está en uso y no instalar alfombras en el baño a menos que puedan quitarse y limpiarse con facilidad. Para obtener más información, comuníquese con el Supervisor de la División de Aguas Residuales al (530) 527-4300.

Atentamente,

City of Red Bluff: Overflow Emergency Response Plan

Sanitary Sewer Overflow/Backup Response Packet
Declination of Cleaning Services

B-3

Customer Information		
NAME:	ADDRESS:	TELEPHONE:

ON (date)	**AT** (time)	**Approximately** (quantity)	**GALLONS OF:** ☐ Sewage ☐ Grey Water ☐ Toilet Bowl Water ☐ Odor ☐ Other (describe):

Overflowed from (or odor emanating from)
- ☐ Toilet
- ☐ Shower/Tub
- ☐ Washer
- ☐ Other (describe):

The overflow affected the following areas *(check one):*
- ☐ Bathroom ☐ Bedroom
- ☐ Hallway ☐ Garage
- ☐ Kitchen ☐ Crawlspace
- ☐ Other (specify):

The overflow affected the following flooring:
- ☐ Tile ☐ Wood Flooring
- ☐ Linoleum ☐ Carpet
- ☐ Other (specify):

and/or additional materials:
- ☐ Area Rugs ☐ Towels
- ☐ Clothing ☐ Other (specify):

Photos: ☐ Were Not Taken ☐ Were Taken, number of photos: _____

This Form Completed By: **Date:** _____ **Time:**

CUSTOMER, please read the following and sign below:
I/We acknowledge that City of Red Bluff, CA (*City)* has offered to provide professional cleaning and decontamination services to remediate the sewage backup and/or overflow described above and that we declined the offer. We further understand and acknowledge that because we have declined, any necessary remediation activities will be conducted without City assistance, and that the City will not accept responsibility for work performed by persons other than those engaged by the City. The City will also not accept responsibility for any charges related to this incident that are not usual and customary. Please refer to the Customer Service Packet for whom to contact if you have any questions.

Customer Signature*:		**Date:**
The information above was explained to the customer by the following employee:	**Name:**	**Title:**
	Signature:	**Date:**

**Note to responders: if customer declines to sign this form, then have a co-worker sign here as a witness:*
Name: _____ *Signature:* _____ *Date:* _____

Recommendations to customer to clean up the spill:

- Keep pets and children out of the affected area
- Turn off heating/air conditioning systems
- Wear rubber boots, rubber gloves, and goggles during cleanup of the affected area.
- Remove and discard items that cannot be washed and disinfected (such as: mattresses, rugs, cosmetics, baby toys, etc.)
- Remove and discard drywall and insulation that has been contaminated with sewage or flood waters.
- Thoroughly clean all hard surfaces (such as flooring, concrete, molding, wood and metal furniture, countertops, appliances, sinks and other plumbing fixtures) with hot water and laundry or dish detergent.
- Help the drying process with fans, air conditioning units, and dehumidifiers.
- After completing cleanup, wash your hands with soap and water. Use water that has been boiled for 1 minute (allow water to cool before washing your hands.) OR use water that has been disinfected (solution of 1/8 teaspoon of household bleach per 1 gallon of water). Let it stand for 30 min. If water is cloudy, use ¼ teaspoon of household bleach per 1 gallon of water.
- Wash all clothes worn during the cleanup in hot water and detergent (wash separately from uncontaminated clothes).
- Wash clothes contaminated with flood or sewage water in hot water and detergent. Use a laundromat for washing large quantities of clothes and linens until your onsite wastewater system has been professionally inspected and services have been restored.

- Seek immediate attention if you become injured or ill.

Distribution Instructions: Top Copy to City records; Middle Copy to Wastewater Division Supervisor; Bottom Copy to Customer

Sanitary Sewer Overflow/Backup Response Packet
First Responder Form

Fill out this form as completely as possible.
Ask customer if you may enter the home. If so, take photos of all damaged and undamaged areas.

PERSON COMPLETING THIS FORM: Name: _____ Title: _____	PHONE: DATE: TIME:
TIME STAFF ARRIVED ON-SITE:	
DOES THE CUSTOMER WANT THE CITY TO CALL A CLEANING CONTRACTOR? ☐ Yes ☐ No IF NO, complete the Declination of Sewage Cleaning Services form. DID CUSTOMER CALL CLEANING CONTRACTOR? ☐ Yes ☐ No If YES, name of contractor:	
RESIDENT NAME: ☐ Owner ☐ Renter	IF RENT, PROPERTY MANAGER(S): OWNER:
STREET ADDRESS: CITY, STATE AND ZIP: PHONE:	STREET ADDRESS: CITY, STATE AND ZIP: PHONE:
Is nearest upstream manhole visibly higher than the drain/fixture that overflowed? ☐ Yes ☐ No	
# OF PEOPLE LIVING AT RESIDENCE:	

Approximate Age of Home:	# of Bathrooms:	# of Rooms Affected:
Approximate Amount of Spill (gallons):	Approximate Time Sewage Has Been Sitting (hrs/days):	

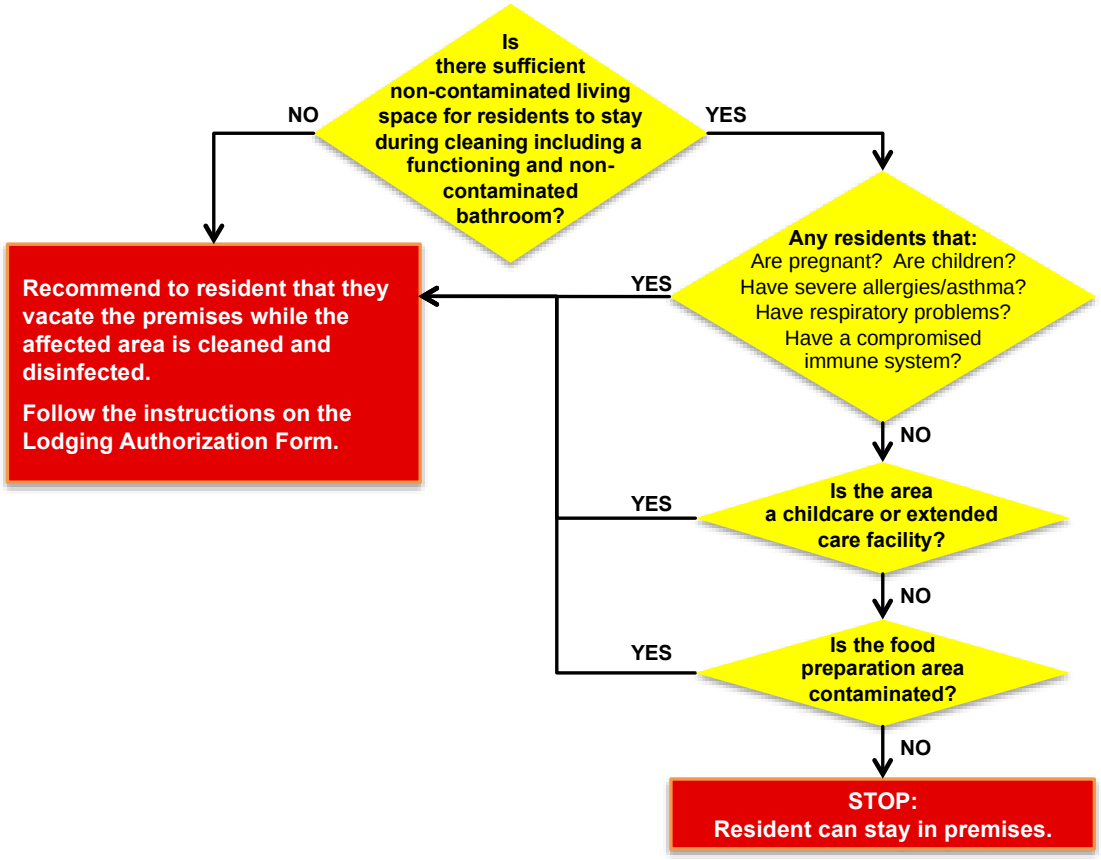
Numbers of Photographs or Videos Taken: ☐ Photographs ☐ Video	Where are photos/video stored?
Does property have a Property Line Cleanout or BPD?	☐ YES ☐ NO ☐ Unknown
If yes, was the Property Line Cleanout/BPD operational at the time of the overflow?	☐ YES ☐ NO ☐ Unknown
Have there ever been any previous spills at this location?	☐ YES ☐ NO ☐ Unknown

Has the resident had any plumbing work done recently? ☐ YES ☐ NO

If YES, please describe:

GO TO PAGE 2

LIVABILITY ASSESSMENT



SANITARY SEWER LINE BLOCKAGE LOCATION

PLEASE CHECK THE BOXES THAT DESCRIBE YOUR OBSERVATIONS:	
Customer Cleanout Was: ☐ Non-Existent ☐ Full ☐ Empty	Public Cleanout was: ☐ Non-Existent ☐ Full ☐ Empty

On the diagram below, indicate the location of the sewer line and where the problem occurred.

Affected House

Upstream House

Recommended Follow-Up Action(s):

Did sewage go under buildings? ☐ Yes ☐No ☐Unsure

Place completed form in Sanitary Sewer Overflow/Backup Response Envelope and follow routing instructions.

City of Red Bluff: Overflow Emergency Response Plan

Sanitary Sewer Overflow/Backup Response Packet
Lodging Authorization Form

B-5

INSTRUCTIONS TO PUBLIC WORKS CREW:

1. Explain the circumstances of the backup. If the Livability Assessment indicates that a hotel is needed, offer alternate lodging to the customer. If they agree, ask the customer which hotel identified below they prefer. Contact the Wastewater Division Supervisor who will make the necessary arrangements.
2. Review this form with the customer and instruct them to read the Instructions to Resident section below.
3. Instruct the customer that this emergency authorization is for LODGING ONLY – NO FOOD, MINIBAR, MOVIE, PHONE or Other Charges).
4. Explain to customer that if circumstances require additional nights' lodging and other incidentals, the City Manager will address them.
5. Have the customer sign the Acknowledgement section of this form.
6. Complete this Authorization Form and sign.
7. Give the bottom copy of this form to the customer.

INSTRUCTIONS TO RESIDENT: The City of Red Bluff recommends that you temporarily relocate to a local hotel for your safety and convenience while your residence is being cleaned. Please note that this emergency authorization is granted under the following conditions:

1. This authorization provides for one (1) nights' lodging at the hotel selected below.
2. The authorization is good for **room and tax ONLY**.
3. Additional nights, other allowances, and special circumstances may be discussed by contacting the City Manager at (530) 527-2605.

CUSTOMER ACKNOWLEDGEMENT:

I/we have read and understood the terms and conditions governing this offer of temporary relocation and agree to abide by them as described above.

Customer Name (please print): _____

Customer Address: _____

Phone # where customer may be reached: _____

Customer Signature: _____ Date: _____

☐ Check here to decline this offer of temporary relocation. Customer Signature: _____

Good for one (1) night's stay on (date): _____ Number of affected residents: _____

City of Red Bluff Representative's Name: _____ Phone Number: _____

This voucher is valid at the following hotels:

- **Holiday Inn Express and Suites**
  2810 Main Street, Red Bluff CA 96080
  (530) 528-1600

- **Comfort Inn**
  90 Sale Lane, Red Bluff CA 96080
  (530) 529-7060

Distribution: Top Copy to City records Middle Copy to City Engineer/Director of Public Works Bottom Copy to Customer

Sanitary Sewer Overflow/Backup Response Packet
Start Time Determination Form

B-6

SSO Start Date: _____ Location: _____

Accurate start time determination is an essential part of SSO volume estimation. Depending on the flow rate, being even one minute off can have a huge impact on the volume estimation. Be as precise as possible. Do not round to quarter hour increments. Start time must be based on all available information (interviews with neighbors, emergency responders, etc.)

What time was the City notified of the SSO? _____ ☐ AM ☐ PM

Who notified the City? _____

Did they indicate what time they noticed the SSO? ☐ YES ☐ NO If yes, what time? _____ ☐ AM ☐ PM

Who at the City received the notification? _____

What time did the crew arrive at the site of the SSO? _____ ☐ AM ☐ PM

Who was interviewed regarding the start time of the SSO? Include their name, contact information, and the statement they provided:

Name Contact Information Statement

_____

_____

_____

_____

Describe in detail how you determined the start time for this particular SSO: _____

_____

_____

_____

SSO Start Date: _____ SSO Start Time: _____ ☐ AM ☐ PM

SSO End Date: _____ SSO End Time: _____ ☐ AM ☐ PM

SSO Duration: _____ **minutes**

This form completed by:

Name: _____ Signature: _____

Job Title: _____ Date: _____

Sanitary Sewer Overflow/Backup Response Packet
Volume Estimation: Eyeball Estimation Method

B-7a

Use this method only for small SSOs of less than 200 gallons.

SSO Date: _____ Location: _____

STEP 1: Position yourself so that you have a vantage point where you can see the entire SSO.

STEP 2: Imagine one or more buckets or barrels of water tipped over. Depending on the size of the SSO, select a bucket or barrel size as a frame of reference. It may be necessary to use more than one bucket/barrel size.

STEP 3: Estimate how many of each size bucket or barrel it would take to make an equivalent spill. Enter those numbers in Column A of the row in the table below that corresponds to the bucket/barrel sizes you are using as a frame of reference.

STEP 4: Multiply the number in Column A by the multiplier in Column B. Enter the result in Column C.

	A	B	C
Size of bucket(s) or barrel(s)	**How many of this size?**	**Multiplier**	**Estimated SSO Volume (gallons)**
1-gallon water jug		x 1 gallons	
5-gallon bucket		x 5 gallons	
32-gallon trash can		x 32 gallons	
55-gallon drum		x 55 gallons	
Other: _____ gallons		x _____ gallons	
Estimated Total SSO Volume:			

STEP 5: Is rainfall a factor in the SSO? ☐ Yes ☐ No

If yes, what volume of the observed spill volume do you estimate is rainfall? _____ gallons

If yes, describe how you determined the amount of rainfall in the observed spill?

STEP 6: Calculate the estimated SSO volume by subtracting the rainfall from the SSO volume:

_____ gallons − _____ gallons = _____ gallons

Estimated SSO Volume — Rainfall — **Total Estimated SSO Volume**

Do you believe that this method has estimated the entire SSO? ☐ Yes ☐ No

If no, you MUST use additional methods to estimate the entire SSO. If yes, it is advisable to use additional methods to support the estimation. Explain why you believe this method has/has not estimated the entire SSO:

This worksheet completed by:

Name: _____ Signature: _____

Job Title: _____ Date: _____

Sanitary Sewer Overflow/Backup Response Packet
Volume Estimation: Area/Volume Estimation Method

Note: Refer to form B-4b Page 3 for computation formulas and guides

SSO Date: _____ Location: _____

STEP 1: Describe spill area surface: ☐Asphalt ☐Concrete ☐Dirt ☐Landscape ☐Inside Building
☐Other: _____

STEP 2: Draw/sketch the outline (footprint) of the spill. Then break the footprint down into recognizable shapes. Refer to the example on form B-7b Page 3.

STEP 3: Calculate the area of the footprint by completing the table below for each shape in Step 2.
If two shapes overlap, select one of the two shapes and estimate the percentage of that shape that does not overlap. Enter that percentage in the % Not Overlapping column. This will ensure that the overlap area is only counted once. Refer to the example on form B-4b Page 3.

Rectangles	**Length**	**X**	**Width**	**X**	**% Not Overlapping***	**=**	**Area**
	ft	X	ft	X	%	=	ft^2
	ft	X	ft	X	%	=	ft^2
	ft	X	ft	X	%	=	ft^2

Triangles	**Base**	**X**	**Height**	**Multiplier**	**X**	**% Not Overlapping***	**=**	**Area**
	ft	X	ft	÷ 2	X	%	=	ft^2
	ft	X	ft	÷ 2	X	%	=	ft^2
	ft	X	ft	÷ 2	X	%	=	ft^2

Circles	π	**X**	**Radius**	**X**	**Radius**	**X**	**% Not Overlapping***	**=**	**Area**
	3.14	X	ft	X	ft	X	%	=	ft^2
	3.14	X	ft	X	ft	X	%	=	ft^2
	3.14	X	ft	X	ft	X	%	=	ft^2

Total Spill Area (sum of all three tables above): _____ ft^2

STEP 4: Calculate the volume of the spill that **was NOT absorbed** into the ground. If the entire spill was absorbed, skip to Step 5.

a. If spill is of varying depths, take several measurements at different depths and find the average.

_____ inches ÷ _____ = _____ inches ÷ 12 = _____ feet
sum of measurements | # of measurements | average depth in inches | average depth in feet of ponded sewage

b. Calculate spill volume of ponded sewage in cubic feet by multiplying the Total Spill Area in Step 3 by the average depth calculated in Step 4a. Convert from cubic feet to gallons by multiplying by 7.48.

_____ ft^2 x _____ ft = _____ ft^3 x 7.48 gal = _____ gallons
spill area (Step 3) | average depth (Step 4a) | spill volume in cubic feet | estimated volume of ponded sewage

STEP 5: Calculate the volume of the spill that **was absorbed** into the ground. If only a wet stain is observed, use the guidelines on B-7b Page 3 for the average depth. When estimating the volume that was absorbed, take into consideration:

- How long the sewage has been sitting
- The air temperature on the day of the SSO
- Soil type for the area (e.g., hard-packed clay vs. loose or gravely soil)

When estimating the volume of the spill that was absorbed into the ground, it is also advisable to dig down far enough to reach dry soil and take the depth of the wet soil into consideration.

Estimated volume that was absorbed into the soil: _____ gallons
Explain how this estimation was determined: _____

_____

_____

_____

STEP 6: Add the volume not absorbed (Step 4) plus the volume absorbed (Step 5) to get the total estimated volume:

_____ gallons + _____ gallons = _____ gallons
volume not absorbed | volume absorbed | **Total Estimated Spill Volume**

Do you believe that this method has estimated the entire SSO? ☐ Yes ☐ No
If no, you MUST use additional methods to estimate the entire SSO. If yes, it is advisable to use additional methods to support the estimation. Explain why you believe this method has/has not estimated the entire SSO:

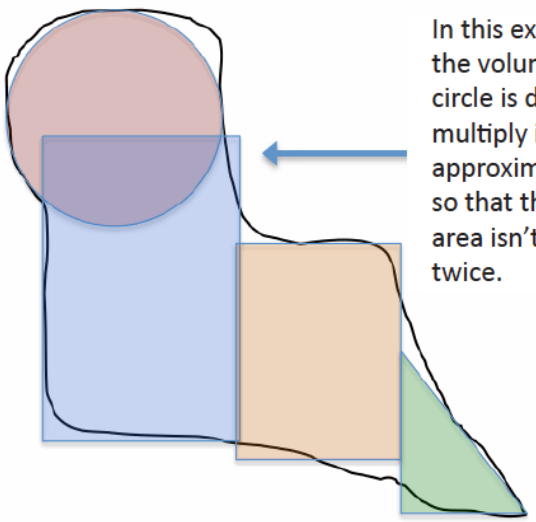
This worksheet completed by:
Name: _____ Signature: _____
Job Title: _____ Date: _____

Miscellaneous Computations

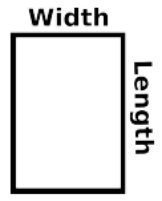
To convert inches to feet	Divide the inches by 12 or use the chart on the bottom right of this page.
Volume of one cubic foot	7.48 gallons of water
Area: Two-dimensional measurement represented in square feet	Square/rectangle: Area = Length x Width Circle: Area = πr^2 (where $\pi \approx 3.14$ and r = radius = ½ diameter) Triangle: Area = ½ (Base x Height)
Volume: Three-dimensional measurement represented in cubic feet	Rectangle/square footprint: Volume = Length x Width x Depth Circle footprint (cylinder): Volume = πr^2 x Depth (where $\pi \approx 3.14$ and r = radius = ½ diameter) Triangle footprint: Volume = ½ (Base x Height) x Depth
Depth: Contained or "Ponded" sewage	Measure actual depth of standing sewage whenever possible. When depth varies, measure several representative sample points and determine the average. Add the depth of the sample points and then divide that total by the number of sample points. If the depth is not measurable because it is only a wet stain, consider using the following estimated depths: • Depth of a wet stain on concrete surface: 0.0026' (1/32") • Depth of a wet stain on asphalt surface: 0.0013' (1/64")

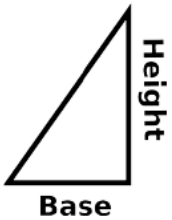
Example of how to draw/sketch the outline (footprint) of the spill for Step 2:

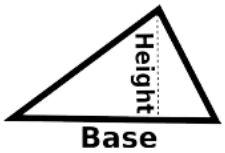
1. Sketch the outline of the spill (black line).
2. Break the sketch down into recognizable shapes (circles, squares, etc.) as well as you can.



In this example, after the volume of the circle is determined, multiply it by approximately 65% so that the overlap area isn't counted twice.







Convert Inches to Feet	
Inches	Feet
1/8"	0.01'
1/4"	0.02'
3/8"	0.01'
1/2"	0.04'
5/8"	0.05'
3/4"	0.06'
7/8"	0.07'
1"	0.08'
2"	0.17'
3"	0.25'
4"	0.33
5"	0.42'
6"	0.50'
7"	0.58'
8"	0.67'
9"	0.75'
10"	0.83'
11"	0.92'
12"	1.00'

Sanitary Sewer Overflow/Backup Response Packet
Volume Estimation: Upstream Lateral Connections Method

B-7c

SSO Date: _____ Location: _____

STEP 1: Determine the number of Equivalent Dwelling Units (EDUs) for this SSO: _____ EDUs
NOTE: A single-family residential home = 1 EDU. For commercial buildings, refer to agency documentation.

STEP 2: This volume estimation method utilizes daily usage data based on flow rate studies of several jurisdictions in California. Column A shows how an average daily of usage of 180 gallons per day is distributed during each 6-hour period. Adjust the table as necessary to accurately represent the actual data.

Complete Column E by entering the number of minutes the SSO was active during each 6-hour time period. Multiply column D times Column E to calculate the gallons spilled during each time period. Add the numbers in Column F together for the Total Estimated SSO Volume per EDU.

	Flow Rate Per EDU				**SSO**	
	A	**B**	**C**	**D**	**E**	**F**
Time Period	Gallons per Period	Hours per period	A ÷ B = Gallons per Hour	C ÷ 60 = Gallons per Minute	Minutes SSO was active during period	D × E = Gallons spilled per period
6am-noon	72	6	12	0.20		
noon-6pm	36	6	6	0.10		
6pm-midnight	54	6	9	0.15		
midnight-6am	18	6	3	0.05		
Total Estimated SSO Volume per EDU:						

STEP 3: Multiply the Estimated SSO Volume per EDU from Step 2 by the number of EDUs from Step 1.

_____ gallons X _____ = _____ gallons
Volume per EDU # of EDUs Estimated SSO Volume

STEP 4: Adjust SSO volume as necessary considering other factors, such as activity that would cause a fluctuating flow rate (doing laundry, taking showers, etc.). Explain rationale below and indicate adjusted SSO estimate (attach a separate page if necessary):

Estimated SSO Volume: _____ gallons

Do you believe that this method has estimated the entire SSO? ☐ Yes ☐ No
If no, you MUST use additional methods to estimate the entire SSO. If yes, it is advisable to use additional methods to support the estimation. Explain why you believe this method has/has not estimated the entire SSO:

This worksheet completed by:
Name: _____ Signature: _____
Job Title: _____ Date: _____

Sanitary Sewer Overflow/Backup Response Packet
Sanitary Sewer Overflow Report

B-8
Side 1

INSTRUCTIONS: Complete all items *EXCEPT* those that are shaded gray

SSO Category *(check one)*:

☐ Category 1: Discharge of untreated or partially treated wastewater of any volume resulting from a sanitary sewer system failure or flow condition that either (1) Reaches surface water and/or drainage channel tributary to a surface water; OR (2) Reached a Municipal Separate Storm Sewer System (MS4) and was not fully captured and returned to the sanitary sewer system or otherwise captured and disposed of properly.

☐ Category 2: Discharge of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from a sanitary sewer system failure or flow condition that either (1) Does not reach surface water, a drainage channel, or an MS4, OR (2) The entire SSO discharged to the storm drain system was fully recovered and disposed of properly.

☐ Category 3: All other discharges of untreated or partially treated wastewater resulting from a sanitary sewer system failure or flow condition

☐ Spill from Private Lateral (specify): ☐ Single Family Home ☐ Multi-Family Home ☐ High Density Residential (5+ units)
☐ Food Service Establishment (FSE) ☐ Mixed Use Property ☐ Industrial Property ☐ Commercial Property
☐ Public quasi-public institution (hospital, schools, fire department, etc.)

IMMEDIATE NOTIFICATION:
For a Category 1 SSO ≥1,000 gallons reaching surface waters, CalOES must be contacted within 2 hours at (800) 852-7550.

A. SSO LOCATION

SSO Location Name:		
Latitude Coordinates*:	Longitude Coordinates:	
Street Name and Number:		
Nearest Cross Street:	City:	Zip Code:
County:	SSO Location Description:	

B. SSO DESCRIPTION (Complete Volume Estimation Worksheets and/or refer to Field Guide as needed for estimations.)

SSO Appearance Point (check one or more): ☐ Force Main ☐ Gravity Mainline ☐ Lateral Cleanout (Private)
☐ Lateral Cleanout (Public) ☐ Inside Building or Structure ☐ Manhole ☐ Pump Station
☐ Lateral (Private) ☐ Service Lateral or Lower Lateral
☐ Other Sewer System Structure (specify):

Were there multiple appearance points? ☐ No ☐ Yes, number of appearance points:

Did the SSO reach a drainage channel and/or surface water? ☐ Yes (*Category 1)* ☐No

If the SSO reached a storm sewer, was it fully captured and returned to the Sanitary Sewer? ☐ Yes ☐No (*Category 1)*

Was this spill from a private lateral? ☐ Yes ☐No If YES, name of responsible party:

Final Spill Destination: ☐ Surface waters other than ocean ☐ Drainage channel ☐ Building/structure
☐ Separate Storm drain ☐ Combined storm drain ☐ Paved surface ☐ Unpaved surface ☐ Street/curb/gutter
☐ Other:
*Provide name(s) of affected drainage channels, beach, etc.:

Total Estimated SSO volume *(in gallons – 1,000gal or more = Category 1)*: gallons

Est. volume that reached a separate storm drain that flows to a surface water body:	gal	Recovered:	gal
Est. volume that reached a drainage channel that flows to a surface water body:	gal	Recovered:	gal
Est. volume discharged directly to a surface water body:	gal	Recovered:	gal
Est. volume discharged to land:	gal	Recovered:	gal

Calc. Methods: ☐Eyeball ☐Photo Comparison ☐Upstream Lat. Connections ☐Area/Volume (include sketch/photo with dimensions)
☐Other (describe):

C. SSO OCCURRING TIME (complete Start Time Determination Form and then complete information below)

Estimated SSO start date:	Estimated SSO start time:
Date SSO reported to sewer crew:	Time SSO reported to sewer crew:
Date sewer crew arrived:	Time sewer crew arrived:
Who was interviewed to help determine start time?	
Estimated SSO end date:	Estimated SSO end time:

* If multiple appearance points, use the GPS coordinates for the location of the SSO appearance point closest to the failure point/blockage.

Sanitary Sewer Overflow/Backup Response Packet
Sanitary Sewer Overflow Report

B-8
Side 2

D. CAUSE OF SSO

Where did failure occur? (Check all that apply): ☐ Air Relief or Blow-Off Valve ☐ Force Main ☐ Gravity Mainline ☐ Siphon
☐ Lower Lateral (public) ☐ Manhole ☐ Pump Station (specify): ○Controls ○Mechanical ○Power
☐ Lateral (private) ☐ Service Lateral or Lower Lateral ☐ Other:

SSO cause *(check all that apply)*: ☐ Air Relief or Blow-Off Valve Failure ☐ Construction Diversion Failure ☐ CS Maintenance
☐ Damage by others ☐ Debris (specify): ○from Construction ○from Lateral ○General ○Rags ☐ Flow Exceeded Capacity
☐ FOG (Fats, oil, grease) ☐ Inappropriate Discharge ☐ Natural Disaster ☐ Operator Error ☐ Root Intrusion
☐ Pipe Structural Problem/Failure ☐ Pipe Structural Problem/Failure (Installation) ☐ Rainfall Exceeded Design
☐ Pump Station Failure (specify): ○Controls ○Mechanical ○Power ☐ Roots ☐ Siphon Failure ☐ Vandalism
☐ Surcharged Pipe ☐ Non - Dispersible Wipes ☐ Other (specify):

Diameter (in inches) of pipe at point of blockage/spill cause (if applicable):

Sewer pipe material at point of blockage/spill cause (if applicable):

Estimated age of sewer asset at the point of blockage or failure (if applicable):

Description of terrain surrounding point of blockage/spill cause: ☐ Flat ☐ Mixed ☐ Steep

E. SSO RESPONSE

SSO response activities (check all that apply): ☐ Cleaned-Up ☐ Mitigated Effects of Spill ☐ Contained All or Portion of Spill
☐ Restored Flow ☐ Returned All Spill to Sanitary Sewer System ☐ Returned Portion of Spill to Sanitary Sewer System
☐ Property Owner Notified ☐ Other Enforcement Agency Notified (specify) ☐ Other (specify):

SSO response completed (date & time):

Visual inspection result of impacted waters (if applicable):

Any fish killed? ☐ Yes ☐ No Any ongoing investigation? ☐ Yes ☐ No

Were health warnings posted? ☐ Yes ☐ No If yes, provide health warning/beach closure posting/details:

Was there a beach closure? ☐ Yes ☐ No If yes, name of closed beach(es):

Were samples of impacted waters collected? ☐ Yes ☐ No
If YES, select the analyses: ☐ DO ☐ Ammonia ☐ Bacteria ☐ pH ☐ Temperature ☐ Other:

Recommended corrective actions: (check all that apply and provide detail)
☐ Add sewer to preventive maintenance program ☐ Adjust schedule/method of preventive maintenance
☐ Enforcement action against FOG source ☐ Inspect sewer using CCTV to determine cause
☐ Plan rehabilitation or replacement of sewer ☐ Repair facilities or replace defect
☐ Remove roots ☐ Spot repair
☐ Other (specify):

What major equipment was used in the response?

List all agency personnel involved in the response including name, title and their role in the response:

F. NOTES

G. NOTIFICATION DETAILS: Enter details if applicable

CalOES contacted on (Date and Time):

Spoke to: CalOES Control Number:

This form prepared by: NAME:	TITLE:	DATE:
This form reviewed by: NAME:	TITLE:	DATE:

Place completed form in Sewer Backup Envelope and follow routing instructions.

Sanitary Sewer Overflow/Backup Response Packet
Lateral CCTV Report

B-9

PLEASE COMPLETE AS THOROUGHLY AS POSSIBLE

PERSON COMPLETING THIS FORM:

DATE:
PHONE:

CAMERA TYPE:

LOCATION OF CAMERA ENTRY:

AFFECTED PROPERTY STREET ADDRESS:

LOCATION OF CAMERA STOP:

CITY, STATE AND ZIP:

DESCRIBE AREA TV'd:

PHONE

UPSTREAM MANHOLE #:

WEATHER AT TIME OF CCTV WORK:

PLEASE CHECK ALL THAT WERE DISCOVERED – *Describe Extent & Location Using Camera Entry Point As Reference*:

- ❒ Broken Lateral – Describe:
  Depth:
- ❒ Roots – Severity: ☐ Light ☐ Moderate ☐ Heavy
- ❒ Grease – Severity: ☐ Light ☐ Moderate ☐ Heavy
- ❒ Sag – Describe:
  Depth:
- ❒ BPD – Describe:
  Location:
- ❒ Cleanout – Describe:
  Location:
- ❒ Joint/Junction – Describe:
  Depth
- ❒ Grade – Describe:
- ❒ Grit – Severity: ☐ Light ☐ Moderate ☐ Heavy
- ❒ Other – Describe:

TIME OF OVERFLOW:

TIME BLOCKAGE RELIEVED:

TIME LATERAL TV'd:

DEPTH OF LATERAL:

RECOMMENDED
FOLLOW UP WORK ACTIONS:

Mark for USA location? ☐ Yes ☐ No

Lateral Locations Marked in Green Paint? ☐ Yes ☐ No

SIGNATURE OF EMPLOYEE PERFORMING TV WORK:

DATE

If applicable, place completed form in Sanitary Sewer Overflow/Backup Response Packet and follow routing instructions.

Sanitary Sewer Overflow/Backup Response Packet
Claims Submittal Checklist

B-10

Complete this form if there is a Sanitary Sewer Backup into/onto Private Property

Wastewater Division Supervisor

1. **Complete the following information:**

   Title: _____

   Name: _____

   Phone: _____

   Today's Date: _____

2. **Copy the items listed below and retain originals for internal archiving purposes.**

3. **Place the copies in the Backup Response Envelope and forward to the City Manager:**

   - ☐ **Form B-3: Declination of Cleaning Services**
   - ☐ **Form B-4: First Responder Form**
   - ☐ **Form B-5: Lodging Authorization Form**
   - ☐ **Form B-6: Start Time Determination Form**
   - ☐ **Form B-7: Volume Estimation Forms (a, b and/or c)**
   - ☐ **Form B-8: Sanitary Sewer Overflow Report**
   - ☐ **Form B-9: Lateral CCTV Report**
   - ☐ **Form B-10: Claims Submittal Checklist** *(this form)*
   - ☐ **All photos taken: Check here if digital photographs will be forwarded separately** ☐
   - ☐ **Any other information you feel is important in this claim**

4. **Go to Regulatory Notifications Packet and make all appropriate notifications.**

5. **Complete Form BP-11: Collection System Failure Analysis**

City Manager

1. **Review incident reports, claim form and other incident information and forward, as appropriate to:**

   NCCSIF c/o York Risk Services Group
   Cameron Dewey, Unit Manager
   P.O. Box 619079
   Roseville, CA 95661
   Telephone: (530) 243-3249
   Fax: (530) 255-9095
   Email: cameron.dewey@yorkrsg.com

2. **Communicate with claimant as appropriate.**
3. **Monitor administration of claim to closure.**

To be completed by the Wastewater Division Supervisor
NOTE: The information contained on this form may be confidential.

Incident Report #		Prepared By	
SSO/Backup Information			
Event Date/Time	Address		
Volume Spilled	Volume Recovered		
Cause			
Summary of Historical SSOs/Backups/Service Calls/Other Problems			
Date	Cause	Date Last Cleaned	Crew
Records Reviewed By:		Record Review Date:	
Summary of CCTV Information			
CCTV Inspection Date		Tape Name/Number	
CCTV Tape Reviewed By		CCTV Review Date	
Observations			

Go to Page 2

Recommendations					
	Type	Specific Actions	Who is Responsible?	Completion Deadline	Who Will Verify Completion?
	No Changes or Repairs Required	n/a	n/a	n/a	n/a
	Repair(s)				
	Construction				
	Capital Improvement(s)				
	Change(s) to Maintenance Procedures				
	Change(s) to Overflow Response Procedures				
	Training				
	Misc.				
Comments/Notes:					
Review Date:					

City of Red Bluff CA
Overflow Emergency Response Plan

Customer Service Packet

Form	Form Number
Customer Information Letter	CS-1
Claim Form	-2
Sewer Spill Reference Guide	pamphlet

Instructions:

1. Review the Customer Information letter to determine actions that need to be taken immediately.
2. See the Customer Information letter for information about filing a claim.
3. Review the Sewer Spill Reference Guide pamphlet.

If you have any questions contact:

- Regarding sewer issues: Wastewater Division Supervisor (530) 527-4300
- Regarding claim issues: City Manager (530) 527-2605

This packet provided by: _____

Phone: _____

Paquete de servicio al cliente

Formulario	Número de formulario
Carta de información para el cliente	CS-1
Formulario de reclamación	-2
Guía de referencia en caso de desborde del alcantarillado	folleto

Instrucciones:

1. Revise la carta de información para el cliente para determinar qué medidas deben tomarse inmediatamente.
2. Consulte la carta de información para el cliente sobre cómo presentar una reclamación.
3. Revise el folleto de la Guía de referencia en caso de desborde del alcantarillado.

Si tiene alguna consulta, comuníquese con las siguientes entidades:

- Para los problemas relacionados con el alcantarillado, comuníquese con el Supervisor de la División de Aguas Residuales al (530) 527-4300
- Para los problemas relacionados con las reclamaciones, comuníquese con el Gerente de la Ciudad (530) 527-2605.

Este paquete lo proporciona: _____

Teléfono: _____

Print on 6" x 9" envelope

Sanitary Sewer Overflow/Backup Response Packet
Customer Information Regarding Sewer Backup Claims

CS-1
ENGLISH

Dear Resident:

We recognize that sewer back flow incidents can be stressful and require immediate response when all facts concerning how an incident occurred are unknown. Rest assured that we do all we can to prevent this type of event from occurring. Nevertheless, occasionally tree roots or other debris in the sewer lines cause a backup into homes immediately upstream of the blockage. At this time the City is investigating the cause of this incident.

If the City is found to be responsible for the incident, we are committed to cleaning and restoring your property, and to protecting the health of those affected during the remediation process.

The cleaning contractor provided by the City has been selected because of their adherence to established protocols that are designed to assure all parties thorough, cost-effective and expeditious cleaning services. You also have the right to select your own cleaning contractor, but the City does not guarantee payment of fees/expenses incurred and reserves the right to dispute fees/expenses deemed not usual and customary.

If you wish to discuss this matter, please contact the Wastewater Division Supervisor at (530) 527-4300. If you wish to submit a claim for damages, please complete the claim form in this packet. Completed Claim Forms are to be submitted to the City Manager at 555 Washington Street, Red Bluff, CA 96080 (530) 527-2605.

Claims against the City must comply with the California Government Code Sec. 910-913.2.

What you need to do now:

The City has prepared this brief set of instructions to help you minimize the impact of the loss by responding promptly to the situation.

- Do not attempt to clean the area yourself; let the cleaning and restoration company handle this.
- Keep people and pets away from the affected area(s).
- Turn off all appliances that use water.
- Turn off heating/air conditioning systems.
- Do not remove items from the area – the cleaning and restoration company will handle this.
- If you had recent plumbing work, contact your plumber or contractor and inform them of this incident.
- If you intend to file a claim, do so as soon as practical in order to have your claim considered.

Important Legal Notice: For your protection, read carefully, obtain a reliable translation, and/or consult your attorney.

Noticia Legal Importante: Para su proteccion lea usted con cuidado debe de obtener una translacion que sea punctual y de confianza o consulte con su abogado.

Paquete de Respuesta a Desbordamiento de Alcantarilla Sanitaria
Información del Cliente

CS-1
SPANISH

Estimado vecino:

Reconocemos que los incidentes provocados por el reflujo de aguas cloacales pueden ser estresantes y exigen una respuesta inmediata cuando se desconocen los hechos relacionados con la causa del incidente. Tenga la seguridad de que hacemos todo lo posible para evitar que sucedan este tipo de incidentes. Sin embargo, las raíces de los árboles u otros desechos que se encuentran en las cañerías principales del sistema cloacal provocan, de vez en cuando, un desborde en el interior de las viviendas justo arriba de la obstrucción. En este momento, la Ciudad está investigando la causa de este incidente.

Si se determina que la Ciudad es responsable del incidente, nos comprometemos a limpiar y restaurar su propiedad, así como a proteger la salud de aquellas personas que hayan sido afectadas durante el proceso de reparación.

La empresa de servicios de limpieza que provee la Ciudad fue seleccionada debido a su cumplimiento con los protocolos establecidos, los que se diseñaron para garantizar servicios de limpieza cuidadosos, expeditivos y de bajo costo a todas las partes. También tiene derecho a elegir su propia empresa de servicios de limpieza; sin embargo, la Ciudad no garantiza el pago de cargos y/o gastos que incurra y se reserva el derecho a objetar los cargos y/o gastos que considere que no son habituales.

Si desea conversar sobre este tema, comuníquese con el Supervisor de la División de Aguas Residuales al (530) 527-4300. Si desea presentar un reclamo por daños, completar el formulario de reclamación en este paquete. Los Formularios de reclamo que estén completos deben presentarse ante el Gerente de la Ciudad, que se encuentra ubicado en 555 Washington Street, Red Bluff, CA 96080 (530) 527-2605.

Los reclamos presentados contra la Ciudad deben cumplir con las disposiciones de los artículos 910-913.2 del Código del Gobierno de California (*California Government Code Sec. 910-913.2*).

Lo que necesita saber en este momento:

La Ciudad redactó esta breve serie de instrucciones para ayudarlo a minimizar el impacto de la pérdida respondiendo de manera inmediata ante la situación.

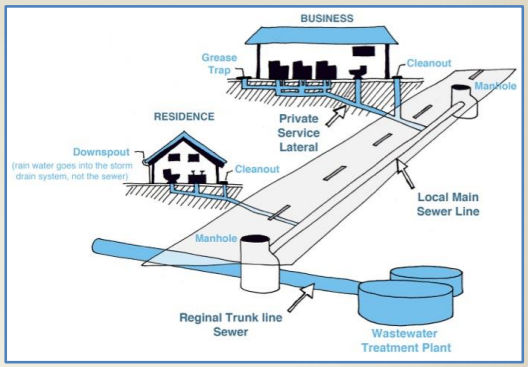
- No intente limpiar la zona usted mismo; permita que la empresa de limpieza y restauración se encargue de esto.
- Mantenga a las personas y a las mascotas alejadas de la(s) zona(s) afectada(s).
- Apague todos los aparatos que utilicen agua.
- Apague los sistemas de calefacción y/o aire acondicionado.
- No quite los elementos que se encuentran en la zona; la empresa de limpieza y restauración se encargará de esto.
- Si recientemente se realizaron obras de plomería, comuníquese con su plomero o servicio de plomería e infórmele sobre este incidente.
- Si tiene pensado presentar un reclamo, hágalo lo antes posible para que éste sea tenido en cuenta.

Aviso legal importante: Para su protección, lea atentamente el material, obtenga una traducción confiable y/o hable con su abogado.

INSERT CLAIM FORM HERE

How a Sewer System Works

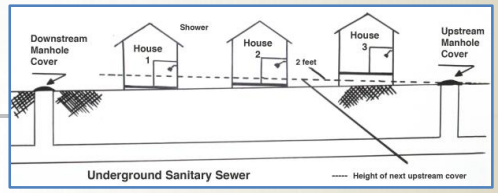
A property owner's sewer pipes are called ***service laterals*** and are connected to larger local main and regional trunk lines.
Service laterals run from the connection at the home to the connection with the public sewer. These laterals are the responsibility of the property owner and must be maintained by the property owner.



Is my home required to have a backflow prevention device?

Section 710.1 of the Uniform Plumbing Code (U.P.C.) states: *"Drainage piping serving fixtures which have flood level rims located below the elevation of the next upstream manhole cover or private sewer serving such drainage piping* ***shall*** *be protected from backflow of sewage by installing an approved type of backwater valve."* The intent of Section 710.1 is to protect the building interior from mainline sewer overflows or surcharges.

Additionally, U.P.C. 710.6 states: *"Backwater valves* ***shall*** *be located where they will be accessible for inspection and repair at all times and, unless continuously exposed, shall be enclosed in a masonry pit fitted with an adequately sized removable cover."*



If you have a sewage spill from your private sewer line that impacts storm drains, waterways or public property, contact:

City of Red Bluff
(530) 527-2605

Tehama County Environmental Health
(530) 527-8020

California Health and Safety Code, Sections 5410-5416 requires:

- No person shall discharge raw or treated sewage or other waste in a manner that results in contamination, pollution, or a nuisance.
- Any person who causes or permits a sewage discharge to any state waters:
  - Must immediately notify the local health agency of the discharge.
  - Shall reimburse the local health agency for services that protect the public's health and safety.
  - Who fails to provide the required notice to the local health agency is guilty of a misdemeanor and shall be punished by a fine (between $500–$1,000) and/or imprisonment for less than one year.

Central Valley
Regional Water Quality Control Board
(530) 224-4845

Requires the prevention, mitigation, response to, and reporting of sewage spills.

California Governor's Office of Emergency Services (CalOES)
(800) 852-7550

California Water Code, Article 4, Chapter 4, Sections 13268-13271 & California Code of Regulations, Title 23, Division 3, Chapter 9.2, Article 2, Sections 2250-2260 require:

- Any person who causes or permits sewage in excess of 1,000 gallons to be discharged to state waters shall immediately notify the Office of Emergency Services.
- Any person who fails to provide the notice required by this section is guilty of a misdemeanor and shall be punished by a fine (less than $20,000) and/or imprisonment for not more than one year.

Sewer Spill Reference Guide

Your Responsibilities as a Private Property Owner

Provided to you by:

City of Red Bluff
Public Works Department
555 Washington Street
Red Bluff, California 96080
(530) 527-2605

www.cityofredbluff.org

How do sewage spills happen?

Sewage spills occur when the wastewater in underground pipes overflows through a manhole, cleanout, or broken pipe. Most spills are relatively small and can be stopped and cleaned up quickly, but left unattended they can cause health hazards, damage to homes and businesses, and threaten the environment, local waterways, and beaches.

CAUTION!

When trying to locate a sewer problem, never open manholes or other public sewer structures. Only our crews are allowed to open & inspect these structures.

Common causes of sewage spills

- Grease build-up
- Tree roots
- Broken/cracked pipes
- Missing or broken cleanout caps
- Undersized sewers
- Groundwater/rainwater entering the sewer system through pipe defects and illegal connections

Prevent most sewage backups with a Backflow Prevention Device

This type of device can help prevent sewage backups into homes and businesses. If you don't already have a Backflow Prevention Device, contact a professional plumber or contractor to install one as soon as possible.

Protect the environment!

If you let sewage from your property discharge to a gutter or storm drain, you may be subject to penalties and/or out-of-pocket costs for clean-up and enforcement efforts. A property owner may be charged for costs incurred by agencies responding to spills from private properties.

What to look for:

Sewage spills can be a very noticeable gushing of water from a manhole or a slow water leak that may take time to be noticed. Don't dismiss unaccounted-for wet areas. Look for:

- Drain backups inside the building.
- Wet ground and/or water leaking around manhole lids onto your street.
- Leaking water from cleanouts or outside drains
- Unusual odorous wet areas: sidewalks, external walls, ground/landscape around a building.

The following are indicators of a possible obstruction in your sewer line:

- Water comes up in floor drains, showers or toilets.
- Toilets, showers or floor drains below ground level drain very slowly.

What to do if there is a spill:

Immediately notify the City. Our crews locate the blockage and determine if it is in the public sewer. If it is, the crew removes the blockage and arranges for cleanup.
If the backup is in your private internal plumbing or in the private service laterals, you are required to immediately:

- Control and minimize the spill by shutting off or not using the water
- Keep sewage out of the storm drain system using sandbags, dirt and/or plastic sheeting
- Call a plumbing professional to clear blockages and make repairs as needed. Look in the yellow pages under "Plumbing Drain & Sewer Cleaning" or "Plumbing Contractors."
- Always notify your sewer/public works department or public sewer district of sewage spills.

Spill cleanup inside the home:

For large clean ups, a professional cleaning firm should be contacted to clean up impacted areas, You can locate local firms by looking in the Yellow Pages under "Water Damage" or "Fire Damage." If you hire a contractor, it is recommended to get estimates from more than one company. Sometimes, homeowner's insurance will pay for the necessary cleaning due to sewer backups. Not all policies have this coverage, so check with your agent.

If you decide to clean up a small spill inside your home, protect yourself from contamination by observing the following safety measures. Those persons whose resistance to infection is compromised should not attempt this type of clean up.

Other Tips:

- Keep children and pets out of the affected area until cleanup has been completed.
- Turn off heating/air conditioning systems
- Wear rubber boots, rubber gloves, and goggles during cleanup of the affected area.
- Discard items that cannot be washed and disinfected (such as: mattresses, rugs, cosmetics, baby toys, etc.)
- Remove and discard drywall and insulation that has been contaminated with sewage or flood waters.
- Thoroughly clean all hard surfaces (such as flooring, concrete, molding, wood and metal furniture, countertops, appliances, sinks and other plumbing fixtures) with hot water and laundry or dish detergent.
- Help the drying process with fans, air conditioning units, and dehumidifiers.
- After completing cleanup, wash your hands with soap and water. Use water that has been boiled for 1 minute (allow the water to cool before washing your hands) OR use water that has been disinfected (solution of 1/8 teaspoon of household bleach per 1 gallon of water). Let it stand for 30 min. If water is cloudy, use ¼ teaspoon of household bleach per 1 gallon of water.
- Wash clothes worn during cleanup in hot water and detergent (wash apart from uncontaminated clothes).
- Wash clothes contaminated with sewage in hot water and detergent. Consider using a Laundromat until your onsite wastewater system has been professionally inspected and serviced.
- Seek immediate attention if you become injured or ill.

Spill cleanup outside the home:

- Keep children and pets out of the affected area until cleanup has been completed.
- Wear rubber boots, rubber gloves, and goggles during cleanup of affected area.
- Clean up sewage solids (fecal material) and place in properly functioning toilet or double bag and place in garbage container.
- On hard surfaces areas such as asphalt or concrete, it is safe to use a 2% bleach solutions, or ½ cup of bleach to 5 gallons of water, but don't allow it to reach a storm drain as the bleach can harm the environment.
- After cleanup, wash hands with soap and water. Use water that has been boiled for 1 minute (allow to cool before washing your hands) OR use water that has been disinfected (solution of 1/8 teaspoon of household bleach per 1 gallon of water). Let it stand for 30 min. If water is cloudy, use ¼ teaspoon of household bleach per 1 gallon of water.
- Wash clothes worn during cleanup in hot water and detergent (wash apart from uncontaminated clothes).
- Wash clothes contaminated with sewage in hot water and detergent. Consider using a Laundromat until your onsite wastewater system has been professionally inspected and serviced.
- Seek immediate attention if you become injured/ill.

DANGER

RAW SEWAGE • AVOID CONTACT

PELIGRO

AGUA CONTAMINADA • EVITE TODO CONTACTO

For more information **Para más información**

City of Red Bluff

(530) 527-2605

City of Red Bluff

On (date) _____, at (location) _____ , we responded to a reported blockage of the sanitary sewer service to your property.

We discovered a blockage in:

- The City sanitary sewer and cleared the line
- Your sanitary sewer lateral, which is your responsibility to maintain.

If you require assistance to clear your portion of the lateral you can look on the Internet or in the Yellow Pages of your telephone book under “Plumbing Contractors” or “Plumbing Drains & Sewer Cleaning”. If you plan to hire a contractor we recommend getting estimates from more than one company.

City of Red Bluff representative notes:

_____

_____

_____

City of Red Bluff Representative:

_____

For questions or comments, please call

City of Red Bluff
(530) 527-2605

City of Red Bluff

On (date) _____, at (location) _____ , we responded to a reported blockage of the sanitary sewer service to your property.

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City of Red Bluff representative notes:

_____

_____

_____

City of Red Bluff Representative:

_____

For questions or comments, please call

City of Red Bluff
(530) 527-2605

Appendix C

FIELD SAMPLING KIT

Field Sampling Kit
Table of Contents

Go to Water Quality Sampling Area and get the following supplies:

- Ice pack
- Ice
- Sample pole
- Latex gloves
- Long rubber gloves
- Safety glasses
- Waterproof Pen (i.e. Sharpie®)
- Chain of Custody form
- Sample Containers
  - Bac-T
  - Ammonia

Field Sampling Kit
Procedures for Sampling Receiving Waters and Posting Warnings after a Sewage Spill

C-1
Side A

Start Here → Get ice pack or ice and place in cooler → Determine point spill entered waterway. Photograph this location (*include a reference point in the photo)* → Remove and begin completing the Surface Water Sampling Worksheet → Determine direction of water movement from point of discharge.

- Collect all samples against the direction of the water flow! (face upstream so any sediment disturbed flows behind and away from you.)
- Collect upstream sample first!
- Collect samples well away from the bank (preferably where water is visibly flowing
- Avoid sampling debris or scum layer from the surface.
- Photograph evidence of dead fish!

SAMPLING STEPS

Determine approximate stream velocity, if applicable, and how long it has been since the SSO flow to the surface water stood, and move downstream the appropriate distance to collect the downstream sample. Move upward to collect the Spill Entry Point sample and keep moving upstream the appropriate distance to collect the Upstream or Reference sample.

Don the PPE from the Sampling Kit. → Label all samples with their location, your name and the date/time collected. Record on this on the Surface Water Sampling Worksheet.

Take photo of each sample location *(include a reference point in the photo)*. Remove the seal from the bacteria sample container (100ml) just prior to collecting your sample.

1. Remove the cap immediately before collecting each sample.
2. Avoid allowing the inside of the cap to touch anything.
3. Holding the bottle in one hand, face upstream and lower the bottle 6" below the water surface. Then sweep the bottle upstream and out of the water. Be careful not to disturb the bottom sediment. Pour a little water out so that bottle is filled to the line. Immediately replace cap.

Open the ammonia-nitrogen sample container and allow water to gently flow into the bottle just below the neck of the jar. NOTE: The ammonia-nitrogen sample bottle contains sulfuric acid – LEAVE THE ACID IN THE BOTTLE AND DO NOT ALLOW IT TO TOUCH YOUR SKIN!

→ Repeat sampling steps (red boxes) to collect downstream and discharge point samples.

→ Place samples in cooler on the ice pack.

→ Complete the Chain of Custody form and the Surface Water Sampling Worksheet

→ Contact the lab and inform them that the following samples require processing: Ammonia-Nitrogen and coliform.

→ Take cooler containing samples and complete Chain of Custody to the lab within 6 hours of collection time.

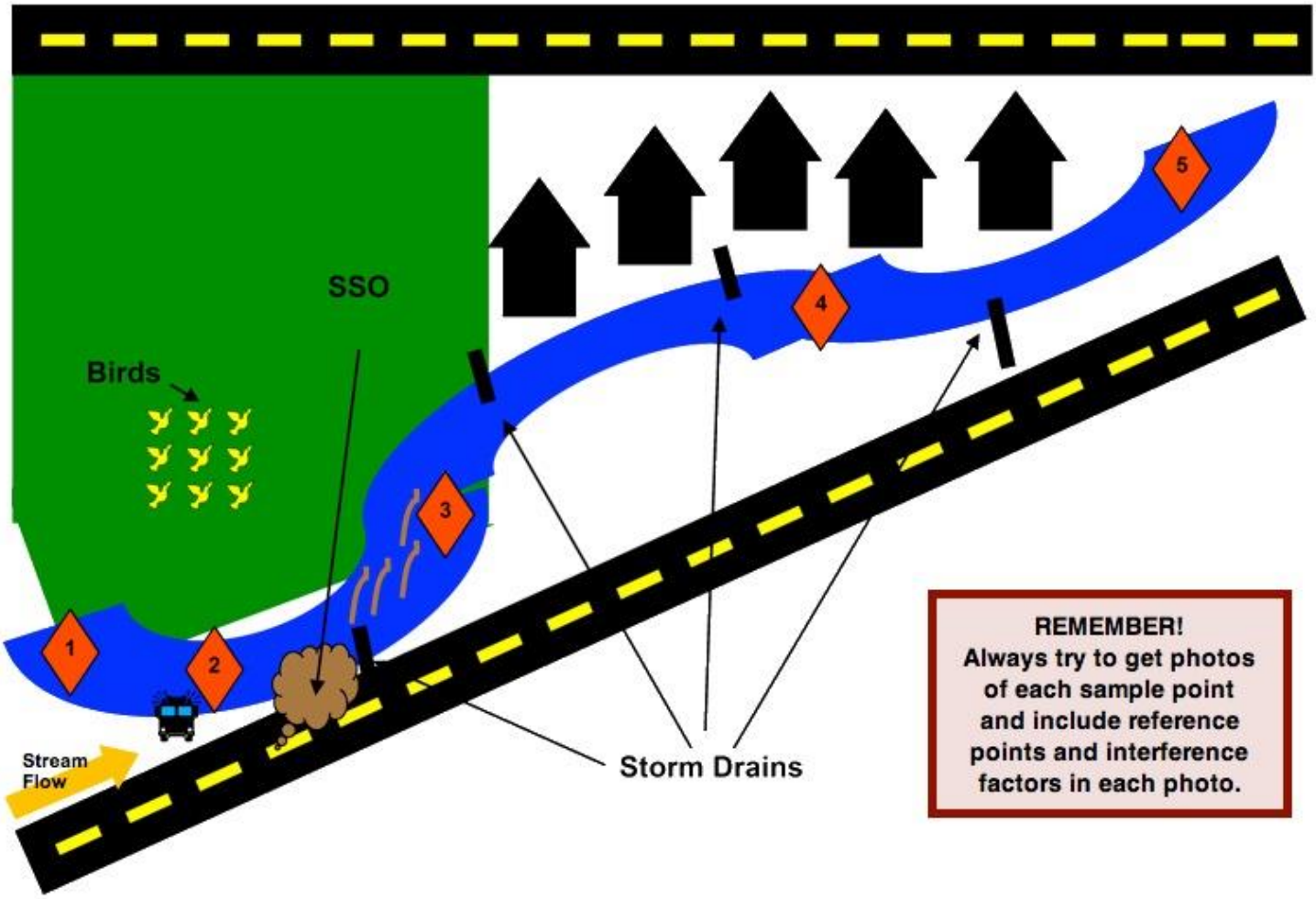
Post warning signs as directed by County Environmental Health or the staff member responsible for signage. Remove warning signs and lift restrictions when authorized by County Environmental Health.

Repeat sampling daily from the time the spill is known until the results of two consecutive sets of samples indicate the return of the normal level or cessation of monitoring is authorized by County Env. Health

Field Sampling Kit
Procedures for Sampling Receiving Waters after a Sewage Spill

C-1
Side B

This example is provided for illustrative purposes *only!* Base each sampling event on the geography, drainage and interference factors (*i.e. birds, animals, runoff, etc.)* of the area impacted. Consult the Wastewater Treatment Plant Laboratory as needed.



1. **Sample Location 1: Baseline Sample, *no* observable interference from birds, animals, runoff, etc**
2. **Sample Location 2: Baseline Sample, *observable* interference from birds, animals, runoff, etc**
   NOTE: Only collect this sample if you observe any possible interfering factors upstream from the spill location
3. **Sample Location 3: Immediately downstream of SSO entry point**
4. **Sample Location 4: Further downstream of SSO entry point – note any possible interfering factors**
5. **Sample Location 5: Further downstream of SSO entry point – note any possible interfering factors**

C-2

Field Sampling Kit
Sample Collection Chain of Custody Record

Customer Name		☐	**Hazardous Waste**	**PO#**	
Customer Address		☐	**Unknown Material**	**WO#**	
Customer Telephone	**Mail Code**		**CONTRACT LAB INFORMATION**	**Turnaround Requirement**	
Program Name			Ship to:	☐ Normal (21 days)	
Lab Program Coordinator	**Phone #**		Ship Date:	☐ Rush: _____	
Sampled By			Courier:	☐ Other:	

LIMS# (Issued by Lab)	SAMPLE COLLECTION INFORMATION						# Containers	Matrix*	Analysis Requested					QA/QC Requirements	
	Date	Time	Type: Composite	Type: Grab	Sample Location	Field pH	Field Temp			Ammonia	Enterococcus				☒ Lab Standard
															☐ Special (see attached)
															Remarks/Notes
			☐	☒	Upstream			2	A	☒	☒	☐	☐	☐	
			☐	☒	Entry Point			2	A	☒	☒	☐	☐	☐	
			☐	☒	Downstream			2	A	☒	☒	☐	☐	☐	
			☐	☐				2		☐	☐	☐	☐	☐	
			☐	☐				2		☐	☐	☐	☐	☐	
			☐	☐				2		☐	☐	☐	☐	☐	
			☐	☐				2		☐	☐	☐	☐	☐	

*Matrix: P = Potable Water, W = Wastewater, A = Ambient Water, G = Groundwater, S = Soil, B = Biosolids, I = Industrial, O = Other (specify in remarks)

Relinquished	Date	Time

Relinquished to	Date	Time

Transport/Shipping Information		
☐ USPS	☐ UPS	☐ FedEx
Tracing #:		
☐ Other:		

Sample Receiving Documentation

Container intact? ☐ Yes ☐ No	Correct container? ☐ Yes ☐ No	Field preserved? ☐ Yes ☐ No	Custody tape intact? ☐ Yes ☐ No
Cooled? ☐ Yes ☐ No	Temp. Blank? ☐ Yes ☐ No (°C)	Comments:	
Sample distribution: ☐ Lab bench ☐ Ice chest ☐ Walk-in cooler shelf #		Disposal Date:	Disposed by: (inits.)
C-O-C Distribution Date: By:	☐ Lab Admin File ☐ Prog/proj Mgr. ☐ Lab Prog. Coord.	☐ Delivery courier	☐ Pick-up courier

Appendix D

CONTRACTOR ORIENTATION

CONTRACTOR ORIENTATION

The following procedures are to be followed in the event that you cause or witness a Sanitary Sewer Overflow.

Contractor causes or witnesses a Sanitary Sewer Overflow

↓

Immediately notify the City
(530) 527-2605

↓

Protect the storm drains
using mats, dikes, berms, etc.

↓

Protect the Public

If the spill is entering an area where public contact may occur, and if it is safe to do so, monitor the location until the City Sewer Crew arrives.

↓

Provide Information

Provide the City Sewer Crew with information about the overflow such as start time, appearance point, suspected cause, weather conditions, etc.

↓

Direct ALL media and public relations requests to the
City Manager at (530) 527-2605

Sanitary Sewer Overflows

How to avoid them and what to do if you don't

What? A sanitary sewer overflow (SSO) is a discharge of untreated human and industrial waste before it reaches the wastewater treatment facility.

Where? SSOs usually occur through manholes, plumbing fixtures and service cleanouts.

Why? SSOs are usually caused by grease, debris, root balls, or personal hygiene products blocking the sewer lines, or by unusually high flow volume.

How to prevent SSOs:

...when clearing plugged sewer laterals:

- Remove root balls, grease blockages and any other debris from the sewer
- If you can't prevent root balls, grease or debris from entering the sewer main, call us at (530) 527-2605, so we can work with you to remove the blockage and prevent blockages further downstream
- Use plenty of water to flush lines

...when constructing or repairing sewer laterals:

- For information about building permit and lateral specification, contact the Building Department at (530) 527-2605.
- Check your work area. Make sure there is no debris left in the sewer line before you backfill.
- Avoid offset joints, which may make sewer lines vulnerable to root intrusion and grease or debris accumulation. Properly bed your joints and don't hammer tap.

If you cause or witness an SSO, immediately contact:

City of Red Bluff

(530) 527-2605

City of Red Bluff

555 Washington Street
Red Bluff, CA 96080

www. cityofredbluff.org

Appendix F: Water Quality Monitoring Plan

City of Red Bluff
Water Quality Monitoring Plan
FINAL 11/05/16

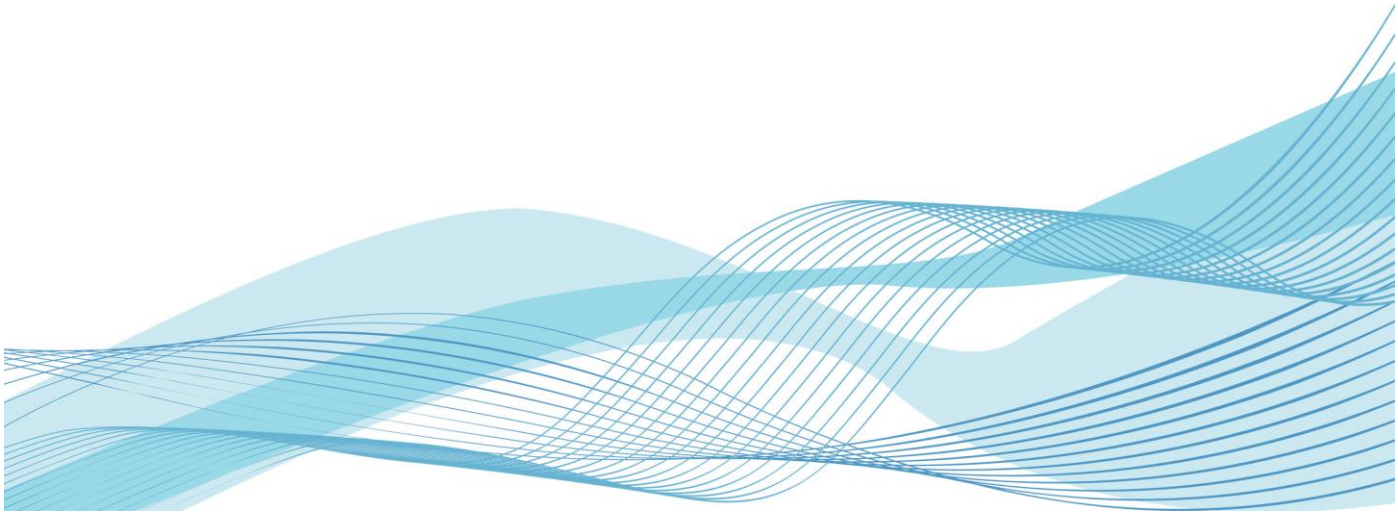


Table of Contents

1. PURPOSE OF PROGRAM PLAN

The purpose of this Water Quality Monitoring Program Plan (WQMP or Plan) is to implement the recent requirements for sampling of sanitary sewer overflows (SSOs) greater than 50,000 gallons that reach surface waters. This plan conforms to the State Water Resources Control Board Waste Discharge Requirements Order No. 2006-0003-DWQ, Section D.7(v) and Monitoring and Reporting Program (MRP) Section D, Water Quality Monitoring Requirements issued by executive order number WQ 2013-0058-EXEC effective on September 9, 2013. This WQMP provides the City of Red Bluff (City) policies and procedures to assure consistent conformance to the regulatory requirements and to establish procedures for City staff and contractors in their responses to large releases of sanitary sewage that reach surface waters. This WQMP is consistent with and supplemental to the City of Red Bluff Overflow Emergency Response Plan, Element VI of its SSMP. Finally, this document will be used to coordinate training for the City's new employees and regular refresher training for existing employees.

Additionally, this Plan is also used as a guideline for monitoring and sampling requirements that may be imposed upon the City from citizen suits under the Clean Water Act (CWA) resulting in settlement agreements, stipulated orders or consent decrees that can require monitoring and sampling of sanitary sewer overflows of any kind or size. This Plan establishes procedures for the identification of sampling locations, protocols for the proper collection of samples, the chain of custody for sample collections, the handling of samples, the reporting and recordkeeping to assure the legal integrity of monitoring for compliance with regulatory requirements. The plan will also establish policies and procedures that will be used to assure proper coordination between the taking and testing of samples, as well as assure that samples taken will satisfy the local regulatory agency's Basin Plan and the unique character of the City's local service area and surface waters.

This Plan is intended to establish protocols for all sampling including when, where and how; establish the required water quality sample analyses that will be conducted; identify the access and safety requirements related to sampling considerations; and identify any local concerns that this monitoring plan should address. In addition, the Plan establishes the requirements for equipment calibration, notification requirements related to an overflow, recordkeeping requirements, staff training issues and requirements for the regular reviews and audits of the WQMP. Finally, all City forms used for water quality monitoring are included and available for use in any SSO incident.

2. DEFINITIONS

The following definitions and acronyms are used in this Program Plan:

BACTERIA	Probaryotic microorganisms typically a few micrometers in length, with shapes from spheres to rods and spirals
CalOES	State of California Office of Emergency Services
CALOSHA	California Division of Occupational Safety and Health
CFR	Code of Federal Regulations
CFS	Cubic feet per second
CIWQS	California Integrated Water Quality System
CSRMA	California Sanitation Risk Management Association

CWA	Clean Water Act
DH2O	Distilled Water
DEET	N,N-Diethyl-meta-toluamide
DOHS	California Department of Health Services
E. Coli	Escherichia coli (bacteria)
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency
Field QC	Field Quality Control
GPM	Gallons per minute
GWDR	General Waste Discharge Requirements or WDR
GIS	Geographic Information System
LIMS	Laboratory Information Management System
LRO	Legally Responsible Official
mg/l	Milligrams per liter
ml	Milliliter
MPN	Most probable number
MRP	Monitoring and Reporting Program
NH3	Ammonia
NH3-N	Ammoniacal Nitrogen
NPDES	National Pollution Discharge and Elimination System
OERP	Overflow Emergency Response Plan
OES	See CalOES
PPE	Personal Protective Equipment
ppm	Parts per million
QA/QC	Quality Assurance/Quality Control
RWQCB	Regional Water Quality Control Board

SOP Standard Operating procedure

SSC Sewer Service Charge

SSMP Sanitary Sewer Management Plan

SSO Sanitary Sewer Overflow

SSO GWDR Sanitary Sewer Overflow General Waste Discharge Requirements

SURFACE WATER
All waters whose surface is naturally exposed to the atmosphere; for example, rivers, lakes, reservoirs, ponds, streams, seas, estuaries, etc., and all springs, wells, or other collectors directly influenced by surface water.

SWRCB State Water Resources Control Board

WQMP Water Quality Monitoring Program Plan

WQ Water Quality

WDR Waste Discharge Requirements

VOC Volatile Organic Compound

3. RESPONSIBILITY

The City shall designate responsibility for all WQMP roles to appropriate classifications in the City's organizational structure to assure conformance of all activities for the monitoring of SSOs greater than 50,000 gallons reaching surface waters (Category 1 SSO), to reduce potential liability, protect public health, and to assure those responsible for this Plan are trained in their roles and responsibilities for the performance of proper protocols. It is further recognized that the proper application of this Plan will assure that all monitoring can withstand regulatory or legal scrutiny of the State, Regional Board, or from the actions of a citizen lawsuit. These roles and responsibilities are intended to be compliant with WDR Sections D.13 (vi), G and Section C.5 and D of the September 9, 2013 MRP.

The following table contains the roles and responsibilities as assigned by the City to individual classifications or service contractors of the City:

Roles and Responsibility	**Responsible Classification**
Provide and document regular training on WQMP for all City classifications that have a role or responsibility in the WQMP and identified herein	Wastewater Division Supervisor
Identification and assessment of potential impacts to local areas with surface waters that may require WQMP (i.e. aerial crossings, creeks, waterways, rivers, bays, estuaries, etc.)	Wastewater Division Supervisor
Certification of calibration of sampling equipment	Wastewater Division Supervisor

Roles and Responsibility	Responsible Classification
and maintenance of calibration records	
Determination of specific sampling protocols and analytic methods to be used for the City -required testing	Wastewater Division Supervisor
Quarterly completion of the monitoring and sampling kit checklist from Appendix E.	Wastewater Division Supervisor or designee
Annual review of all standard operating procedures related to this WQMP especially the Sample Collection procedures	Wastewater Division Supervisor
Decision to invoke a WQMP and direct the monitoring program to conclusion	Wastewater Division Supervisor
Selection of sampling locations	Wastewater Division Supervisor or designee
Coordination of field sampling	Wastewater Division Supervisor or designee
Conduct field sampling per City protocols	Wastewater Division Supervisor or designee
Authorization and direction for placement of public notifications and signage	Wastewater Division Supervisor or designee
Photographs of sampling and signage placed to protect public health and safety	Wastewater Division Supervisor or designee
Preparation of Chain of Custody for all samples taken including proper labeling	Wastewater Division Supervisor or designee
Determination of spill travel time, if applicable.	Wastewater Division Supervisor or designee
Review and evaluate lab results for termination of sampling and to determine the nature and impact of the release	Wastewater Division Supervisor or designee
Decision to terminate sampling	Wastewater Division Supervisor or designee
Preparation of detailed sampling location map	Wastewater Division Supervisor or designee
Conduct sample analysis	Wastewater Treatment Plant Lab
Preparation of water quality sampling activities narrative for Technical Report	Wastewater Division Supervisor
Review and Approval of Technical Report	Wastewater Division Supervisor
Certification and placement of Technical report in the CIWQS spill reporting system.	Wastewater Division Supervisor
Failure Analysis Investigation of all water quality monitoring from the SSO event to determine all necessary changes or modifications to the WQMP	Wastewater Division Supervisor or designee
Audits of the WQMP as required by City SSMP Element 10, Audit.	Wastewater Division Supervisor
Management of Change responsibilities for the WQMP and all associated forms and documents required for use during an incident	Wastewater Division Supervisor

It is recommended that this list of responsibilities be placed on a laminated card and kept in the Monitoring and Sampling Kit for easy access during an SSO sampling incident.

4. AUTHORITY AND REFERENCES

The authority and/or requirements for the monitoring and sampling of sanitary sewer overflows are contained in the following regulations:

1. State Water Resources Control Board Waste Discharge Requirements Order No. 2006-0003-DWQ, Section D.7(v).
2. State Water Resources Control Board Monitoring and Reporting Program (MRP) Sections C.5 D, Executive Order number WQ 2013-0058-EXEC effective September 9, 2013
3. Standard Methods for the Examination of Water and Wastewater, 22nd Edition, American Public Health Organization et al.
4. Clean Water Act Sections 301(a), 304(h), and 501(a).
5. Code of Federal Regulations, Title 40, Part 136.

There are a number of applicable references that are available to assist with the Water Quality Monitoring Program as follows:

A. Basin Plan of the Regional Water Quality Control Board
B. Best Management Practices for Sanitary Sewer Overflow (SSO) Reduction Strategies, Central Valley Clean Water Associates and Bay Area Clean Water Agencies, December 2009
C. City Overflow Emergency Response Plans
D. Field Guide for Surface Water Sample and Data Collection, Air Program, USDA Forest Service, June 2001.
E. Standard Operating Procedures for Surface Water Quality Sampling, Arizona Department of Environmental Quality, Surface Water Section, September 2012.
F. Surface Water Sampling_AF.R3, Document Number SESDPROC-201-R3, Region 4, Environmental Protection Agency, Science and Ecosystem Support Division, Athens, Georgia, February 28, 2013.

5. IDENTIFICATION OF LOCAL SURFACE WATERS AND CHARACTERISTICS

An important element of any water quality monitoring program is the proper and thorough understanding of the service area and the various challenges the geography and sanitary sewer infrastructure of the service area present for the potential of wastewater reaching surface waters or storm water facilities. By evaluating the areas of concern in a service area such as lakes, rivers, dry creeks, aerial pipeline crossings over water ways and all storm water related infrastructure, the City can be better prepared to timely respond to any SSO reaching surface waters and to minimize the impacts of an SSO in or around local surface waters and storm water infrastructure.

A. Surface Waters of Concern

For the purposes of this Plan, surface waters are defined as all waters whose surface is naturally exposed to the atmosphere, for example, rivers, lakes, reservoirs, ponds, streams, seas, estuaries, etc., and all springs, wells, or other collectors directly influenced by surface water. In addition, the City will also identify and evaluate areas where collection system pipelines and force mains cross over or under waterways as these crossings can require additional resources and equipment to properly address any SSO from these collection system assets.

Surface waters of concern are those surface waters with the City's service area that may be impacted by a sanitary sewer overflow from the City's sanitary sewer collection system. Prior planning, review and evaluation of potential failure mechanisms can help minimize any potential impacts to surface waters or storm water infrastructure when and if the WQMP must be invoked.

Any review of these important areas of potential surface water contamination in advance of an SSO should allow the City to be better prepared to respond to an SSO with the proper equipment

and a better understanding of the procedures that may need to be invoked during the SSO such as flow rate of a creek or stream, and potential areas of significant environmental concern such as shell fish beds or fish habitats. In addition, having all storm water infrastructure located on the collection system field maps will help the City's responders quickly determine if SSOs may flow into storm drains reach and impact surface waters.

The following are the surface waters of concern within the City's jurisdiction:

- Sacramento River
- East Sand Slough
- Red Bank Creek
- Reeds Creek
- Brickyard Creek
- Brewery Creek
- Grasshopper Creek

6. LAB SELECTION

A. Analytical Lab

Samples collected for SSO response and background monitoring purposes pursuant to Section 5.0 will be analyzed at City of Red Bluff Wastewater Treatment Plant Lab. This lab is accredited through California's Department of Public Health Environmental Laboratory Accreditation Program (ELAP). ELAP provides evaluation and accreditation of environmental testing laboratories to ensure the quality of analytical data used for regulatory purposes to meet the requirements of the State's drinking water, wastewater, shellfish, food, and hazardous waste programs. The State agencies that monitor the environment use the analytical data from these accredited labs. The ELAP-accredited laboratories have demonstrated capability to analyze environmental samples using approved methods.

B. Getting Samples to the Lab

At all times, sample hold times identified below will be observed in accordance with Section 7.0. Once samples are collected, they will be transported to the City of Red Bluff Wastewater Treatment Plant Lab.

7. SAMPLING PARAMETERS

A. Required Sampling Parameters

The RWQCB Basin Plan and/or NPDES permit set the water quality standards against which one can judge the levels of impacts of an SSO on surface waters.

In accordance with the SWRCB Revised MRP WQ 2013-0058, the following parameters will be sampled:

1. Ammonia

   Ammonia-N, is a key indicator of the extent of the gross pollution of the receiving water from a SSO. Untreated wastewater or partially-treated wastewater is generally high in ammonia-N (typical 20-30 mg/L). In comparison the natural background concentration in the surface water is low, typically, less than 0.5 mg/L. Therefore, the elevated concentration of ammonia of the surface water downstream or at the site of the SSO, as compared to that upstream of the site is a reasonable indication of the extent of gross contamination from the SSO.

2. Bacteriological Indicator as specified in the local Basin Plan

Total coliform, fecal coliform and enterococci count are indicators of potential public health impacts of an SSO on the receiving waters. If the concentrations of these groups of bacteria are elevated above and beyond the natural background and/or above the RWQCB Basin Plan Water Quality Standards (objective), public notification and posting may be necessary.

It should be noted that there may be non-SSO-related causes of elevated bacteria in surface water, for example, animal sources or storm drain discharge. The upstream and/or other samples may reflect the extent of bacterial contamination from these other sources. Sometimes the extent of the SSO may be indistinguishable from the other natural sources beyond the City's control. This is particularly true when taking Source samples based on an estimated downstream location of the SSO plume (reference Section 7F).

Generally, if the concentrations of these groups of bacteria at the downstream or at the site of impact are within the range of the non-impacted site (i.e. upstream) or levels indicated in historical background monitoring levels, the water quality impacts of the SSO are considered insignificant.

The surface water quality objectives of these groups of bacteria are shown in Table 7.1.

Table 7.1: Water Quality Objectives for Coliform Bacteria[a]

Beneficial Use	Fecal Coliform (MPN/100ml)	Total Coliform (MPN/100ml)
Water Contact Recreation	Geometric mean < 200 90th percentile < 400	Median < 240 No sample > 10,000
Non-contact Water Recreation[d]	Mean < 2000 90th percentile < 4000	
Municipal Supply: • Surface Water[c] • Groundwater	Geometric Mean < 20	Geometric Mean < 100 < 1.1[e]

NOTES:

a. Based on a minimum of five consecutive samples equally spaced over a 30-day period.

b. Based on a five-tube decimal dilution test or 300 MPN/100ml when a three-tube decimal dilution test is used.

c. Source: Report of the Committee on Water Quality Criteria, National Technical Advisory Committee, 1968.

d. Based on multiple tube fermentation technique; equivalent test results based on other analytical techniques, as specified in the National Primary Drinking Water Regulation, 40 CFR, Part 1421.21 (f), revised June 10, 1992, are acceptable.

Source: Central Valley Region Basin (Region 5R) Water Quality Control Plan (Basin Plan) April 2016

B. Sampling Parameters for City of Red Bluff

1. Ammonia

- Discussion: See Section 7A
- Sample Container: Plastic/glass
- Sample Type: Grab
- Sample Volume Required: 200 ml. minimum
- Hold Time: 28 days
- Preservative: Sulfuric acid
- Analytical Method: Method 4500-XX R and C, Standard Methods for the Examination of Water or Wastewater, 21st Edition

2. Total Coliform/Fecal
   - Discussion: See Section 7A.2
   - Sample Container: Plastic (sterile)
   - Sample Type: Grab
   - Sample Volume Required: 100 ml. minimum
   - Hold Time: 8 hours
   - Preservative: None if waters are not chlorinated
   - Analytical Method: Method 9221 B, C and E, Standard Methods for the Examination of Water or Wastewater, 21st Edition

8. SAMPLING EQUIPMENT AND CALIBRATION

A. Sampling Equipment Used at the City of Red Bluff

The following are the sampling equipment used by the City

- Sampling pole with fixed container
- Sampling pole with removable container
- Sampling pail and rope
- Stream velocity meter
- Grab-n-Go Sample Kit containing:
  - Ice pack
  - Waterproof pen
  - Sample labels
  - Camera
  - Sample bottles
  - Etc.

9. Sampling Procedures

A. Sample Location and Identification Procedures:

Samples will be collected by the City Sewer Crew. The most precise and accurate analytical measurements are worthless and even detrimental if performed on a sample that was improperly collected and stored, or was contaminated in the process. The purpose of sampling and analysis is to provide data that can be used to interpret the quality or condition of the water under investigation.

Unfortunately, water quality characteristics are not spatially or temporally uniform from one effluent to another. A sampling program must recognize such variations and provide a basis for compensations for their effects. The sample must be:

1. Representative of the material being examined;
2. Uncontaminated by the sampling technique or container;

3. Of adequate size for all laboratory examinations;
4. Properly and completely identified;
5. Properly preserved, and
6. Delivered and analyzed within established holding times.

These six requirements are absolutely necessary for a proper assessment of water quality.

It is impossible to establish hard and fast rules concerning sampling locations. However, the following general guidelines should be applied whenever City personnel conduct surface water sampling:

1. The sampling location should be far enough upstream or downstream of confluences or point sources so that the surface water and SSO volume is well mixed. Natural turbulence can be used to provide a good mixture.
2. Samples should be collected at a location where the velocity is sufficient to prevent deposition of solids, and to the extent practical, should be in straight reach having uniform flow. All flow in the reach should be represented, so divided flow areas should be avoided and samples should be taken towards the middle of the reach where feasible.
3. Sampler must always stand downstream of the collection vessel, and sample "into the current". Care must be taken to avoid introducing re-suspended sediment into the sample.

B. Sample Types:

Grab samples are appropriate for the characterization of surface waters at a particular time and place, to provide information about minimum and maximum concentrations, to allow for the collection of variable sample volume.

Grab samples may be collected directly into the sample container, or a clean decontaminated intermediate container may be used if a wading sample is not possible or safe. If an intermediate container is used, when in the field, double rinse the sampling device (bucket, automatic sampler) with sample water prior to collecting the sample and be sure to discard rinse water downstream of where sample will be collected. If samples are collected in a bucket and distributed a consolidation collection container, swirl the contents of the bucket as it is being poured into the consolidation collection container to avoid settling of solids (and pour in back and forth pattern – *e.g.*, 1-2-3-3-2-1).

Grab Sample: A grab sample is defined as an individual sample collected at a given time. Grab samples represent only the condition that exists at the time the sample is collected (US EPA 1977).

Surface Grab Sample: A sample collected at the water surface (i.e. skimming) directly into the sample container or into an intermediate container such as a clean bucket. A single or discrete sample collected at a single location.

Field Blanks are used to evaluate the potential for contamination of a sample by site contaminants from a source not associated with the sample collected (e.g., airborne dust, etc.). Sterile, deionized water is taken into the field in a sealed container. This is the stock

water. The stock water is then poured into the sample container. The containers and sample submission forms are labeled as "Field Blank". The same template selected for the test samples should be used. Field blanks are subject to the same holding time limitations as samples. The appropriate FIELD QC box on the sample Chain of Custody form should be checked.

C. Decontamination Procedures

Removing or neutralizing contaminants from sampling equipment minimizes the likelihood of sample cross contamination, reduces or eliminates transfer of contaminants to clean areas, and prevents the mixing of incompatible substances.

Gross contamination can be removed by physical decontamination procedures. These abrasive and non-abrasive methods include the use of brushes, air and wet blasting, and high and low pressure water cleaning.

The decontamination procedures for the sample types and sampling equipment (other than sample bottles, which are provided to Sewer Staff in a "ready to be used" condition by the lab) used at the City of Red Bluff may be summarized as follows:

1. Physical removal
2. Tap water rinse
4. Air dry

D. Sample Labeling and Chain of Custody Procedures

A sample is a physical evidence of a facility or the environment. An essential part of all enforcement investigations is that evidence gathered be properly documented. To accomplish this, the following sample identification and chain of custody procedures are established.

1. The method of sample identification depends on the type of measurement or analyses performed. When in-situ measurements are made, the data are recorded directly in Field Data Worksheets with identifying information, field observations, and remarks. Examples of in-situ measurements are:
    - pH
    - Temperature
    - Dissolved Oxygen
    - Stream Flow Measurement

    Samples other than in situ measurements must be identified by a sample label. These samples are removed from the sample location and transported to a laboratory for analyses. Before removal, however, a sample is often separated into portions depending upon the analyses to be performed. Each portion is preserved in accordance with applicable procedures and each sample container is identified by a sample label.

2. At a minimum, the following grab samples will be collected, in duplicate:
    - Field Blank: See Section 9.B for discussion.

- Upstream: This sample will be collected far enough upstream of the SSO's point of entry into the surface water as to be free of contaminants from the SSO. Typically, 50-feet is sufficient, but this may vary on circumstances of the spill.
- Source: Immediate vicinity where the SSO entered the surface water. This point will actually be downstream of the actual SSO entry point for SSO's that have stopped entering the surface water to be sampled. If the SSO has stopped, calculate the approximate downstream distance from the original SSO location by dividing the time since the SSO occurred by the estimated velocity. This is the approximate downstream distance from the SSO discharge point to the "source" sampling location.
    - See Section 9.F for information on determining velocity of the surface water in order to determine the Source sample location.
- "Downstream" of SSO: This sample will be collected far enough downstream to be representative of the water quality of the surface water after adequate mixing of the surface water and the SSO have occurred. Typically, this location will be 50-feet downstream of the Source sample, but this may vary on the size and velocity of the surface water to be sampled.

3. Sample labels shall be completed for each sample, using waterproof ink. The information recorded on the sample tag/label includes:
    - Date: a six digit number indicating the year, month, day of collection
    - Time: a four-digit number indicating military time of collection (e.g., 0954)
    - Sample Location: sampling location description as either Upstream, Source, or Downstream
    - Samplers: each sampler is identified
    - Parameter/preservative: the analysis to be conducted for the sample /sample preservation
4. Photos or video of each sample location will be taken, properly labeled with date, time, and view direction and a map of the photo locations completed. Photos and videos shall include relevant landmarks to identify sampling locations and their surroundings.

    Due to the evidentiary nature of samples collected during enforcement investigations, possession must be traceable from the time the samples are collected until they are analyzed. To maintain and document sample possession, a Surface Water Sample Chain of Custody Record (Attachment C) must be completed. A sample is under custody if:
    - It is in your possession, or
    - It is in your view, after being in your possession, or
    - It was in your possession and under your control to prevent tampering, or
    - It is in a designated secure area.
5. As few people as possible should handle samples. The person taking the samples is personally responsible for the care and custody of the samples collected until they are transferred or dispatched properly.
6. Samples are accompanied by a chain of custody record. When transferring the possession of samples, the individuals relinquishing and receiving will sign, date, and note the time on the record. This record documents sample custody transfer from the

sampler, often through another person, to the analyst at the laboratory. The samples are typically transferred to the sample-receiving custodian at the laboratory.

E. Safety Considerations

Personal safety of staff engaged in any fieldwork activity (e.g., in transit, walking or hiking, and any field activities while at the sample site) is of primary importance. Staff should never place themselves in dangerous or risky situations. Any hazards that are known by field personnel should be communicated to other members of the field crew.

Fieldwork should be postponed if there is indication that engagement in the field activity could cause bodily harm. Working during lightning storms, in heavy vegetation or poison oak, near aggressive wildlife or domestic animals, traversing steep or rugged terrain, unstable slopes or creek banks, near swiftly moving water or potential flash flood conditions, or during snowy weather is not considered "normal risk". If any member of the field crew is uncomfortable with a reasonable self-determined hazardous field condition, it is that person's responsibility to bring this to the attention of the on site field supervisor or their supervisor. A "reasonable self-determined hazardous field condition" is defined as other than normal risk. Supervisors shall not dismiss any person's spoken concerns that field conditions are too hazardous to complete the work assignment.

The person taking the samples must have adequate protection, including protective clothing. They must wear gloves, as protection against chemical and/or bacteriological hazards, while they are sampling or handling samples that are known or suspected to be hazardous (e.g. visible solids or sheens, downstream from sewage spills, etc.), or if hands have open wounds. The type of gloves worn shall be determined by the sampling circumstance and type of pollutants expected – for instance longer gloves are needed when samples must be taken well below the surface.

When in a boat or wading in a stream, a personal floatation device shall be worn at all times. Other protective measures shall be taken in accordance with City safety procedures.

Upon arrival at a sampling site, safety equipment such as signs, cones, lights, etc. shall be set out as appropriate. Vehicles shall be parked in locations and directions to minimize traffic disruption and avoid sample contamination. Photos should be ultimately taken of the placement of all safety equipment and signage

The following guidelines apply to all fieldwork by City staff.

- No sample or measurement is worth the risk of injury.
- All staff shall use proper personnel protective gear as appropriate for the incident (e.g., life preservers, gloves, goggles, etc.)
- Field sampling crews should consist of at least two members unless otherwise approved by a supervisor.
- Be conscious of the whereabouts of rattlesnakes, mountain lions, and other dangerous animals.
- Open body wounds are entry sites for infection; take the necessary precautions for self-protection.
- If there is storm activity in the work area, wait for safer conditions to develop or postpone the sampling.

- Do not sample at night without approval from your supervisor.
- Do not trespass on private property, or posted restricted public lands without prior permission and written approval from property owner or administrator.
- If strange or suspicious looking people are in the work area, either wait for them to leave or postpone the work to a later time. Do not force confrontations with strangers and back away from any confrontations with the public. Be courteous and understanding of public concerns of the situation.
- Take the necessary precautions against exposure to harmful weather conditions such as heat, wind, snow, cold, rain, etc.
- Carefully evaluate a given on-site situation to determine if the task can be performed safely.
- Wear protective footwear when entering streams.
- Do not enter the stream if the water is flowing too fast.

F. Stream Velocity Measurements

If sampling is performed after the SSO has stopped, the velocity of the impacted surface water must be determined in order to estimate SSO travel time and select an accurate Source sample location. One way to measure the SSO travel time is to use a velocity probe (such as a Global Water FP111-S Flow Probe) to determine the rate of flow in the water body. In cases where a water velocity probe is used, the manufacturer's instructions will be followed.

G. Grab-n-Go Sampling Kit

The City maintains a Grab-n-Go sampling kit located at Corp Yard. The kit is inspected quarterly by the Wastewater Division Supervisor or designee. Additionally, any City of Red Bluff employee utilizing the kit is responsible for decontaminating sampling equipment and field monitoring devices and replenishing the kit.

SSO Sample Collection Kit Inventory:

- Cooler
- Surface Water Sampling SOP (Attachment B)
- Ice Pack
- 5 Ammonia sample bottles, preserved (3 for samples, 1 for Field Blanks and 1 extra in the event of contamination, spillage of the preservative or other contingency)
- 8 Coliform sample bottles (6 for samples (3 sets of duplicates), 1 for Field Blanks and 1 extra in the event of contamination, or other contingency)
- Digital camera, with extra batteries
- Latex gloves
- Safety glasses/goggles
- Surface Water Sampling Worksheet (Attachment D)

- Sampling Pole
- Waterproof Pen
- Minimum of 20 blank sample bottle labels
- Chain of Custody form (Attachment C)
- Velocity meter

H. Surface Water Maps

Maps of surface waters in the City of Red Bluff service area that may be impacted by an SSO are located in Attachment F.

I. Follow Up Sampling

1. Sampling will be repeated every 24 hours, or as directed by the RWQCB or the Tahama Environmental Health Department, until such time as one of the following criteria have been met:
   - The Tehama Environmental Health Department or the RWQCB indicates follow up sampling is no longer required, or
   - Both the ammonia and bacteria levels downstream are approximately equal to or less than the upstream levels; or
   - The concentration of ammonia is at or below that of the upstream sample, or the un-ionized ammonia is below *0.16 mg/L as N*; and the concentration of fecal bacteria levels are below the applicable acute water quality objective listed in the table below, which was excerpted from the Basin Plan.

Table 9.1 Basin Plan

Beneficial Use	Fecal Coliform (MPN/100mL)	Total Coliform (MPN/100mL)	Enterococcus Bacteria (MPN/100mL)	E. coli (MPN/100mL)
			Fresh Water	Fresh Water
Water Contact Recreation	90th percentile < 400	no sample > 10,000	Max at 89	Max at 298
Non-contact Water Recreation	90th percentile < 4,000	--	--	--

J. Surface Water Sampling SOP

The Surface Water Sampling SOP, Attachment B, provides step-by-step procedures to collect samples and deliver them for analysis in accordance with Sections 6, 7 and 9.

10. NOTIFICATIONS OF REGULATORY AGENCIES

Regulatory notification requirements are located in the City of Red Bluff Sanitary Sewer Overflow Emergency Response Plan section 11.0 (effective 9/2016).

11. TECHNICAL REPORT

The MRP requires that in the event of a 50,000 gal or greater overflow spilled to surface waters, the City must prepare and submit an SSO Technical Report that includes a description of all water quality sampling activities conducted, a location map of all water quality sampling points, and the analytical results and evaluation of the results, pursuant to Section B.5 of the MRP. In

addition, this report must be submitted to the CIWQS Online SSO Database within 45 days of the end of the SSO and must be certified by the City's Legally Responsible Official.

12. RECORDKEEPING

All sampling related records associated with this WQMP should be contained in the appropriate SSO Incident file designated with a specific locator record number. These records shall include at least the following documents related to the WQMP:

- A narrative description of water quality sampling activities associated with the event.
- Timeline of the sampling activities until sampling is terminated.
- All surface water sampling worksheets.
- Computations of spill travel time in surface waters, if appropriate.
- Chain of Custody for all samples.
- Sampling Map of all sample locations.
- All photos or video showing sampling activities.
- Final analytical results from the certified laboratory conducting the sample analysis along with an Agency evaluation of the results to determine the nature and impact of the release.
- Failure analysis reviews of the WQMP including recommendations for changes and modifications.
- Calibration records for specific equipment used in the sampling processes.
- Notification documentation for all public and private agencies involved with or requiring monitoring related to final sample results.

The City shall maintain all records including records from service contractors associated with this WQMP as part of the file records for an SSO as required by the WDR and MRP. These records shall be maintained for a minimum period of five-years from the end date of the SSO unless required by regulatory enforcement action, request of the State or Regional Board or as support for claims litigation resulting from the SSO. All records associated with the SSO shall be destroyed upon reaching the end of the file retention period or as otherwise required by the Regional or State Board.

Samples of all City forms and records used in this WQMP are included as attachments.

13. TRAINING

Training will be provided in accordance with Table 13.1.

Table 13.1 City of Red Bluff surface water sampling training program	
Who Is Trained To Collect Surface Water Samples?	Sewer Crew
Training Curriculum	at a minimum, training shall include: • The City of Red Bluff Water Quality Monitoring Plan • Sampling technique, including hands on practice • Sampling equipment calibration, use and decontamination procedures, including hands on practice • Sampling safety

	• Completion of the Sampling Equipment Calibration/Maintenance Log, Surface Water Sampling Report and Chain of Custody
Training Documentation	Attendees shall be required to sign-in to all training on the appropriate forms used by AGENCY.
Refresher Training Frequency	Annual
Who is Responsible for Ensuring Training Occurs?	Wastewater Division Supervisor
Required Training Records	Employee training sign in log
Who is Responsible for Maintaining Records?	Wastewater Division Supervisor

14. INTERNAL REVIEW AND UPDATE OF THE WQMP

The WQMP is a requirement of the WDR and MRP regulations and therefore the WQMP must be adopted by the City governing board when completed and thereafter at the same time as the new adoption of the SSMP every five years or when major changes to the SSMP are required. Internal reviews of the WQMP should be conducted at a minimum with City SSMP audits or with a failure analysis following a SSO event requiring the use of this WQMP. This latter evaluation should be used to determine if any procedures or program changes would improve the WQMP.

The internal review of the WQMP must include a thorough review of the then existing WQMP against actual performance by the agency staff and testing laboratory during and after the event. All documents associated with the water quality sampling should be reviewed and included in the SSO file and compared to the requirements in this Plan. Particular attention should be given to all dates and times associated with the monitoring, proper tests in support of the Regional Board Basin Plan, proper completion of the Chain of Custody, equipment calibration documentation of all equipment used for sampling and available photographs or video of the sampling processes, review and sign-offs by all responsible parties, review of the sampling locations map, final lab results and the certification report that the Technical Report was submitted within 45 calendar days of the end of the SSO to the CIWQS system.

In addition, the City should also conduct regular reviews of the WQMP at least annually or along with the bi-annual SSMP Audit required by the WDR. The review should be undertaken to determine that all information in the Program is current, that all classification responsibilities have not changed, that all forms are still appropriate and that all contract relationships with testing laboratories, if not associated with the agency, are still current and available 24 hours per day and 7 days per week. The review should also include a review of the Regional Board Basin Plan to assure continuing conformance with the Basin Plan.

This internal review should be conducted by senior management of the collection systems personnel, laboratory management and any outside contract laboratory services subsequent to any event or once per year if the WQMP has not had to be invoked during the preceding year.

Finally, a schedule and assignment of responsibility for completion of the recommended changes should be prepared along with additions to the SSMP Change Log for these changes and modifications of the WQMP.

CHANGE LOG

The new MRP, Section E.3 requires that all changes to the Sanitary Sewer Management Plan be recorded and documented using an SSMP Change Log indicating what section is being change,

a description of the changes, and the person or persons authorizing the changes. Because the WQMP is required by the WDR and MRP, it is also necessary that changes to the WQMP be included in the documentation of changes to the SSMP. Any changes resulting from Section 14 above should be added to the Change Log of the SSMP upon implementation and adoption of the changes as required by the WDR.

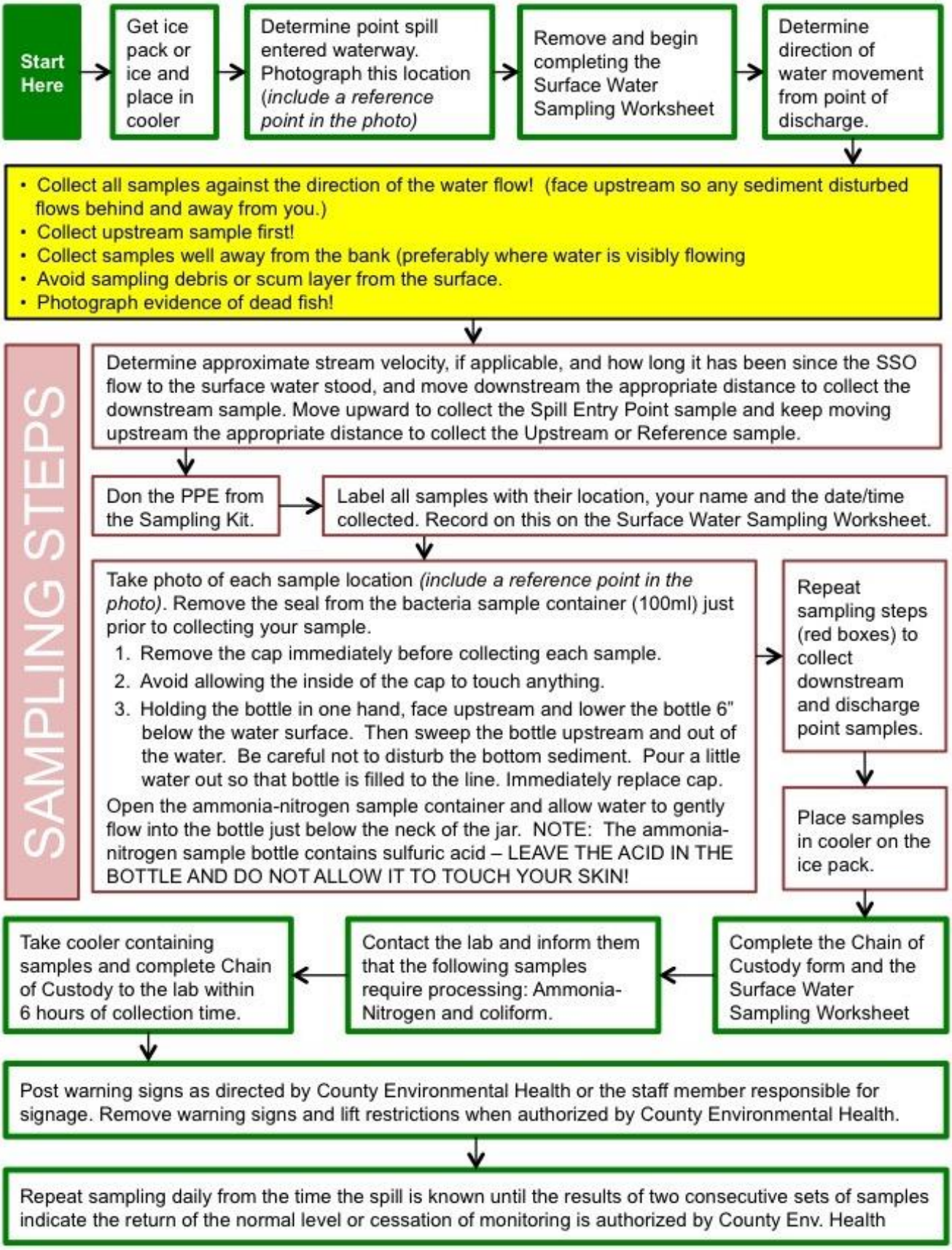
ATTACHMENT A
Water Quality Monitoring Plan Change Log

Water Quality Monitoring Plan Change Log

Date	Section(s) Changed	Summary of Change	Approved (signature)

ATTACHMENT B
Surface Water Sampling SOP

Surface Water Sampling Standard Operating Procedure



ATTACHMENT C
Sample Collection Chain of Custody Record

City of Red Bluff Water Quality Monitoring Program Plan

Surface Water Sample Collection Chain of Custody Record

Customer Name		☐	**Hazardous Waste**	**PO#**	
Customer Address		☐	**Unknown Material**	**WO#**	
Customer Telephone	**Mail Code**		**CONTRACT LAB INFORMATION**	**Turnaround Requirement**	
Program Name			Ship to:	☐ Normal (21 days)	
Lab Program Coordinator	**Phone #**		Ship Date:	☐ Rush: _____	
Sampled By			Courier:	☐ Other:	

	SAMPLE COLLECTION INFORMATION								**Analysis Requested**					**QA/QC Requirements**	
LIMS# (Issued by Lab)	**Date**	**Time**	**Type** Composite	**Type** Grab	**Sample Location**	**Sample Label ID**	**# Containers**	**Matrix***	Ammonia	Total and Fecal Coliform				☒ Lab Standard ☐ Special (see attached)	**Remarks/Notes**
			☐	☒	Upstream		2	A	☒	☒	☐	☐	☐		
			☐	☒	Entry Point		2	A	☒	☒	☐	☐	☐		
			☐	☒	Downstream		2	A	☒	☒	☐	☐	☐		
			☐	☐			2		☐	☐	☐	☐	☐		

*Matrix: P = Potable Water, W = Wastewater, A = Ambient Water, G = Groundwater, S = Soil, B = Biosolids, I = Industrial, O = Other (specify in remarks)

Relinquished	**Date**	**Time**

Relinquished to	**Date**	**Time**

Transport/Shipping Information		
☐ USPS	☐ UPS	☐ FedEx
Tracing #:		
☐ Other:		

Sample Receiving Documentation

Container intact? ☐ Yes ☐ No	Correct container? ☐ Yes ☐ No	Field preserved? ☐ Yes ☐ No	Custody tape intact? ☐ Yes ☐ No
Cooled? ☐ Yes ☐ No	Temp. Blank? ☐ Yes ☐ No (°C)	Comments:	
Sample distribution: ☐ Lab bench ☐ Ice chest ☐ Walk-in cooler shelf #		Disposal Date:	Disposed by: (inits.)
C-O-C Distribution Date: By:	☐ Lab Admin File	☐ Prog/proj Mgr. ☐ Lab Prog. Coord.	☐ Delivery courier ☐ Pick-up courier

ATTACHMENT D
Surface Water Sampling Worksheet

Sample Date:	Sample Time: ☐AM ☐PM	Sample Location:
Sampler(s)' Name(s):		
Sampler(s)' Signature(s):		

What is being sampled?
☐Stream ☐Pond ☐Lake ☐River
☐Other:

Weather at time of sampling: ☐Sunny
☐Overcast
☐Sprinkling ☐Raining ☐Snowing

Was the SSO actively entering the surface water during Sampling? ☐YES ☐NO
If no, complete A-D in the gray box to the right ➔

If the SSO was not actively entering the surface water during sampling:

A. Stream Velocity: _____CFS
B. How Long Has the SSO ***NOT*** Been Entering the Surface Water?
_____ minutes X 60sec/min = _ seconds
C. How Far Downstream Did You Travel To Collect The SOURCE Sample?
(A X C = Feet): _____ feet
D. Explain why you travelled a different distance, if you did, to collect the source sample:

Sample Location	# of Samples*	Photo ID# of Sample Location	Visual Observations and/or Interferences
Upstream			
Source			
Downstream			
Field Blank			

* Minimum of 2 per location

FINISH CHECKLIST	NOTES / OBSERVATIONS
☐ **All Samples Labeled with:** ☐ Date: a six-digit number indicating the year, month, day of collection ☐ Time: a four-digit number indicating military time of collection. e.g. 0954 ☐ Sample Location: Upstream, Source, or Downstream ☐ Samplers: each sampler is identified ☐ Parameter/preservative: analysis to be conducted for sample/sample preservation ☐ **Chain of Custody Completed** ☐ **Samples on Ice in Cooler** ☐ **Pictures Taken of Each Sample Location and the Photo ID/# Noted Above** ☐ **All Sampling Equipment Collected**	

ATTACHMENT E
Technical Report

Technical Report
Outline

1. Introduction
   Agency/system description

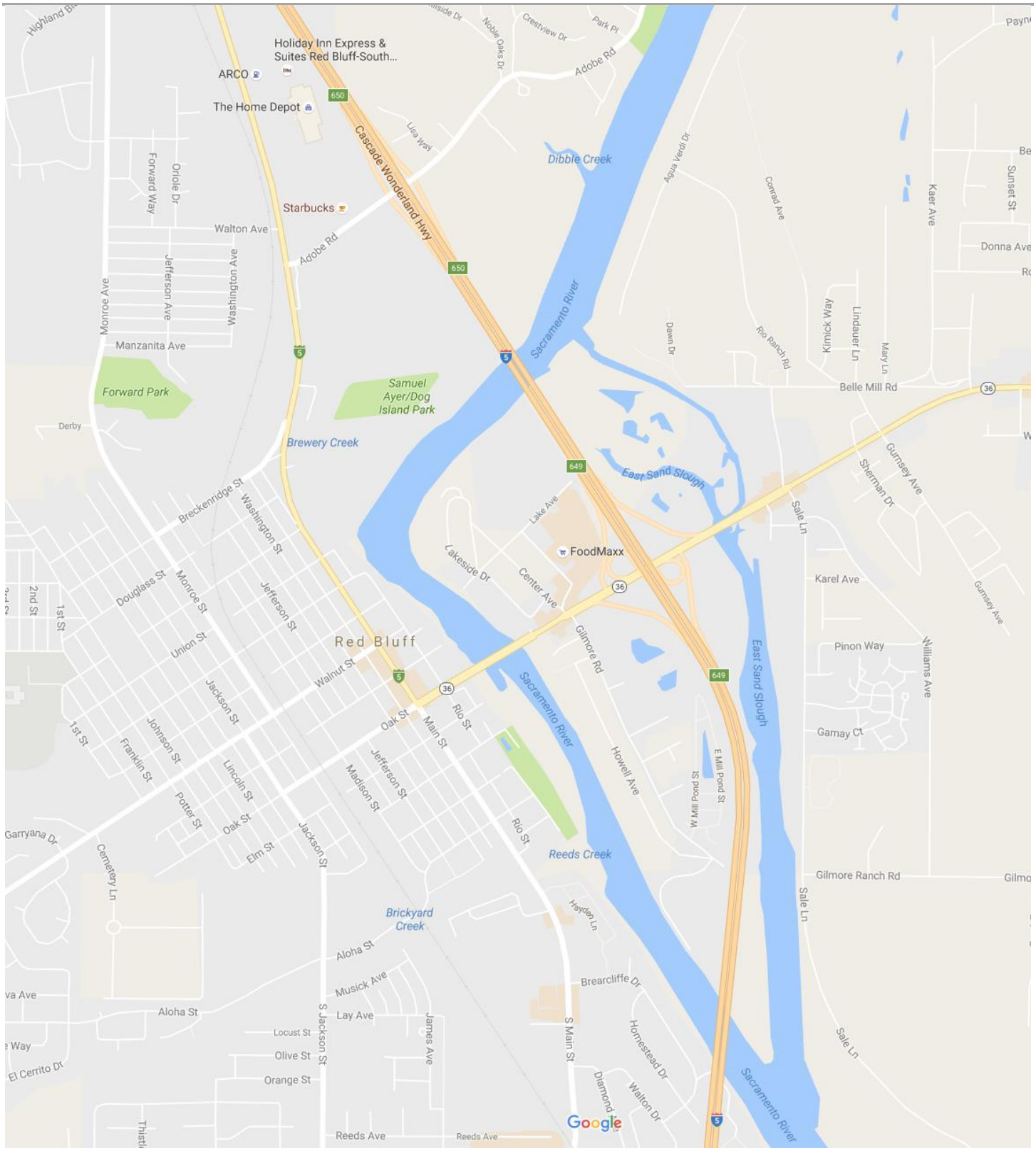
2. SSO Technical Report - Contents and Responses
   a. Causes and Circumstances of the SSO
      i. Detailed explanation of how and when SSO was discovered
      ii. Diagram indicating SSO "Cause point", appearance point, and final destination (use attachments, maps and diagrams as needed)
      iii. Detailed description of methodology employed and available data used to calculate the SSO volume and any volume recovered
      iv. Detailed description of the cause(s) of the SSO
      v. Copies of the original field crew records used to document the SSO (attachment)
      vi. Historical maintenance records for the lines involved in the cause of the SSO (attachment)

   b. Agency's Response to the SSO
      i. Chronological narrative description of actions taken by agency to terminate the SSO
      ii. Description of how the OERP was implemented to respond to and mitigate any impacts of the SSO
      iii. Final corrective action(s) completed and/or planned, including a schedule for actions not yet completed

   c. Water Quality Monitoring
      i. Description of all water quality sampling activities conducted, including analytical results and evaluation of the results
      ii. Detailed location map illustrating all water quality sampling points

3. Conclusions

ATTACHMENT F
SURFACE WATER MAPS



Appendix E-1: Service Call Log Sheet

Appendix G: Summary of Maintenance Productivity – Graphs and Charts

Figure G-1: Annual Sewer Overflows by Type

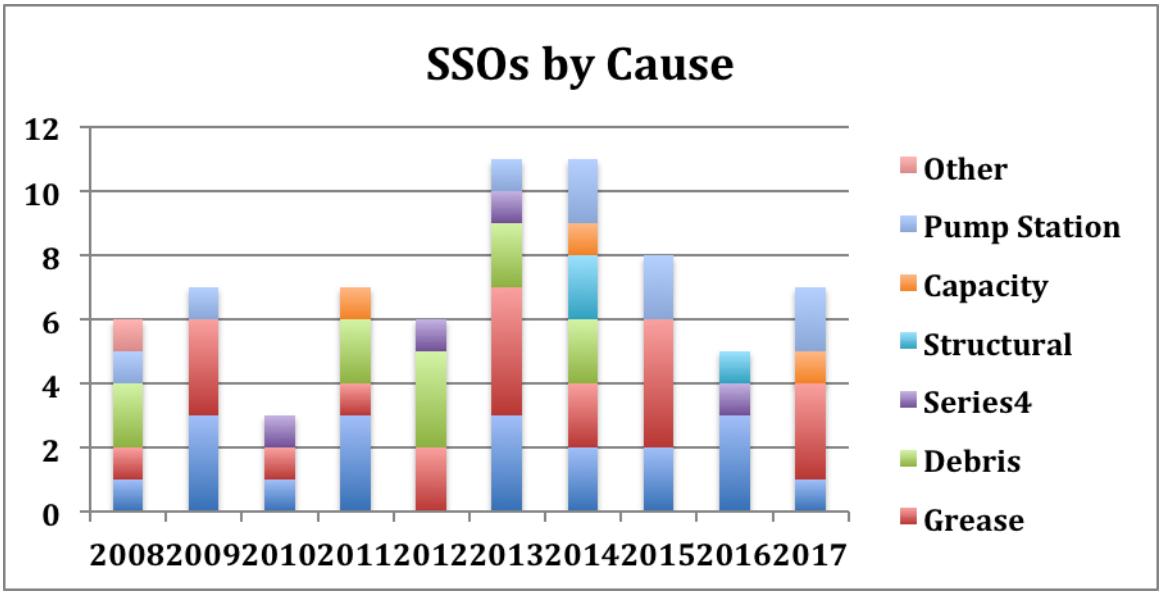


Figure G-2: Historical Sewer Overflows

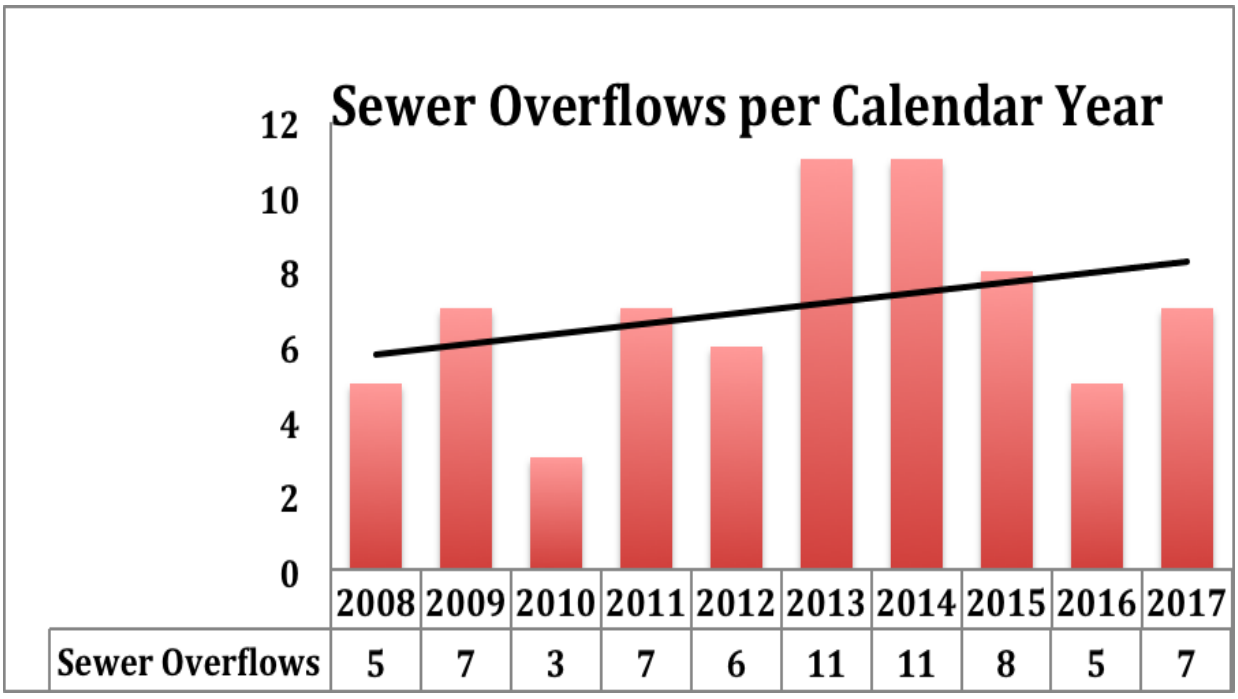
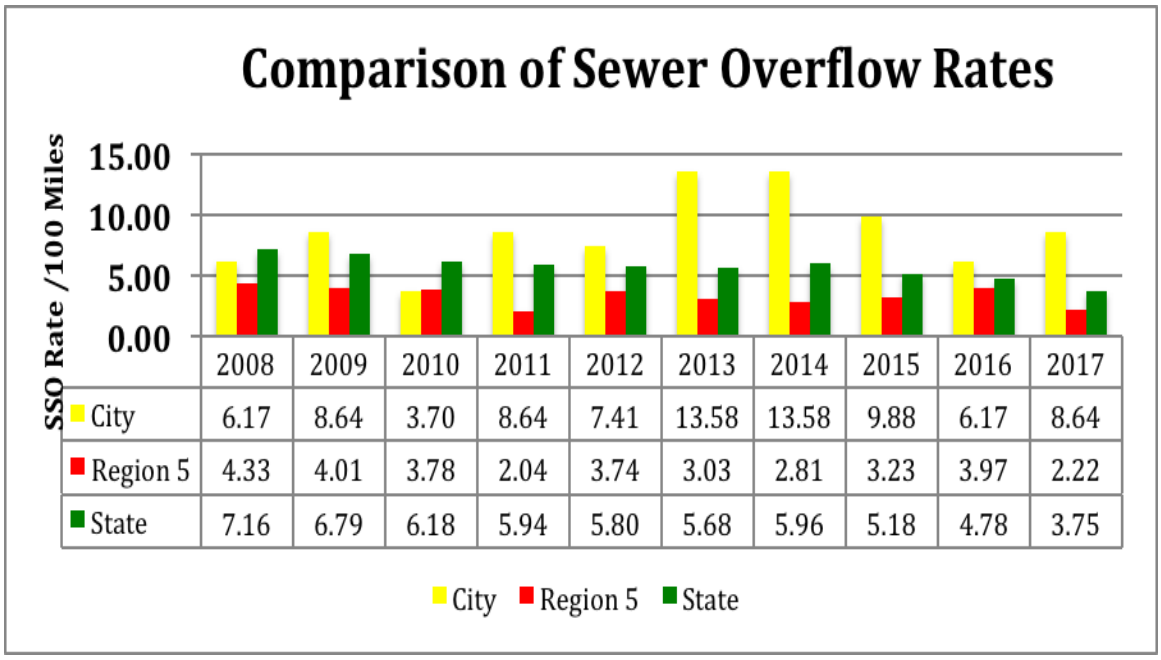


Figure G-3: SSO Rate/100 Miles of Sewer



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
City	6.17	8.64	3.70	8.64	7.41	13.58	13.58	9.88	6.17	8.64
Region 5	4.33	4.01	3.78	2.04	3.74	3.03	2.81	3.23	3.97	2.22
State	7.16	6.79	6.18	5.94	5.80	5.68	5.96	5.18	4.78	3.75

Figure G-4: SSOs byCategory of SSO

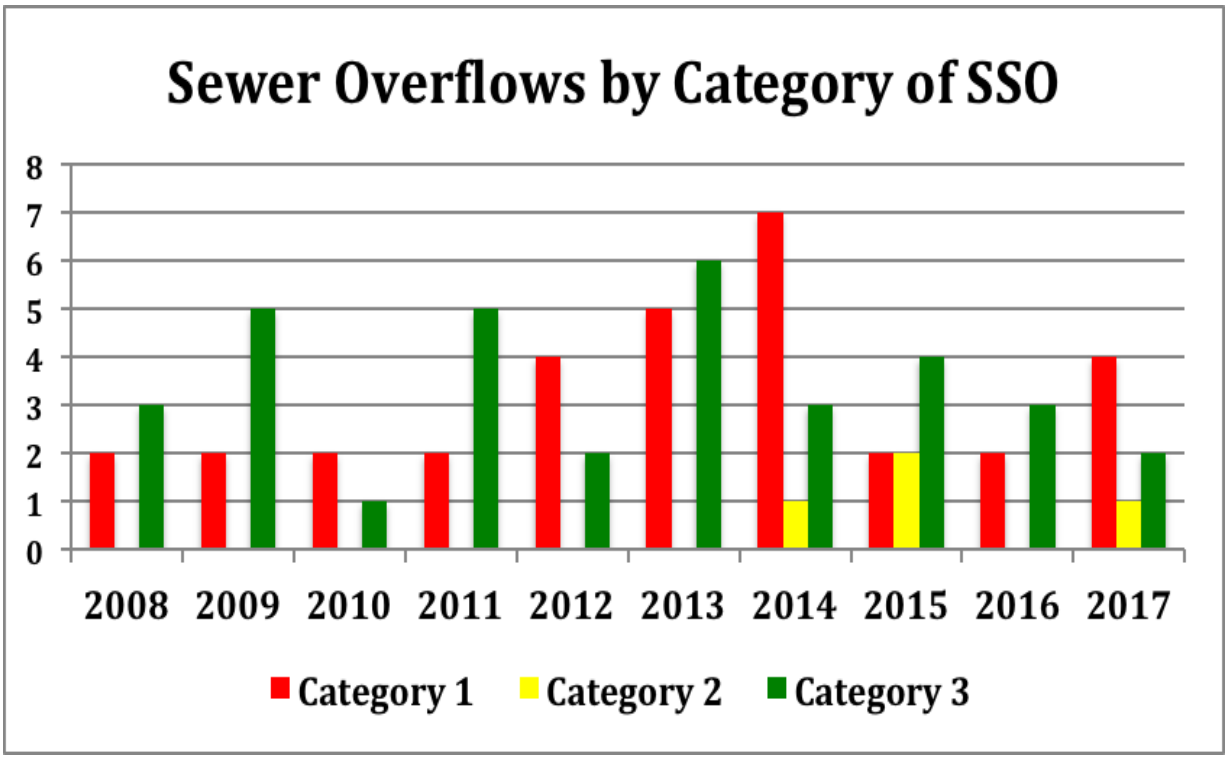


Figure G-5: SSO Total Volumes per Calendar Year

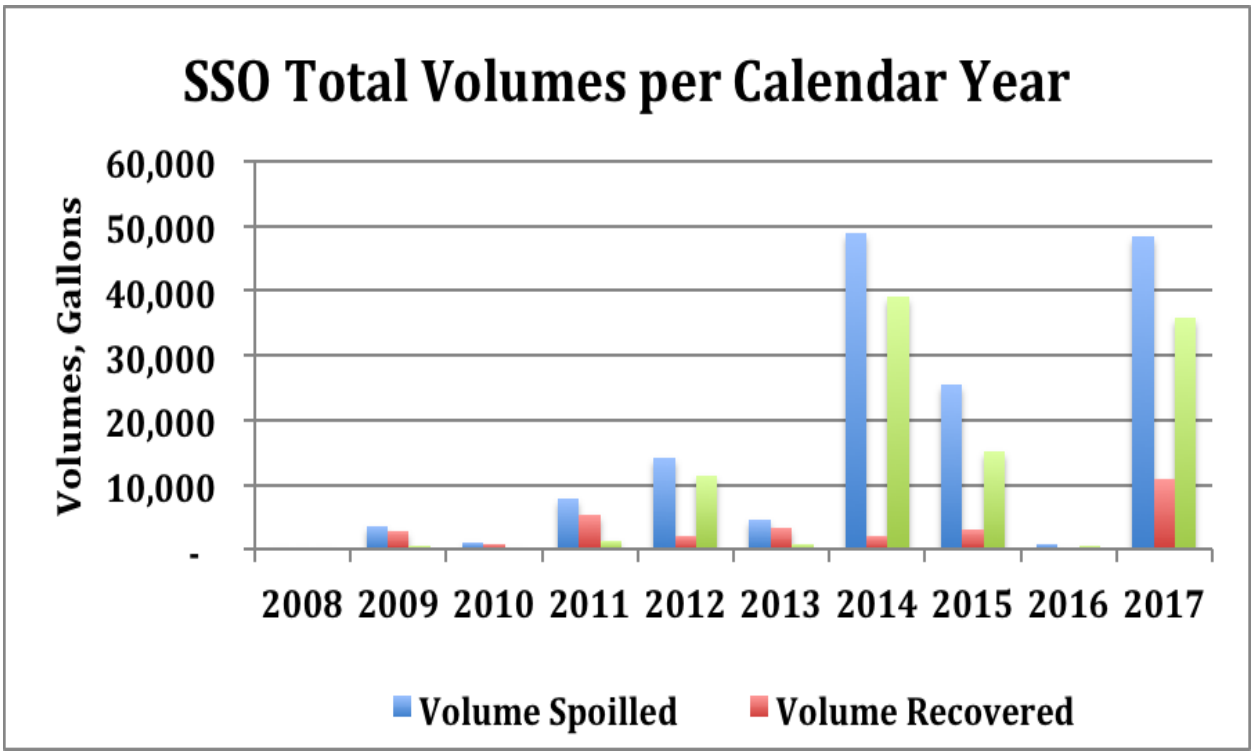


Figure G-6: CCTV Historical Performance

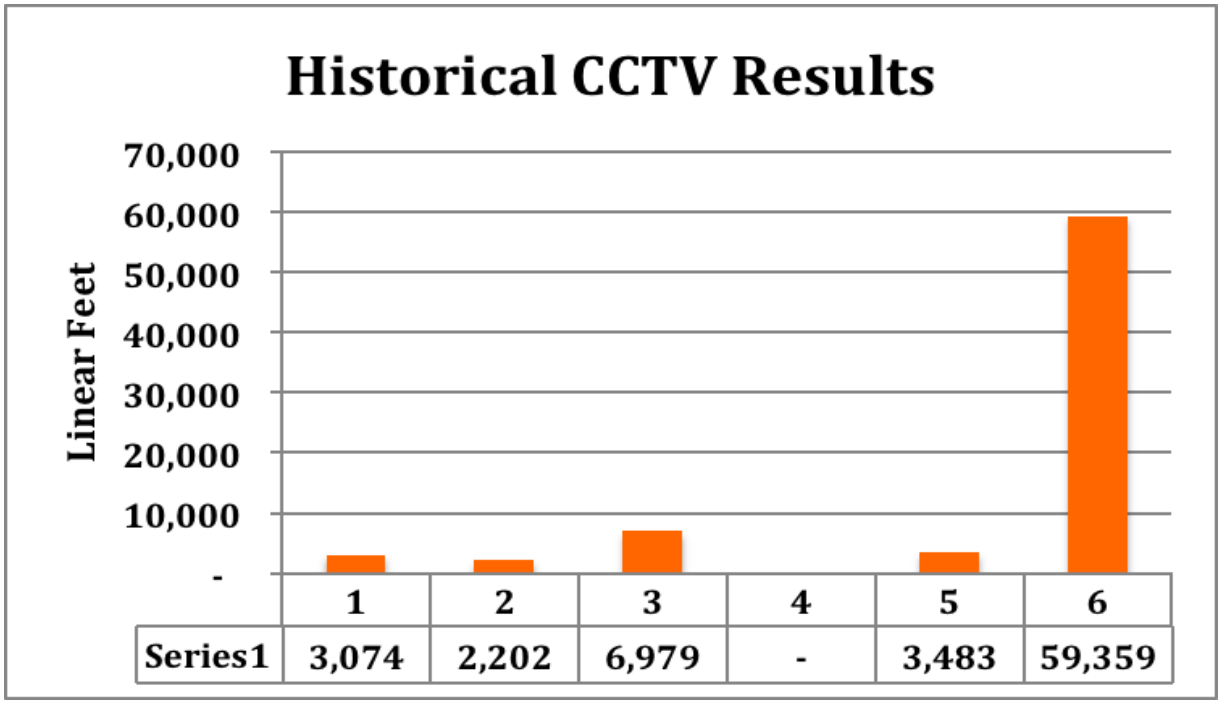
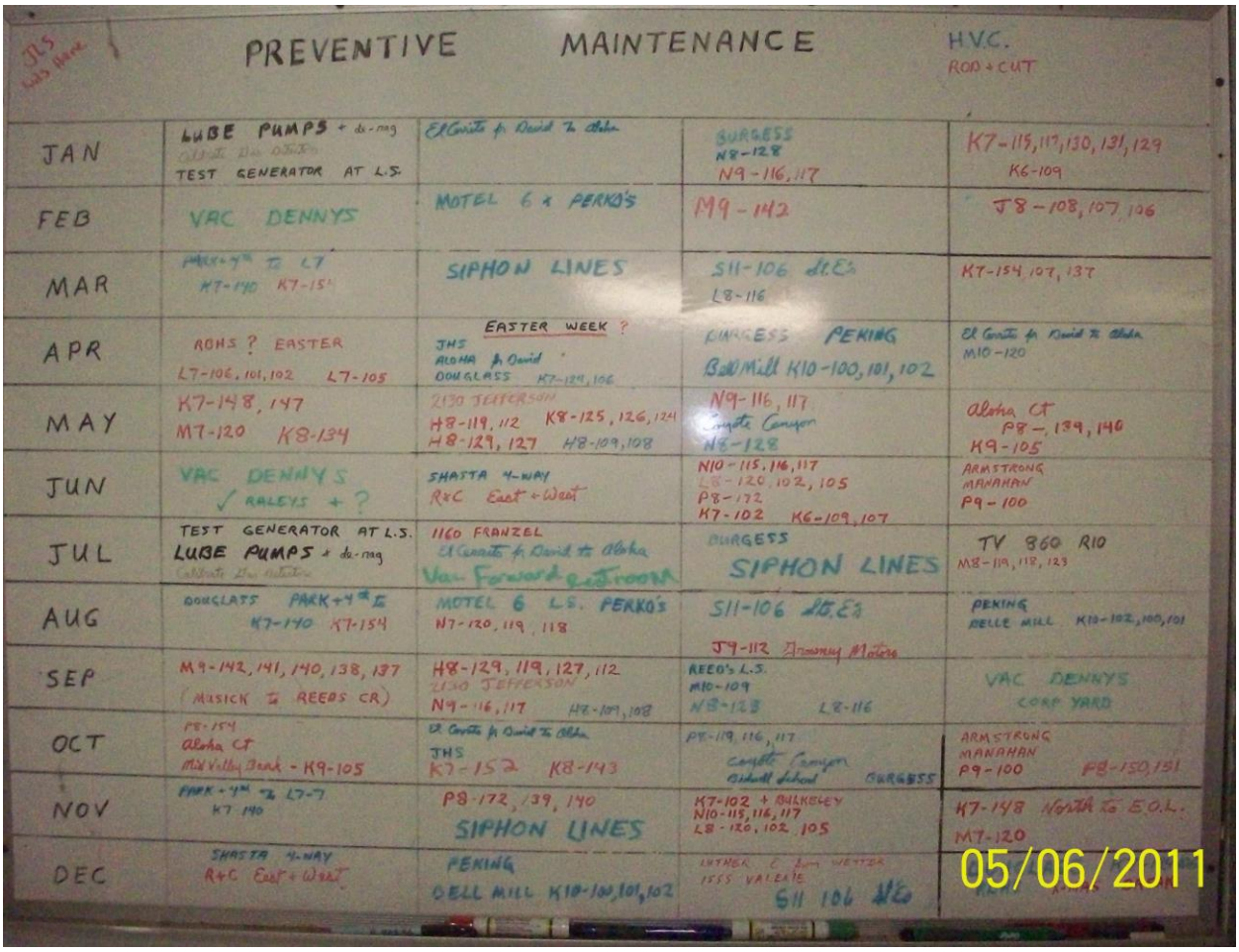


Figure G-7: Historical Manhole Inspections

Figure G-8: Comparison of SSOs to System Blockages

Appendix H: Sewer "Hot Spots" List



Appendix I: Sewer System Management Plan Audit Reports

Appendix J: Sewer System Management Plan Adoption Documents

SANITARY SEWER MANAGEMENT PLAN (SSMP) ACCEPTANCE

Mark Barthel, Public Works Director, reviewed staff report and gave staff's recommendation that the City Council accept the completed Sanitary Sewer Management Plan.

M/S/C Councilmembers Moyer and Carrel to accept staff the completed Sanitary Sewer Management Plan.

AYES: Councilmembers Moyer, Carrel, Byrne, Flynn and Brown
NOES: NONE
ABSENT OR NOT VOTING: NONE

City Council Minutes March 17, 2009
Page 6 of 8

RESOLUTION NO. 7-2018

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RED BLUFF CERTIFICATION OF THE APRIL 2018 SEWER SYSTEM MANAGEMENT PLAN

WHEREAS, the State Water Resources Control Board (SWRCB) has adopted Order No. 2006-0003, requiring all public wastewater collection system agencies in California that own or operate a collection system comprised of more than one mile of pipe or sewer line, which convey untreated wastewater to a publicly owned treatment facility, to prepare and maintain a Sanitary Sewer Management Plan (SSMP); and

WHEREAS, the City of Red Bluff is subject to Order No. 2006-0003, which requires the City Council take action to approve the SSMP; and

NOW, THEREFORE, BE IT RESOLVED that the Red Bluff City Council does herby certifiy and adopt the SSMP attached hereto.

PASSED, APPROVED AND ADOPTED at a regular meeting of the City Council of the City of Red Bluff on May 1, 2018 by the following vote:

AYES: Councilmembers: Eyestone, Jones, Parker, Jenkins and Schmid

NOES: Councilmembers: None

ABSENT OR NOT VOTING: Councilmembers: None

Daniele Eyestone

Daniele Eyestone, Mayor

ATTEST:

A Rice

Anita Rice, Deputy City Clerk

Appendix K: Sewer System Management Plan Change Log

SSMP Change Log

Date	SSMP Element/Section	Description of Changes/Revisions Made	Change Authorized By
April 2018	General	Added reference sections to each Section;	City Council
April 2018	Cover Page	Added WDID and original and new adoption date by governing board	City Council
April 2018	Acronyms	Added new table of acronyms and abbreviations	City Council
April 2018	Introduction	Added new sections and table of infrastructure being managed by the City collection system; added service area map.	City Council
April 2018	2.1	Added new summary section and updated organization chart.	City Council
April 2018	2.3.1	Expanded list and description of collection system classifications.	City Council
April 2018	2.3.4	Added new reporting flow chart.	City Council
April 2018	2.3.5	Revised City contact list in appendix and added new list of responsible persons for each SSMP Section.	City Council
April 2018	3.1	Removed narrative of legal authorities in favor of Table 7; just referenced Chapter 18 of City code.	City Council
April 2018	4.1.2	Updated and expanded pump station information and added new appendices with asset information.	City Council
April 2018	4.1.4	Expanded and added historical performance results.	City Council
April 2018	4.1.5	Expanded and added historical performance results.	City Council
April 2018	4.1.7	Added new section on siphons with asset information and maintenance activities.	City Council
April 2018		Removed sections on odor control, corrosion control and customer complaints.	City Council
April 2018	4.3	Moved tables to appendix D.	City Council
April 2018	4.4	Added information on SSMP, OERP and WQMP training requirements; added contractor training information.	City Council
April 2018	Chapter 6	Added purpose, policies and goals sections; appended the revised 2016 OERP and WQMP to Appendix E.	City Council
April 2018	7.1, 7.2	New section	City Council
April 2018	9.1	Developed and added appendix of historical performance results.	City Council
April 2018	10.1	Added Audit Report Form and new appendix j for placement of completed and certified Audit Reports	City Council
April 2018	10.2, 10.3	New sections added direct from WDR.	City Council

Date	SSMP Element/Section	Description of Changes/Revisions Made	Change Authorized By
April 2018	11.2	Added requirement for the placement of the SSMP and all reference documents on the City website,	City Council
	Appendices	Moved several SSMP documents to the appendices and expanded appendices from a single appendix to eleven.	