



Public Works Agency
— **Alameda County** —

Castlewood County Service Area R-1967-1
Alameda County Public Works Agency
Sanitary Sewer Management Plan
May 2023

WDR Enrolled: May 1, 2018

Board Adoption: May 16, 2023

Board Resolution No.: 2023-243

CCSA WDID #2SSO18112

Prepared In Consultation With:

Causey Consulting

Walnut Creek, CA 94598

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CERTIFICATION

I certify under penalty of perjury under the laws of the State of California that the electronically submitted information was prepared under my direction and supervision. Based upon my inquiry of the person(s) directly responsible for gathering the information, the best of my knowledge and belief, the information submitted is true, accurate and complete, and complies with the Statewide Sanitary Sewer Systems General Order. I am aware there are significant penalties for submitting false information.

DocuSigned by:



Daniel Woldesenbet, Director
Alameda County Public Works Agency
Legally Responsible Official

Introduction

1.1. Sewer System Management Plan

This Sewer System Management Plan (SSMP) has been prepared by the Alameda County Public Works Agency (PWA) with the assistance of Causey Consulting, Walnut Creek, CA for the Castlewood County Service Area R-1967-1 (CCSA). It is a compendium of the policies, procedures, and activities used in the planning, management, operation, and maintenance of CCSA's sanitary sewer system. The Alameda County Board of Supervisors is the governing board for the CCSA and adopted the SSMP on May 16, 2023 as required by the Waste Discharge Requirements for Sanitary Sewer Systems (WDR).

The State Water Resources Control Board (SWRCB) has issued statewide waste discharge requirements for sanitary sewer systems, which include requirements for development of an SSMP. The State Water Board requirements are outlined in Order No. 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, dated May 2, 2006 (WDR), and Order No. WQ-2008-0002-EXEC, dated February 20, 2008, which was amended by Order No. 2013-0058-EXEC, effective September 9, 2013, which changed the Monitoring and Reporting Program (MRP) requirements. This SSMP is intended to comply with the WDR and MRP revised requirements.

The structure (section numbering and nomenclature) of this SSMP follows the above referenced WDR Section D13. This SSMP is organized by the SWRCB outline of elements; and contains language taken from the WDR at the beginning of each element. The WDR uses the term "Enrollee" to mean each individual municipal wastewater collection system that has completed and submitted the required application for coverage under the WDR (in this case, the Enrollee is the CCSA). The CCSA's waste discharger identification number (WDID) in the California Integrated Water Quality System (CIWQS) is 2SSO18112.

1.2. Sanitary Sewer System Facilities

The CCSA operates a sanitary sewer system that serves a full-time population of approximately 600, and encompasses approximately 587 acres in unincorporated Alameda County California. The sewer system serves approximately 215 residential and a single commercial service connection from the Castlewood Country Club discharging an equivalent of 41 residential units of sewage. The sewer system consists of 5.3 miles of gravity sewer pipeline segments, 116 manholes and cleanouts, 0.8 miles of force mains, and one pump station. The sewer pipelines range in size from four (4) inches to eight (8) inches in diameter. The CCSA is responsible for lower laterals, and private property owners have the responsibility for the upper lateral (i.e., portion of the lateral located on the property owner's parcel to the property line or an installed cleanout).

All wastewater is conveyed to the Dublin-San Ramon Services District (DSRSD) for ultimate treatment and disposal through the West Pleasanton Interceptor sewer. Currently all operations,

maintenance and emergency response of the sewer system are provided by Coleman Engineering, Inc. The City of Pleasanton is under contract for the operations and maintenance of the CCSA pumping station.

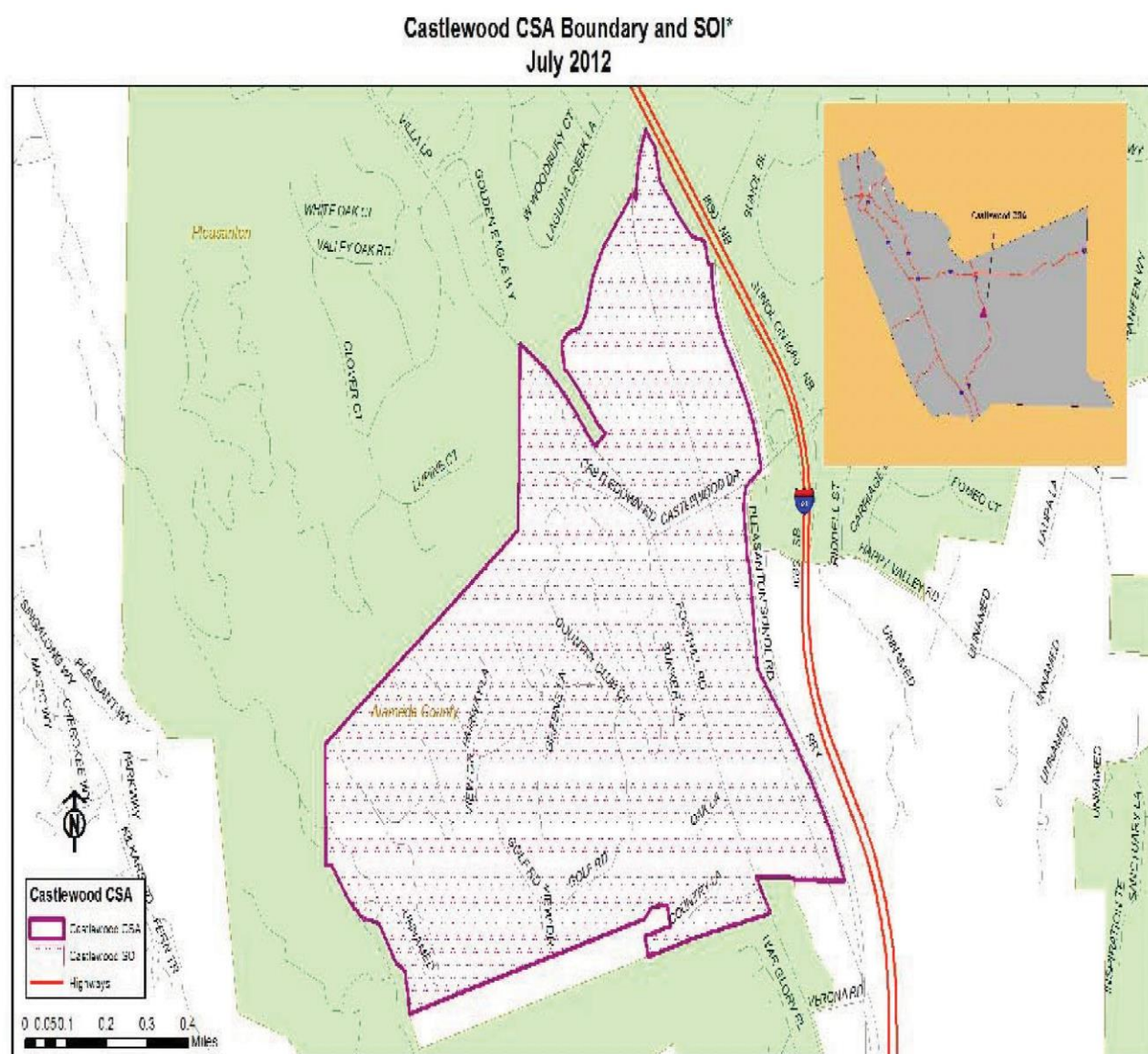
Intro Figure 1 contains an overview map of CCSA sanitary sewer service areas.

Intro Table provides the pipe diameter distribution of the gravity sewer pipes in CCSA

Intro Table 2 provides the composition of the gravity sewer pipes by material of construction.

Intro Table 3 provides the installation age distribution of CCSA's collection system.

Intro Figure 1: CCSA Sewer System Area Map



*Agency sphere equals the service area boundary

Created for Alameda AFCD by the Alameda County Community Development Agency

Intro Table 1: Gravity Sewer System Size Distribution

Diameter, Inches	Pipe Length, Linear Feet	Portion of Sewer System, %
4	3360	11.86
6	4320	15.25
8	16175	57.10
Unknown	4171	14.73
Total	28026	98.94
Total, miles	5.3	

Source: CCSA supplied infrastructure file

Intro Table 2: Gravity Sewer System Materials of Construction

Material	Pipe Length, LF	Percent of Sewer System
PVC	21840	77.10
HDPE	1845	6.51
VCP	200	0.71
Unknown	4171	14.73
Total	28026	99.05
Total, Miles	5.3	

Source: CCSA supplied infrastructure file

Intro Table 3: Gravity Sewer System Inventory of Sewer Lines by Pipe Age

Age in Years	Construction Period	Linear Feet of Gravity Sewers	Miles of Gravity Sewer	Percent of System
0-15	2000 - current	2,798	0.53	10
16 – 35	1980 – 1999	23,787	4.50	85
36 – 55	1960 – 1979	1,399	.27	5
56 – 75	1940 – 1959	0	0	0%
76 – 95	1920 – 1939	0	0	0%
95 – 115	1900 – 1919	0	0	0%
>115	Before 1900	0	0	0%
Total		27984	5.3	100%

Source: CCSA supplied infrastructure file 11/5/20

1.3. Definitions, Acronyms, and Abbreviations

Best Management Practices (BMP)

Refers to the procedures employed in commercial kitchens to minimize the quantity of grease that is discharged to the sanitary sewer system. Examples include scraping food scraps into a garbage can and dry wiping dishes and utensils prior to washing.

Calendar Year (CY)

California Department of Fish and Wildlife (CDFW)

Capital Improvement Plan (CIP)

Refers to the document that identifies future capital improvements to CCSA's sanitary sewer system.

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 SSMP, and provide information on the sanitary sewer system.

Castlewood County Service Area (CCSA)

Clean Water Act (CWA)

California Water Environment Association (CWEA)

City of Pleasanton (City)

Closed Circuit Television (CCTV)

Refers to the process and equipment that is used to internally inspect the condition of gravity sewers.

County of Alameda (County)

Data Submitter (DS)

District

Refers to the Castlewood County Service Area R-1967-1.

Division of Water Quality (DWQ)

Refers to the State of California Division of Water Quality of the State Water Resources Control Board.

Dublin-San Ramon Services District (DSRSD)

Environmental Protection Agency (EPA)

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.

First Responder

Refers to the field crew or the on-call personnel that are CCSA's initial response to an SSO event or another sewer system emergency.

Fiscal Year (FY)

Means a 12-month period beginning July 1st and ending June 30th.

Food Service Establishment (FSE)

Refers to commercial or industrial facilities where food is handled/prepared/served that discharge to the sanitary sewer system.

General Waste Discharge Requirements (WDR)

Refers to the State Water Resources Control Board Order No. 2006-0003, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, dated 5/2/2006.

Grease Removal Device (GRD)

Refers to grease traps and grease interceptors that are installed to remove FOG from the wastewater flow at food service establishments.

Infiltration/Inflow (I/I)

Refers to water that enters the sanitary sewer system from storm water and groundwater.

- Infiltration enters through defects in the sanitary sewer system after flowing through the soil.
- Inflow enters the sanitary sewer without flowing through the soil. Typical points of inflow are holes in manhole lids and direct connections to the sanitary sewer (e.g., storm drains, area drains, and roof leaders).

Lateral

See Private Sewer Lateral

Legally Responsible Official (LRO)

Person(s) formally designated by the County of Alameda and CCSA to be responsible for formal reporting and certifying of all reports submitted to the CIWQS.

Lift Station (LS)

A facility that lifts sewage into the CCSA gravity sanitary sewer collection system.

Lower Lateral

The portion of the lateral from the CCSA main to the private property clean-out or private property line.

Manhole (MH)

Refers to an engineered structure that is intended to provide access to a sanitary sewer for maintenance and inspection.

Mainline Sewer

Refers to CCSA publicly owned wastewater collection system piping that is not a private lateral connection to a user.

Monitoring, Measurement, and Plan Modifications (MMPM), SSMP Element 9**Monitoring and Reporting Program (MRP)**

State Water Resources Control Board WQ 2013-0058-EXEC effective September 9, 2013.

Municipal Separate Storm Sewer System (MS4)**National Association of Sewer Service Companies (NASSCO)****Notification of an SSO**

Refers to the time at which CCSA becomes aware of an SSO event through observation or notification by the public or other source.

National Pollution Discharge Elimination System (NPDES)**Nuisance**

California Water Code section 13050, subdivision (m), defines nuisance as anything that meets all 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.

Office of Emergency Services (OES or Cal OES)

Refers to the California State Office of Emergency Services.

Operations and Maintenance (O&M)**Overflow Emergency Response Plan (OERP)****Pipeline Assessment and Certification Program (PACP)**

Refers to the NASSCO certification program that is used for the evaluation and condition assessment of sewer lines and appurtenances from closed circuit televising of the lines and appurtenances.

Polyvinylchloride Pipe (PVC)

Preventive Maintenance (PM)

Refers to maintenance activities intended to prevent failures of the sanitary sewer system facilities (e.g., cleaning, CCTV, repair, etc.).

Private Sewer Lateral (PSL)

The sewer pipeline from the plumbing of a building to a CCSA lower lateral, Private sewer laterals are privately owned, maintained, repaired and replaced.

Private Lateral Sewage Discharges (PLSD)

Sewage discharges that are caused by blockages or other problems from a privately-owned sewer service lateral.

Property Damage Overflow

Refers to a sewer overflow or backup that damages a private property owner's premises.

Public Owned Treatment Works (POTW)**Regional Water Quality Control Board (SFRWQCB)**

Refers to the San Francisco Regional Water Quality Control Board.

Sanitary Sewer Backup (Backup)

A wastewater backup into a building and/or on private property caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.

Sanitary Sewer Overflows (SSO)

Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs include:

- a. Overflows or releases of untreated or partially treated wastewater that reach waters of the United States;
- b. Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and
- c. 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 private sewer lateral are not SSOs.

Service Contractor –

Outside contractor operating pursuant to a service contract with Alameda County Public Works Agency responsible for operations, maintenance and emergency response for the CCSA sanitary sewer system and pumping stations. The Service Contractor for the gravity collection

system is currently Coleman Engineering, Inc. The City of Pleasanton operates and maintains the Foothill Pump Station and associated force main.

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 (SSS)

Refers to the sanitary sewer facilities that are owned and operated by the CCSA.

Sewer Service Lateral

Refers to the piping that conveys sewage from the building to the sanitary sewer system

Sewer System Management Plan (SSMP)**Standard Specifications**

Refers to the latest edition of the County of Alameda Sanitary Sewer Handbook for Castlewood County Service Area.

State Water Resources Control Board (SWRCB)

Refers to the California Environmental Protection Agency, State Water Resources Control Board.

Note: The State Board is a separate entity from the Lahontan Regional Water Quality Control Board, although the agencies are closely connected.

Supervisory Control and Data Acquisition (SCADA)

Refers to the system that is employed by CCSA to monitor the performance of its lift stations and to notify the operating staff when there is an alarm condition that requires attention.

System Evaluation and Capacity Assurance Plan (SECAP) SSMP Element 8

Untreated or Partially Treated Wastewater

Any volume of waste discharged from the sanitary sewer system upstream of a wastewater treatment plant headworks.

Vitrified Clay Pipe (VCP)**Waste Discharge Identification Number (WDID)**

A unique identification number for the certification and reporting of collection system related actions and overflows in the CIWQS System. The CCSA's WDID is 2SSO18112

Water Body

Any stream, creek, river, pond, impoundment, lagoon, wetland, or bay.

Water of the State

Refers to “any surface water, including saline waters, within the boundaries of the state.” (California Water Code § 13050(e)).

Water Quality Monitoring Plan (WQMP)**1.4. References**

- State Water Resources Control Board Order No. 2006-0003, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, California State Water Resources Control Board, May 2, 2006.
- State of California Water Resources Control Board Order No. WQ-2008-0002-EXEC, Adopting Amended Monitoring and Reporting Requirements for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems dated February 20, 2008
- State Water Resources Control Board Order No. Order No. 2013-0058-EXEC, Amending Monitoring and Reporting Program for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, September 9, 2013.
- California Integrated Water Quality System database for WDID 2SSO18112.

Element 1: Goals

1-1: SSMP Goals

The goal of CCSA is to provide safe, effective, and efficient operation of CCSA's sanitary sewer collection system by:

- Properly managing and operating the County facilities to minimize SSOs.
- Implementing regular, proactive maintenance of the system to remove roots, debris, and fats, oils and grease in areas prone to blockages that may cause sewer backups or SSOs.
- Providing adequate capacity to convey peak wastewater flows.
- Protecting public health and safety.
- Performing all activities in accordance with established safety policies and practices.
- Protection of the bay waters and tributaries within the County's service area.
- Contracting with qualified consultants who are well trained and certified in Collection System operations and maintenance.
- Upholding County's standards and specifications on newly constructed public and private sewers.
- Preserving the County's capital investment in the sanitary sewer system to assure maximum system service life.

1-2: References

None.

Element 2: Organization

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: Organizational Structure

The purpose of this section is to identify CCSA staff responsible for implementing this SSMP, responding to SSO events and meeting the SSO reporting requirements. This section also includes the designation of the Legally Responsible Official (LRO) or Authorized Representative to meet Statewide WDR requirements for completing and certifying spill reports.

The CCSA contracts for all operations and maintenance of the CCSA's sewer system and emergency response for SSOs but retains the responsibility for reporting and certification of all sewage overflows. The CCSA's organization chart is shown in **Figure 2 – 1**.

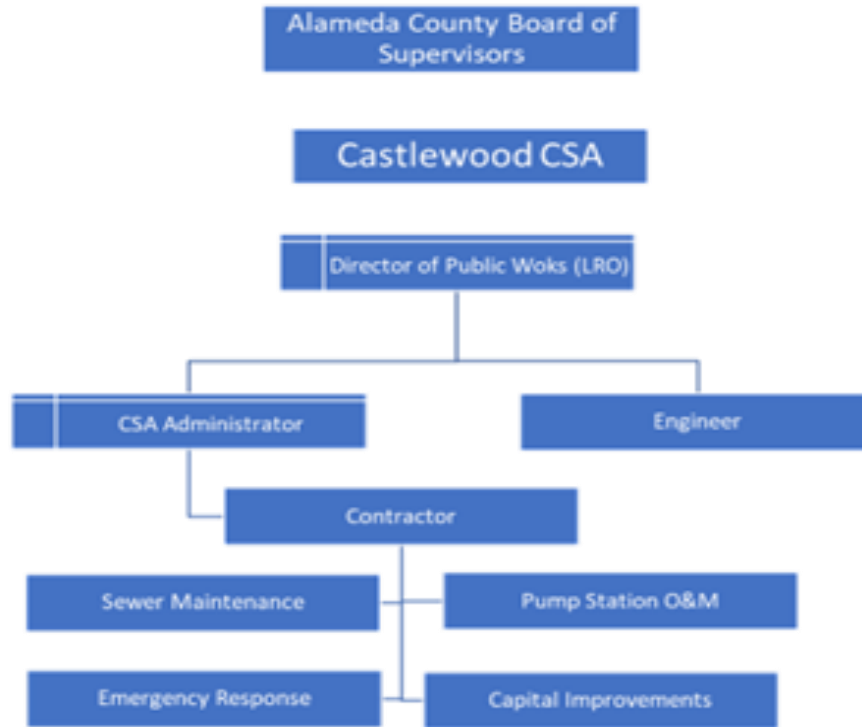


Figure 2 – 1: CCSA Sewer Program Organization Chart

2-2: Authorized Representatives

Director of Public Works (LRO) - Under general direction, in charge of a major engineering, construction, maintenance or related activity; to help plan major engineering projects and to supervise the work of professional and sub-professional engineering personnel; and to do related work as required. Manages service contractors for service area maintenance.

CCSA Contracted Service Providers:

- Service Contractor - line cleaning and assessment services
- City of Pleasanton Utilities, pump stations operations and maintenance

2-3: Responsibility for SSMP Implementation and Maintenance

The Director shall have the overall responsibility for implementing, periodically auditing, and maintaining the CCSA's SSMP. He/she may delegate these responsibilities to his/her staff.

Other CCSA staff responsible for developing, implementing, and maintaining specific elements of the CCSA's SSMP, along with their job titles and contact information, are shown in **Table 2 – 1** below.

Table 2 – 1: Responsible Officials for SSMP Elements

Element	Element Name	Responsible CCSA Official	Phone	Email
0	Introduction	CSA Administrator	510-670-5212	Lorena@acpwa.org
1	Goals	CSA Administrator	510-670-5212	Lorena@acpwa.org
2	Organization	CSA Administrator	510-670-5212	Lorena@acpwa.org
3	Legal Authority	CSA Administrator	510-670-5212	Lorena@acpwa.org
4	O & M Program	CSA Administrator	510-670-5212	Lorena@acpwa.org
5	Design & Performance Provisions	CSA Administrator	510-670-5212	Lorena@acpwa.org
6	OERP	CSA Administrator	510-670-5212	Lorena@acpwa.org
7	Fats, Oils and Grease (FOG) Control Program	CSA Administrator	510-670-5212	Lorena@acpwa.org
8	System Evaluation and Capacity Assurance Plan	CSA Administrator	510-670-5212	Lorena@acpwa.org
9	Monitoring, Measurement and Program Modifications	CSA Administrator	510-670-5212	Lorena@acpwa.org
10	Program Audits	CSA Administrator	510-670-5212	Lorena@acpwa.org
11	Communications Program	CSA Administrator	510-670-5212	Lorena@acpwa.org
App A	SSMP Board Adoption Documents	CSA Administrator	510-670-5212	Lorena@acpwa.org
App B	SSMP Audit Reports	CSA Administrator	510-670-5212	Lorena@acpwa.org
App C	SSMP Audit Checklist	CSA Administrator	510-670-5212	Lorena@acpwa.org
App D	SSMP Change Log	CSA Administrator	510-670-5212	Lorena@acpwa.org
App E	OERP	CSA Administrator	510-670-5212	Lorena@acpwa.org
App F	Water Quality Monitoring Plan	CSA Administrator	510-670-5212	Lorena@acpwa.org

Source: CCSA supplied information

2-4: SSO Reporting Chain of Communication

The SSO reporting process and responsibilities are described below and in the Overflow Emergency Response Plan in Appendix E. Coleman Engineering, Inc. is responsible for all communications with Castlewood customers, the Country Club and the County Public Works

Agency CSA Administrator and Engineer. Residents have been provided with a 24-hour emergency phone number which automatically routes to available staff for timely response.

The ability of the county sheriff, fire department, or citizen to talk to a live person 24 hours per day adds the positive benefits of human interaction and significantly reduces the possibility of a missed call or misunderstanding about the nature of a problem. Responders to SSOs complete a report, which is reviewed by the supervising civil engineer and office staff and forwarded to the CCSA LRO. All SSOs are reported to the appropriate regulatory agencies by the LRO.

2-5: References

None.

Element 3: Legal Authority

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.);
- (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: CCSA Summary and Evaluation of Legal Authority

Federal and State Laws including, but not limited to the following, grant to the CCSA the authority to regulate and/or prohibit, by the adoption of an ordinance and by issuance of control mechanisms, the discharge of any waste, directly or indirectly, to the CCSA sewerage facilities.

1. Federal Water Pollution Control Act, commonly known as the Clean Water Act (33 U.S.C. Section 1251 et seq.);
2. California Porter Cologne Water Quality Act (California Water Code Section 13000 et seq.);
3. California Health & Safety Code Sections 25100 to 25250;
4. California Government Code, Sections 54739-54740.

Following the authorities provided by the documents described, the CCSA maintains the County of Alameda General Ordinance Code, which provides the necessary legal authority. The CCSA's provisions are summarized below in Table 3 – 1: Summary of Legal Authorities and in County of Alameda Code of Ordinances Chapter 13.20 – County Service Area Service Charges Chapter 13.04 – SEWER SERVICE SYSTEM.

Table 3 – 1: Summary of Legal Authorities

Requirement	County of Alameda Code of Ordinances Title 13 and 15,
Prevent illicit discharges into the wastewater collection system	13.04.140

Requirement	County of Alameda Code of Ordinances Title 13 and 15,
Limit the discharge of fats, oils, and grease and other debris that may cause blockages	13.04.190 and .240; 15.20
Require that sewers and connections be properly designed and constructed	13.04.070 to 13.04.090
Require proper installation, testing, and inspection of new and rehabilitated sewers	13.04.040 and .260
Control infiltration and inflow (I/I) from private service laterals	13.04.140
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	13.04.240; 15.20
Authority to inspect grease producing facilities	13.04.260
Enforce any violation of its sewer ordinances	13.04.320 to .410

3-2: Agreements with Satellite Agencies

The CCSA is a satellite system to the Dublin-San Ramon Services District (DSRSD) wastewater treatment plant through the West Pleasanton Interceptor Systems. The County has entered contracts with Coleman Engineering, Inc, for the operations and maintenance of the gravity sewer system and with the City of Pleasanton for operations and maintenance of Pump Station S-10 which discharges to the West Pleasanton Interceptor which discharges sewage from both the City and the CCSA to the DSRSD wastewater treatment plant for treatment and disposal.

3-3: References

- Alameda County Code of Ordinance, Titles 13 and 15

Element 4: Operations and Maintenance Program

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-term 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: Collection System Mapping

The CCSA mapping is currently included in a separate layer in the County GIS system. These sewer only maps are schematic and include manhole numbering and pipe sizes. The sewer maps are available to the service contractor field crew as needed for both maintenance and emergency response in the field. The GIS system includes some basic asset information on the sewer system piping and manholes.

The County is in the process of creating a GIS map that includes a separate layer for storm drainage infrastructure in the Castlewood service area.

4-2: Preventive Operation and Maintenance

The elements of the CCSA's sewer system O&M program include:

- ☐ Proactive, preventive, and corrective maintenance of gravity sewers;
- ☐ Ongoing CCTV inspection program to determine the condition of the gravity sewers;
- ☐ Periodic inspection and preventive maintenance for the lift station and force main;
- ☐ Rehabilitation and replacement of sewers that are in poor condition; and,
- ☐ Proper training for CCSA employees and service contractors to assure proper operations and maintenance of the collection system facilities.

The County of Alameda has contracted all operations responsibilities for the CCSA to Service Contractors for the maintenance and operations of the sanitary sewer collection system, pump stations operations and maintenance and proper planning and emergency response throughout the entire service area. The County hires outside professional consultants to provide all condition assessment and renewal and replacement associated with the sanitary sewers.

The County has contracted for the regular and high frequency cleaning goals for the maintenance of the sewer pipelines in the services area. In addition, the Service Contractor is responsible for responding to, resolving and documenting all service calls received regarding the sewer system assets annually to the County Public Works Agency. Tables 4-1 provides the historical cleaning and high frequency maintenance history for the past six calendar years.

Table 4 – 1: Historical Regular/High Frequency Cleaning Production Results

Calendar Year	High Frequency, Linear Feet	Regular Cleaning, Linear Feet	Total Annual, Linear Feet	Total Annual, Miles	Percent of System
2016	4,515	0	4,515	0.86	16
2017	4,515	0	4,515	0.86	16
2018	4,515	0	4,515	0.86	16
2019	0	4,645	4,645	0.88	16
2020	0	4,645	4,645	0.88	16
2021	0	4,645	4,645	0.88	16

Source: CCSA supplied infrastructure file dated 4/3/21

The Service Contractor cleaning crew evaluates cleaning results based upon the Standard Sewer Cleaning Results derived from **CCSA's Standard Measures of Observed Results Collection System Line Cleaning** shown in **Table 4 – 2**. The use of these Standard Measures allows CCSA to develop needs-based cleaning schedules. The CCSA may place pipeline segments on a higher or lower frequency schedule based upon past cleaning results, history of SSO events, video inspections and professional judgment.

Table 4 – 2: Standard Measures of Observed Results for Collection System Line Cleaning

Category	None	Low	Medium	High
Debris / Grit	Code: CL No observable debris or grit	Code: DL Minor amount of debris 15 minutes or less to clean 1 Pass	Code: DM Less than 5 gallons of debris 15-30 minutes to clean 2-3 passes required Requires cleaning twice or less per year Only fine grit	Code: DH More than 5 gallons of debris More than 30 minutes to clean More than 4 passes required Requires cleaning four times per year Operator concern for future stoppage
Grease	Code: CL No observable grease	Code: GL Minor amounts of grease 15 minutes or less to clean 1 pass	Code: GM Small chunks / no “logs” 15-30 minutes to clean 2-3 passes required Requires cleaning twice or less per year	Code: GH Big chunks / “Logs” More than 30 minutes to clean More than 4 passes required Operator concern for future stoppage
Roots	Code: CL No observable roots	Code: RL Minor amounts of roots 15 minutes or less to clean 1 pass	Code: RM Thin / Stringy roots present No large “clumps” 15-30 minutes to clean 2-3 passes required	Code: RH Thick roots present Large “clumps” More than 30 minutes to clean More than 4 passes required Operator concern for future stoppage
Other	Code: CL No observable materials	Code: OL Specify material Minor amounts of material	Code: OM Specify material Less than 5 gallons of material	Code: OH Specify material More than 5 gallons of material Operator concern for future stoppage

Footnote: (a) Times shown are typical manhole-to-manhole distance of 250 feet. Longer runs will require longer cleaning times. Judgement will need to be applied by the field crews for varying lengths and pipe diameters.

4-2.1: Pipe Condition Assessment

The Services Contractor is responsible for the condition assessment of all sewer pipelines in the service area except for the force main from Pump Station S-10 which is the responsibility of the City of Pleasanton. The last complete system condition assessment of all but 1175 linear feet of sewer lines was completed as part of the Castlewood Country Service Area Water and Sewer Assessment, October 2012, Pakpour Consulting Group. Each pipe segment was rated according to National Association of Sanitary Sewer Companies (NASSCO) Pipeline Assessment and Certification Program (PACP) Pipeline Rating System.

4-2.2: Manhole Inspection and Maintenance Program

Coleman Engineering will be inspecting 42 manholes or clean outs annually. The last full manhole assessment was reported in 2012 Pakpour Sewer Assessment each of the manholes associated with pipe segments were also condition assessed utilizing the NASSCO Manhole Assessment and Certification Program (MACP) rating for manholes. The assessment included

125 manholes and 18 risers. The pipeline and manhole ratings were used to develop a prioritized capital needs program more completely described in Element 8.3 below.

4-2.3: Pump Station Maintenance

CCSA owns and shares one pump station designated as S-10 with the City of Pleasanton. The CCSA owns the pump station but has contracted with the City of Pleasanton for the operations and maintenance of the station and associated force main from S-10 in a contract dated June 25, 1985. The City is also responsible to evaluate the condition of the pumping facilities and making recommendations for the repair, renewal, and replacement of these sewer assets.

The Pump stations asset information is identified below in Table 4 – 3 below.

Table 4 – 3: Pump Station Locations and Asset Information

Pump Station Name	Construct Date	No. Pumps	Pump GPM	Pump Manufacturer	Pump HP	Standby Generator- KW
Pump Station S-10	1986	2		Flygt	10	25

* City of Pleasanton supplied infrastructure file dated 7/11/2020

4-2.4: Force Main Maintenance

There are 869 linear feet of force main immediately downstream of pump station S-10. The CCSA owns, but the City of Pleasanton maintains the force main which discharges to the West Pleasanton Interceptor and ultimately to the DSRSD treatment plant. The pressure force main asset information is described in **Table 4 – 4** below. The discharge manhole into the interceptor line is inspected for concrete corrosion regularly. The CCSA nor the City of Pleasanton have a formal force main condition assessment and/or replacement program. The CCSA does have reserve funding available if repairs or replacement become warranted.

Table 4 – 4: Force Main Locations and Descriptions

Name of Pump Station Associated with Force Main	Year Constructed	Force Main Asset Information		
		Length (linear feet)	Pipe Diameter (inches)	Material Type
Pump Station S-10	1985	869	6	DIP
Total Miles		0.17		

Source: City of Pleasanton supplied infrastructure file dated 7/11/21

4-3: Private Sewer Laterals

The CCSA has responsibility for the lower portion of sewer laterals from a clean out or property line to the CCSA mainline sewer. The upper lateral is the responsibility of the private property owner. Private sewer laterals are visually inspected, pressure tested and televised when originally installed prior to final building approvals. Coleman Engineering is responsible to respond and resolve to customer lateral complaints.

4-4: Rehabilitation and Replacement Program

Due to the very young age of the sanitary sewer system, the County has not determined the need for system renewal and replacement. As Coleman submits the annual condition assessment information, the County will develop a prioritized system for renewal and replacement and minor repairs.

4-5: Training of CCSA Personnel and Contractors

The County Service Contractor's Agreement requires the contractors' employees to be qualified and trained to perform all required O&M work associated with sanitary sewer systems. Finally, County staff responsible for the management and administration of the CCSA sewer program will also receive annual training on all areas of the sewer program.

4-6: Critical Equipment and Replacement Parts

The service contractor has hand tools and will be renting the necessary equipment required to comply with all requirements of the agreement with the County.

4-7: References

The data used in this section were taken from the following references:

- Castlewood Country Service Area Water and Sewer Assessment, October 2012, Pakpour Consulting Group
- County of Alameda Standard Services Agreement, Coleman Engineering, Inc. March 28 2022
- County of Alameda Standard Services Agreement, City of Pleasanton, June 25, 1985

Supplement 4 – 1: Pump Station and Force Main 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 and Equipment	
Signage (confined space, automatic equipment, hearing protection, etc.)	
Fall protection	
Emergency communication	
Equipment hand guards	
Handrails 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	
Lift Station building	
Control room	
Dry well	
Wet well	
Other structures	
Comments	

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

Electrical and 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 and 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	

Supplement 4 – 2: Capital Improvement Program (in \$ thousands)

Project Title	2022/23	2023/24	24/25	25/26	26/27
Annual sewer system renewal and replacement	100	100	100	100	100
Total Collection System Projects	100	100	100	100	100

Equipment Number	Equipment Description	Year Purchased	Location
None	Hand tools		
	Rental equipment		

Element 5: Design and Performance Provisions

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 Criteria for Installation, Rehabilitation and Repair

The County has prepared a Sanitary Sewer Handbook (Handbook) for the Castlewood County Service Area (CCSA) dated September 1989 that is used for all new construction within the CCSA. This manual includes Design Criteria, Sewer Specifications, Details, and permit processing guidelines. Design criteria include the following:

- Depth of cover
- Manhole spacing
- End of line terminations
- Service connections
- Lift station and force main requirements

5-2: Inspection and Testing Criteria

Standards for inspection, testing, rehabilitation, and repair are provided in Part IV of the Handbook.

5-2.1: New and Rehabilitated Lift Stations

Construction standards and acceptance provisions for the rehabilitated lift station is established through the design process and are part of the approval of the plans and specifications for the rehabilitated lift station. All designs will be signed and sealed by a registered Civil Engineer in the State of California.

5-3: References

- Sanitary Sewer Handbook for the Castlewood Service Area R-1967-1, dated September 1989

Element 6: Overflow Emergency Response Plan

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.

Sanitary Sewer Overflow Emergency Response Plan

6-1: Purpose

The purpose of the CCSA's Overflow Emergency Response Plan (OERP) is to support an orderly and effective response to Sanitary Sewer Overflows (SSOs). The OERP provides guidelines for CCSA personnel and service contractors to follow in responding to, cleaning up, and reporting SSOs that may occur within the CCSA's service area. The OERP (Appendix E) satisfies the SWRCB Statewide General Waste Discharge Requirements (WDR), which require wastewater collection agencies to have an Overflow Emergency Response Plan.

6-2: Policy

The CCSA staff in conjunction with the CCSA service contractors are required to report all wastewater overflows from public sewer infrastructure 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 CCSA goal is to respond to sewer system overflows as soon as possible following notification. The CCSA will follow reporting procedures in regard to sewer spills as set forth by the California State Water Resources Control Board (SWRCB).

6-3: Goals

The CCSA'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.

6-4: Full Overflow Emergency Response Plan

The full copy of the CCSA Overflow Emergency Response Plan effective March 2023 can be found in Appendix E along with copies of all instructions and forms in the Backup Response Workbook. All SSO sampling and testing shall be conducted per the CCSA Water Quality Monitoring Plan (WQMP) which is included in Appendix F.

6-5: Authority and References

- 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

Element 7: Fats, Oils, and Grease (FOG) Control Program

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 : Nature and Extent of FOG Problem

The CCSA has a single food service establishment (FSE) within its area. That FSE, located at the Castlewood Country Club, has grease interceptors to minimize the risk of SSOs. The Country Club discharges are evaluated by the CCSA and have been required to install appropriately sized grease removal device(s). The CCSA has implemented a routine inspection program for the Country Club and also regularly communicates with the staff at the Country Club regarding uses and discharges of sewage to the CCSA sewer system. These meetings and conversations are documented through regular agendas and notes or minutes from the meetings.

7-2: Response to WDR Requirements

Requirement (a):

An implementation plan and schedule for a public education outreach program should promote proper disposal of FOG.

Response:

The CCSA customers as dischargers to the DSRSD system have access to the DSRSD FOG and other sewage discharge related websites.

Requirement (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.

Response:

Inspections of the grease interceptors at the Country Club are completed on a routine basis. The owner/operator has been notified to have their interceptors pumped down by local grease haulers to area rendering companies.

Requirement (c):

The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG.

Response:

Legal authority to limit FOG and to prohibit nuisance discharge is provided through Alameda County Code of Ordinances Chapter 13.04, 15.20 and more specifically as stated in Table 3-1

Requirement (d):

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.

Response:

Requirements for the installation of grease removal devices and testing requirements are stated in Table 3-1 and included in County Code Section 15.20.

Requirement (e):

Authority to inspect grease producing facilities, enforcement authorities, and determination of whether the collection system has sufficient staff to inspect and enforce the FOG ordinance.

Response:

Legal authority to limit FOG is provided through Alameda County Code of Ordinances Chapter 13.04, 15.20 and more specifically as stated in Table 3-1.

Requirement (f) and (g):

Requirement (f) is an identification of sewer system sections subject to FOG blockages and the establishment of a cleaning maintenance schedule for each section, and

Requirement (g) is the development and implementation of source control measures, for all sources of FOG discharged to the sewer system.

Response:

Requirement (f) sewer pipe sections identified through CCTV inspections with high grease may be placed on a high frequency cleaning list to prevent blockages and are cleaned more frequently to assure prevention of overflows.

7-3: References

- Alameda County Code of Ordinances Chapter 13.04 and 15.20.

Element 8: System Evaluation and Capacity Assurance Plan

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 : System Evaluation – Collection System Master Plan

The last major assessment of the Castlewood sanitary sewer system was completed in October 2012 and reported in the Castlewood County Service Area Water and Sewer Assessment by the Pakpour Consulting Group. The Sewer Assessment included condition assessment of all pipelines and manholes in the sanitary sewer system which were originally constructed and dedicated to the CCSA in 1996. The Sewer Assessment did not include an evaluation of the capacity of the sewer lines nor was a capacity model constructed and used for the evaluation of capacities of the sewer lines. The County Public Works Agency and the service contractors are and were not aware of any capacity issues in the system due to the small size of the system and the small number of discharging units in the CCSA.

8-2: Design Criteria

The County of Alameda has created both Engineering Design Guidelines for Unincorporated Alameda County dated 2008 as well as a CSA Sanitary Sewer Handbook specifically for County Service Area R-1967-1. In addition, the Design Guideline requires all sewer improvement plans to also be approved by DSRSD prior to County approval.

8-3: CCSA Capacity Enhancement Measures – Capital Improvement Program

The Pakpour Sewer Assessment Report included the development of three levels of prioritized improvements to the sewer system pipes and manholes as follows¹:

- Level 1 – High Priority – necessary to limit SSOs from the sewer system
- Level 2 – Necessary Projects – to prevent further deterioration of the sewer system
- Level 3 – Discretionary Projects – projects that do not pose a serious threat of SSO or leakage but may increase reliability of the sewer system.

The Level 1 projects were completed thru 2017. Level 2 projects are to be completed in 20 years from 2017 and the Level 3 as appropriate but within 25 years.

In addition, the agreements with the City of Pleasanton and Coleman Engineering include funding for necessary projects identified by the City or Coleman during regular maintenance of the sewer infrastructure and the Sewage Pump Station.

8-4: Schedule

The current schedule of CCSA capital projects is included in Supplement IV-2 in Element IV.

8-5: References

- Castlewood Country Service Area Water and Sewer Assessment, October 2012, Pakpour Consulting Group
- County of Alameda Engineering Design Guidelines for Unincorporated Alameda County, April 2008
- County Service Area R-1967-1, Sanitary Sewer Handbook, September, 1989

¹ Castlewood County Service Area Water and Sewer Assessment Page 13-1.

Element 9: Monitoring, Measurement, and Program Modifications

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: Performance Measures

The CCSA has established preventive maintenance sewer metrics that are shown in **Table 9 – 1** below for use in monitoring, measuring, and adjusting sewer maintenance activities. These metrics will be monitored on a regular basis by both the County staff and the Service Contractor.

Table 9 – 1: CCSA Preventative Maintenance Performance Metrics

Maintenance Success Factors	Metric
System Pipes	Miles
Gravity Pipes Cleaned	Linear Feet/Year
High Frequency Cleaning	Liner Feet/Year; number of segments on the list per year
Pipes Inspected (CCTV)	Linear Feet/Year
Manholes Inspected	Number/Year
Sanitary Sewer Overflows (SSO)	Number by Underlying Cause per 100 Miles; number by Category of SSO
Repeat SSOs	Number/Year
Response Time	Minutes per SSO after Notification
Spill Volume/Recovered	Annual Gallons Spilled and Recovered
Pump Station Overflows	Number by Cause
FSE Inspections	Individual Inspections/Year
Pipe Replaced	Miles/Year
Customer Complaints	Number Received/Year; Number Resolved/Year/Outstanding

9-2: Baseline Performance

The CCSA has performance measures in place and evaluates its performance regularly. These performance results will be used to assist the CCSA to evaluate the effectiveness of the sewer collection system program and the SSMP as part of the biennial internal audit.

9-3: Performance Monitoring and Program Changes

The CCSA will evaluate its performance regularly using the performance measures identified in this Element. The CCSA will update the data and analysis.

The CCSA may use other performance measures in its evaluations. The CCSA will prioritize its actions and initiate changes to this SSMP, its operations and maintenance practices and procedures, and any related programs based on the results of these evaluations. This will be done as part of the required internal audit (see Element 10).

9-4: References

The data used in this section were taken from the following references:

- CIWQS SSO data as of December 2021 for WDID 2SSO18112

Element 10: SSMP Program Audits

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 : Audits

The CCSA will audit the implementation and compliance with the provisions of the WDR and this SSMP as required from the original adoption date of May 2023. The next audit will be conducted and completed no later than June 2025. The audit will be conducted by a team consisting of County staff and the service contractor(s). The audit team may also include members from other service area agencies like the City and/or DSRSD or professional consultants. During the SSMP audit, the CCSA will conduct a record keeping audit of its SSO files supporting the CIWQS certified reports during the audit period to assure that the files are complete, contain all required records and documentation as stated in the WDR and that the files contain no extraneous or conflicting records or information.

The SSMP Audit Checklist (Appendix C) is used to inform the internal audit interview process and includes the WDR requirements for each SSMP element and the appendices. The results of the audit, including the identification of any deficiencies and the steps taken or planned to correct them will be included in a separate certified Internal Audit Report Action Plan. Upon completion of the audit report and certification by the LRO in CIWQS, the CCSA will place a copy of the final Audit Report including the SSMP Audit Checklist in Appendix C, Sewer System Annual Audit Reports of the SSMP or submit the Report to any other locations required by the WDR. Modifications and changes to the SSMP or the operations and maintenance and emergency response procedures identified during the audit will be identified in Appendix D, SSMP Change Log when completed.

The audit should contain information about successes in implementing the most recent version of the SSMP and identify revisions that may be needed for a continuously improving and effective program. Information collected will be used in preparing the Audit Report. Tables and figures or charts will be used to summarize information about performance results. An explanation of the SSMP development, and accomplishments in improving the sewer system, should be included in the audit report, including:

- How the CCSA implemented the sewer system SSMP elements in the past year;
- The effectiveness of implementing each SSMP element;

- A description of the additions and improvements made to the sanitary sewer collection system in the audit period; and
- A description of the additions and improvements planned for the upcoming reporting year with an estimated schedule for implementation.
- Status of any deficiencies or corrective actions identified to improve program performance.

10-1 : SSMP Updates

If the internal audit identifies significant changes necessary to be made to the SSMP, the SSMP will be updated by June 30 of the same year in which the audit was completed. However, it is anticipated that the main SSMP document will remain generally unchanged, and that any changes will be reflected regularly between SSMP adoptions in the SSMP appendices and the SSMP Change Log.

10-2 : References

- State Water Resources Control Board Waste Discharge Requirements for Sanitary Sewer Systems.

Element 11: Communication Program

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 during SSMP Development and Implementation

The CCSA communicates regularly with the Board of Supervisors at public meetings that allow for public input regarding the implementation and results of the CCSA sanitary sewer system operations and program implementation.

Information provided upon request to interested parties includes: a copy of completed or requested elements of the SSMP, brochures and materials regarding collection system operations and maintenance and contact information and/or opportunities for input into the development and implementation of the collection system operations.

The CCSA will provide the Board, at a regularly scheduled meeting, a Collection System Performance Report that will be included in the minutes of that public meeting and placed on the CCSA website. The performance information will include the performance measures listed in Element 9: Monitoring, Measurement, and Program Modifications.

11-2 : Communication with City and DSRSD

The CCSA will document all meetings with the Castlewood Property Owners Association, the Castlewood Country Club, Service and Construction Contractors, and professional consultants.

11-3 : References

None.

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Appendix A: Sewer System Management Plan Board of Supervisors Adoption Documents

THE BOARD OF SUPERVISORS OF THE COUNTY OF ALAMEDA, STATE OF
CALIFORNIA

RESOLUTION NO. 2023 -243

A RESOLUTION TO
APPROVE AND ADOPT THE SEWER SYSTEM MANAGEMENT
PLAN, OVERFLOW EMERGENCY RESPONSE PLAN, AND WATER
QUALITY MONITORING PLAN FOR THE CASTLEWOOD COUNTY
SERVICE AREA R-1967-1

WHEREAS, the Alameda County Board of Supervisors is the governing body for the Castlewood County Service Area (CSA) R-1967-1, which operates and maintains a sewer system in unincorporated Pleasanton, Alameda County, California; and

WHEREAS, the State Water Resources Control Board (SWRCB) adopted Order 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (WDR-SSS) in May 2006; and

WHEREAS, the SWRCB issued Order WQ2013-0058-EXEC to amend the monitoring, record keeping, reporting, and public notification requirements of the WDR-SSS in August, 2013; and

WHEREAS, the SWRCB issued Order 2022-0103-DWQ in December, 2022 (General Order), which supersedes Order 2006-0003-DWQ and WQ-2013-0058-EXEC; and

WHEREAS, pursuant to the General Order, the CSA must develop and adopt a Sanitary Sewer Management Plan by June 5, 2023, with the purpose of providing proper and efficient management, operation, and maintenance of the CSA sewer system; and

WHEREAS, the Public Works Agency has prepared a Sanitary Sewer Management Plan in compliance with the General Order, as well as an Overflow Emergency Response Plan, and a Water Quality Monitoring Plan (collectively "SSMP") for the CSA; and

WHEREAS, the SSMP has been determined to be exempt from the California Environmental Quality Act (CEQA) under the common sense exemption; and

WHEREAS, the Public Works Agency is requesting that the Director of Public Works be authorized to execute documents pertaining to the SSMP and to process the online sanitary sewer overflow database form on behalf of the CSA;

NOW, THEREFORE, BE IT RESOLVED that the SSMP for Castlewood County Service Area is hereby approved and adopted; and

BE IT FURTHER RESOLVED that the Director of Public Works is authorized to execute documents pertaining to the SSMP for the CSA and to process the online sanitary sewer overflow database form on behalf of the CSA in accordance with the General Order.

The foregoing Resolution was passed and adopted by the Board of Supervisors of the County of Alameda on May 16, 2023 by the following vote:

Ayes: Supervisors Carson, Haubert, Marquez, Tam & President Miley - 5

Noes: None

Excused: None



NATE MILEY
PRESIDENT, BOARD OF SUPERVISORS

ATTEST:
ANIKA CAMPBELL-BELTON
CLERK OF THE BOARD OF SUPERVISORS

By:

Deputy



APPROVED AS TO FORM:
DONNA R. ZIEGLER, COUNTY COUNSEL

By:

Kathy Lee, Deputy County Counsel

DocuSigned by:



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Appendix B: Sewer System Management Audit Reports

Appendix C: Internal Audit Checklist

Castlewood County Service Area SSMP Audit Checklist

The purpose of the SSMP Audit is to evaluate the effectiveness of the Castlewood County Service Area (CCSA) SSMP and to identify any needs for improvement. The information identified here will be used to inform the findings and necessary information to be evaluated during the biannual Internal Audit of the CCSA SSMP and sewer program.

Directions: Please rank each item below utilizing the following sufficiency ranking system and add any comments to explain the ranking to the Comment Section of each SSMP Element:

- *Complies (C) – complies with all WDR objectives*
- *Substantially Complies (SC) – complies mostly with all WDR objectives*
- *Partially Complies (PC) – complies with basic WDR objectives*
- *Marginal Compliance (MC) – complies minimally with basic objectives of the WDR*
- *Does Not Comply (DNC) – does not comply with WDR objectives*

Element 0 – Introduction	
A.	
B.	
C.	
D.	
Element 1 – Goals	Rating
A. Are the goals stated in the SSMP still appropriate and accurate?	
Discussion:	
Element 2 – Organization	Rating
A. Is the List of CCSA Staff Responsible for SSMP Elements current?	
B. Is the Sanitary Sewer Overflow Responder List current?	
C. Is the Organization Chart current?	
D. Are the Staff position descriptions an accurate portrayal of staff responsibilities?	

E. Is the Chain of Communication for Reporting and Responding to SSOs accurate and up-to-date?	
Discussion:	
Element 3 – Legal Authority	Rating
Does the SSMP contain current references the CCSA’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 CCSA?	
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 CCSA Sewer Ordinances, Regulations or standards?	
Discussion:	
Element 4 – Operations & Maintenance	
Collection System Maps	Rating
A. Does the SSMP reference the current process and procedures for maintaining the CCSA’s wastewater collection system maps?	
B. Are the CCSA’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	Rating
D. Does the SSMP describe current preventive maintenance activities and the system for prioritizing the cleaning of sewers?	
E. Based upon information are the CCSA’s preventive maintenance activities sufficient and effective in minimizing SSOs and blockages?	
Scheduled Inspections and Condition Assessments	Rating

F.	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		Rating
G.	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?	
H.	Are contingency and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance?	
Training		Rating
I.	Does the SSMP document current training expectations and programs?	
Outreach to Plumbers and Building Contractors		Rating
J.	Does the SSMP document currently include outreach efforts to plumbers and building contractors working in the service area?	
Discussion:		
Element 5 – Design and Performance Standards		Rating
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 6 – Overflow and Emergency Response Plan		Rating
A.	Does the Sanitary Sewer Overflow Emergency Response Plan establish procedures for the emergency response, notification, and reporting of SSOs?	
B.	Are CCSA 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 to safeguard public health and the environment?	

D.	Are all SSO and claims reporting forms current or do they require revisions or additions?	
E.	Does all SSO event recordkeeping meet the SSS 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 SSS GWDR? Have all Technical Report and Water Quality Sampling requirements been met and uploaded to the CIWQS data management system?	
G.	Was required training on SSMP and OERP completed and documented? Were field exercises with field staff on SSO volume estimation conducted and documented?	
H.	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 CCSA OERP?	
Discussion:		
Element 7 – Fats, Oils and Grease (FOG) Control Program		Rating
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 CCSA's FOG Control Program?	
D.	Does the CCSA 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	
Discussion:		
Element 8 – System Evaluation and System Evaluation Capacity Assurance Plan		Rating

A. Does the CCSA Sanitary Sewer Master Plan evaluate hydraulic deficiencies in the system, establish sufficient design criteria and recommend both short and long-term CCSA enhancement and improvement projects?	
B. Does the CCSA's Capital Improvement Plan (CIP) establish a schedule of approximate completion dates for both short and long-term CCSA improvements and is the schedule reviewed and updated to reflect current budgetary capabilities and activity completed?	
Discussion:	
Element 9 – Monitoring, Measurement and Program Modifications	Rating
A. Does the SSMP accurately portray the methods of tracking and reporting selected performance indicators?	
B. Is the CCSA able to sufficiently evaluate the effectiveness of the SSMP elements based on relevant information?	
C. Do the performance metrics properly support the Goals in Element 1?	
Discussion:	
Element 10 – SSMP Audits	Rating
A. WAS the SSMP Internal Audit be completed, reviewed, and filed in Appendix B?	
B. Was the final Audit Report presented to the County Board at a publicly noticed meeting?	
Discussion:	
Element 11 – Communications Program	Rating
A. Does the CCSA effectively communicate with the public and other agencies about the implementation of the SSMP and continue to address any feedback?	
B. Did the CCSA Council receive and review the Sewer System Report?	
C. Did CCSA staff conduct and documented meetings with Gilroy?	
D. Are all agreements with the service contractor and the City of Pleasanton current or are changes necessary to these agreements?	
Discussion:	

Change Log		Rating
A. Is the SSMP Change Log current and up to date?		
Discussion:		

Audit Team: _____

Date: _____

Prepared By: _____

Date: _____

Reviewed By: _____

Date: _____

Certified By: _____

Date: _____

Approved for Filing On

Date: _____

pg. 49

Appendix E: Overflow Emergency Response Plan (OERP)

County of Alameda: Castlewood County Service Area

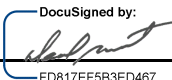
Overflow Emergency Response Plan



Effective Date: May 8, 2023

Revised Date: _____

Approved by: Daniel Woldesenbet

Signature: 

Date: 5/8/2023 | 1:52 PM PDT

Prepared by David Patzer, DKF Solutions Group
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Sanitary Sewer Overflow Emergency Response Plan

1. Purpose

The purpose of the County of Alameda's Castlewood Country Club Overflow Emergency Response Plan (OERP) is to support an orderly and effective response to Sanitary Sewer Overflows (SSOs). The OERP provides guidelines for Agency personnel and service contractors to follow in responding to, cleaning up, and reporting SSOs that may occur within CCSA's service area. This OERP satisfies the SWRCB Statewide General Waste Discharge Requirements (GWDR), which require wastewater collection agencies to have an Overflow Emergency Response Plan.

2. Policy

CCSA'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. CCSA's goal is to respond to sewer system overflows as soon as possible following notification. CCSA will follow reporting procedures in regards to sewer spills as set forth by the San Francisco Regional Water Quality Control Board (*SFRWQCB*) and the California State Water Resources Control Board (*SWRCB*).

3. Definitions as Used in This OERP

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 SSMP, and provide information on the sanitary sewer system.

FOG – Fats, Oils, and Grease: 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 Agency 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 CCSA 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.

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

PRIVATE LATERAL SEWAGE DISCHARGES – Sewage discharges that are caused by blockages or other problems within a privately-owned upper lateral.

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: Discharges of untreated or partially treated wastewater of **any volume** resulting from an enrollee's sanitary sewer system failure or flow condition that:
- Reach surface water and/or reach a drainage channel tributary to a surface water; or
 - Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).
- Category 2: 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.)

SEWER SERVICE LATERAL: Refers to the upper laterals from the house to the property line or clean out if one exists.

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

GWDR Requirement

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.

5. Goals

CCSA'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 D.13vi(a)

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

Alameda County owns one wastewater lift station and associated force main, which is operated and maintained by the City of Pleasanton through a separate agreement that is limited to the sewer pump station. The wastewater lift station has onsite backup power and bypass capability. In the event of a pump failure, 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 CCSA is notified of blockages and spills. Reports of sewer spills and backups are received by the Castlewood's Operations and Maintenance (O/M) Contractor.

When a report of a sewer spill or backup is made, the call is received by the O/M Contractor. The O/M Contractor is then dispatched. The Contractor will investigate and take appropriate actions. The customer is notified of findings and actions taken. Castlewood Country Club will be notified as appropriate.

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 problem
- Nature of call
- In case of SSO, estimated start time of overflow
- Caller's name, address, and telephone number
- Caller's observation (e.g., odor, duration, location on property, known impacts, indication if surface water impacted, appearance at cleanout or manhole)
- Caller's estimation of the duration of the problem and knowledge of any history of prior incidents in the same area.
- Other relevant information

If the overflow/backup is not in CCSA's service area they provide the customer with the contact information for the responsible agency, and then notify that agency.

If the overflow/backup is in CCSA's service area, the O/M Contractor is dispatched and instructed to complete the Sanitary Sewer Overflow/Backup Response Workbook.

6.2 AGENCY STAFF OBSERVATION

Agency 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 Agency 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/plumber causes or witnesses a Sanitary Sewer Overflow. If the contractor/plumber causes or witnesses an SSO they should:

1. Immediately notify CCSA.
2. Protect storm drains.
3. Protect the public.
4. Provide Information to the O/M Contractor such as start time, appearance point, suspected cause, weather conditions, etc.
5. Direct ALL media and public relations requests to the Public Information Specialist

6.4 NO OBSERVATION

If there are no witnesses or no call was received for an SSO, CCSA staff will contact nearby residents or business owners in the vicinity of the SSO, in an attempt to obtain information that brackets a given start time that the SSO began. This information will be collected and placed with records for the specific SSO.

7. SSO Response Procedures

ref. SWRCB Order No. 2006-0003-DWQ D.13vi(b)

7.1 Sewer Overflow/Backup Response Summary

CCSA or their O/M Contractor will respond to SSOs as soon as feasible following notification of an overflow/backup or unauthorized discharge.

If it is not possible that the overflow/backup is due to a failure in the CCSA-owned/maintained sewer lines the O/M Contractor performs the following:

- Follows the instructions in the Sanitary Sewer Overflow/Backup Response Workbook.
- If the customer is not home the O/M Contractor completes the Door Hanger and leaves it on the customer's door.
- If the customer is home the O/M Contractor:
 - Explains that the blockage is in the customer's lateral and CCSA does not have legal authority to maintain or perform work on privately owned laterals.
 - Recommends to the customer that they hire a contractor to clear their line.
 - Gives the customer the Sewer Spill Reference Guide pamphlet.

If it is possible that the overflow/backup is due to a failure in the CCSA-owned/maintained sewer lines the O/M Contractor:

- Follows the instructions in the Sanitary Sewer Overflow/Backup Workbook.
- Relieves blockage and cleans impacted areas.
- Forwards the completed Sanitary Sewer Overflow Workbook to the O/M Contractor.

The O/M Contractor performs required regulatory reporting in accordance with the Sanitary Sewer Overflow/Backup Workbook's Regulatory Reporting section.

If the overflow has impacted private property, the O/M Contractor:

- Follows the instructions in the Sanitary Sewer Overflow/Backup Workbook.
- Provides the customer with forms and information as indicated in the Sanitary Sewer Overflow/Backup Workbook.
- Forwards the completed Sanitary Sewer Overflow/Backup Workbook to the O/M Contractor.

The O/M Contractor notifies County Risk Management of the incident.

County Risk Management:

- Reviews incident reports, claim form and other incident information.
- Communicates with claimant as appropriate.

7.2 First Responder Priorities

The first responder's priorities are:

- To follow safe work practices.
- To respond promptly with the appropriate and necessary equipment.
- To contain the spill wherever feasible.
- To restore the flow as soon as practicable.
- To minimize public access to and/or contact with the spilled sewage.
- To promptly notify the O/M Contractor in event of major SSO.
- To return the spilled sewage to the sewer system.
- To restore the area to its original condition (or as close as possible).

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 Agency personnel responding to a sewer system event are not familiar with potential safety hazards peculiar to 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.

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.

- Take photos of overflowing manhole(s)/cleanout(s).
- Determine if the overflow or blockage is from a public or private sewer.
- Identify and assess the affected area and extent of spill.
- Contact County Legally Responsible Official (LRO) if the spill appears to be a Category 1 SSO greater than or equal to 1,000 gallons.
- Contact caller if time permits.
- 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 procedures refer to the Sanitary Sewer Overflow/Backup Response Workbook.

7.5 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 procedures refer to the Sanitary Sewer Overflow/Backup Response Workbook.

7.6 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 other assistance is required, immediately contact the O/M Contractor. For procedures refer to the Sanitary Sewer Overflow/Backup Response Workbook.

7.7 Equipment

This section provides a list of specialized equipment that may be required 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*
- *Portable Lights*

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

7.8 Continued Response Efforts

CCSA shall, following the initial response and reporting required by the State Water Resources Control Board's Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SSS WDR), continue response efforts based on the risk posed by the SSO at issue, taking into account: (1) the volume of the SSO; (2) the proximity of the SSO to high risk areas, which shall include sensitive populations, specifically public and private schools, parks, recreational areas, and surface waters, especially during the recreation season from May to September; and (3) the timing and/or seasonality of the SSO event (e.g. an SSO to surface waters during low flow, acid conditions of late summer). CCSA further agrees to provide training to its response crews regarding implementation of the risk assessment. CCSA shall augment the SSMP and OERP, as necessary, to document this practice.

8. Recovery and Cleanup

ref. SWRCB Order No. 2006-0003-DWQ D.13vi(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 Flow and Volume of Spilled Sewage

To estimate the flow rate, crew members will use the SSCSC Manhole Overflow Gauge if the same style of manhole cover is observed overflowing. A variety of approaches exist for estimating the volume of a sanitary sewer spill. Crew members should use the method most appropriate to the sewer overflow in question and reference the Sanitary Sewer Overflow/Backup Response Workbook which provides four (4) methods:

- Eyeball Estimation Method
- Duration and Flow Rate Calculation Method
- Area/Volume Method
- Upstream Connections Method

Where safe and possible, CCSA shall take photographs of an SSO event before and during the recovery operation to help aid in establishing and justifying spill volume. Such photographs will preserve data such as the date and time for when Agency staff took the photograph.

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 Agency staff, a cleanup contractor will be used.

Private Property

Agency 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 into property is the definite cause of Agency system failure, the property owner can call out a water damage restoration contractor to complete the cleanup and restoration. Property owners may submit a claim for damages to CCSA.

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 deozone 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

In the event CCSA cannot confirm that specific human pathogens from an SSO have been removed or mitigated, CCSA shall post and maintain appropriate public notification signs and place barricades to keep vehicle and pedestrian traffic away from contact with the spilled sewage. The signs and other public notices will not be removed until the Alameda County Department of Environmental Health or other agency with jurisdiction over the matter has determined there is no further risk to public health and the environment.

The area and warning signs, once posted, will be checked every day to ensure that they are still in place. Photographs of sign placement will be taken.

CCSA will provide notification to members of the public using a public notification procedure for any SSO in excess of fifty thousand (50,000) gallons if the SSO reaches a surface water.

When contact with the local media is deemed necessary by regulating agencies, the Public Information Officer or their designee and the Legally Responsible Official (LRO) will provide the media with all relevant information.

9. Water Quality

ref. SWRCB Order No. 2006-0003-DWQ D.13vi(f)

9.1 Water Quality Sampling and Testing

Water quality sampling and testing will be performed 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 contracted engineering firm or first responders will collect 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.
- Downstream sample collection points will be based on stream flow rate.
- The samples shall then be brought to the O/M Contractor-selected ELAP-certified laboratory.

Sampling will be conducted based on the risk assessment set forth in Section 7.8. Where sampling is performed, surface waters will be sampled, where feasible, upstream from the SSO, at the point of entry, and downstream from the SSO, and test for ammonia, fecal coliform, and E. coli.

Water quality sampling results shall be reported in an appropriate category on the California Integrated Water Quality System (CIWQS) reporting form or as required by the State Water Resources Control Board. Feasibility for obtaining a sample will depend on whether sufficient flow exists to collect a representative, uncontaminated sample, and whether dangerous conditions exist that would preclude staff from safely obtaining a sample (i.e., staff will not be placed at risk for injury in severe weather or other dangerous condition).

9.2 Water Quality Monitoring Plan

The CCSA Water Quality Monitoring Plan will be implemented immediately upon discovery of any Category 1 SSO whenever there is a major spill 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, legal right to access, etc.)
3. Require water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.
4. Require monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy.
5. Within 48 hours of the CCSA becoming aware of the SSO, require water quality sampling for fecal coliform, E. Coli, biochemical oxygen demand (BOD), and ammonia.
6. Observe proper chain of custody procedures.

9.3 SSO Technical Report

The CCSA will submit an SSO Technical Report to the CIWQS Online SSO Database within 45 calendar days of the SSO end date for any major SSO spilled to surface waters. The Director of Public Works or their designee will supervise the preparation of this report and will certify 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:

Causes and Circumstances of the SSO:

- 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.

CCSA's Response to SSO:

- Chronological narrative description of all actions taken by CCSA 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.

Water Quality Monitoring:

- 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 CCSA 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:

- Agency staff will offer a Agency claim form irrespective of fault whenever it is possible that the sanitary sewer backup may have resulted from an apparent blockage in the CCSA-owned sewer lines or whenever a Agency customer requests a claim form. The claim may later be rejected if subsequent investigations into the cause of the loss indicate CCSA was not at fault.
- It is the responsibility of the O/M Contractor to gather information regarding the incident and notify the Director of Public Works or their designee.
- It is the responsibility of the Senior Risk and Insurance Analyst or his/her designee 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 D.13vi(c)

In accordance with the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SSS GWDRs), CCSA 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 Regulator Required Notifications

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, CCSA will notify the California Office of Emergency Services (CalOES) and obtain a notification control number.	Call Cal OES at: (800) 852-7550
REPORTING	<ul style="list-style-type: none"> Category 1 SSO: CCSA 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 2 SSO: CCSA will submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of the SSO end date. Category 3 SSO: CCSA will submit certified report within 30 calendar days of the end of month in which SSO the occurred. SSO Technical Report: CCSA 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: CCSA 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: CCSA will update and certify every 12 months 	<p>Enter data into the CIWQS Online SSO Database¹ (http://ciwqs.waterboards.ca.gov/) certified by the Legally Responsible Official(s)².</p> <p>All information required by CIWQS will be captured in the Sanitary Sewer Overflow Report.</p> <p>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.</p>
WATER QUALITY MONITORING	CCSA will conduct water quality sampling within 48 hours after initial SSO notification 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	<p>CCSA will maintain the following records:</p> <ul style="list-style-type: none"> 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. 	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 Chief Utility System Operator will notify SWRCB by phone and will fax or e-mail all required information to the RWQCB office at (510) 622-2460 in accordance with the time schedules identified above. In such an event, CCSA 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 CCSA 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 whatever 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

CCSA and/or the O/M Service Contractor maintain records of all complaints received whether or not they result in sanitary sewer overflows. These complaint records include:

- 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

All complaint records will be maintained for a minimum of five years whether or not they result in an SSO. SSO records are kept under the direction and control of the O/M Contractor and/or CCSA.

12. Post SSO Event Debriefing

ref. SWRCB Order No. 2006-0003-DWQ D.13vi(d)

Every SSO event is an opportunity to evaluate the CCSA 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 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 D.13vi(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 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
- Reviewing 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 segments immediately following the SSO and reviewing the video and logs,
- Reviewing any Fats, Oils, Roots and Grease (FROG) related information or results
- 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 Sanitary Sewer Overflow/Backup Response Workbook) will be used to document the investigation.

14. SSO Response Training

ref. SWRCB Order No. 2006-0003-DWQ D.13vi(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

CCSA and the O/M Service Provider 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. CCSA and/or the O/M Service Provider will document all training.

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

- CCSA'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 (see below)
- Employee Core Competency Evaluations on Sanitary Sewer Operations
- Water Quality Monitoring Plan

CCSA and/or O/M Service Provider 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. CCSA 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, 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 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 will include date, time, place, content, name of trainer(s), and names and titles of attendees.

14.4 Contractors Working on Agency Sewer Facilities

All service contractors and construction contractors working on CCSA 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 contractors will be provided, and required to observe, contractor procedures.

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 No. WQ 2013-0058-EXEC effective September 9, 2013

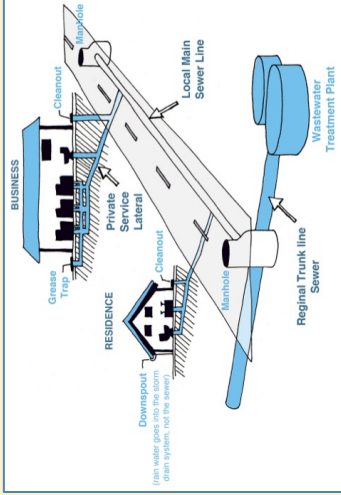
16. Appendices

- Appendix A: Private Lateral Sewage Discharge Information (Pamphlet)
- Appendix B: Door Hanger
- Appendix C: Sanitary Sewer Overflow/Backup Response Workbook

APPENDIX A:
Private Lateral Sewage Discharge Pamphlet

How a Sewer System Works

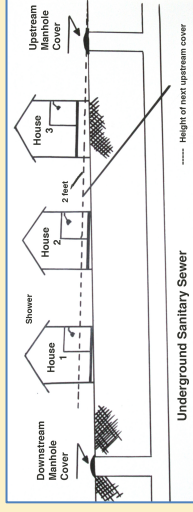
A property owner's sewer pipes are called **service laterals** and are connected to larger local main and regional trunk lines. Service laterals run from the connection at the home to the connection with the public sewer. These laterals are the responsibility of the property owner and must be maintained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

Coleman Engineering:
(916) 622-6095

Discharge of untreated or partially treated sewage is prohibited by law. If you would like more information on this prohibition, please contact any of the following:

County of Alameda Department of Environmental Health

(510) 567-6700

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.

San Francisco Regional Water Quality Control Board:

(510) 622-2300

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

Castlewood Service Area

Your Responsibilities as a Private Property Owner

Provided to you by:

County of Alameda Castlewood Service Area

951 Turner Court, Room 100
Hayward, CA 94545

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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.

Call for assistance: (916) 622-6095

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 contact Coleman Engineering at (916) 622-6095. Crews will 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 "Sewer 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. 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 solution, 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.

APPENDIX B: Door Hanger



Castlewood Service Area

On (date) _____, at

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

We discovered a blockage in:

- ☐ The sanitary sewer main and cleared the line
- ☐ The County-maintained portion of your sanitary
sewer lateral and cleared the line.
- ☐ Your portion of the sanitary sewer lateral,
which is your responsibility to maintain. We
also found the County's portion of the lateral
and the main to be flowing normally.

If you require assistance to clear your portion of the
lateral you can search the internet for "Sewer Con-
tractors" or "Plumbing Drains & Sewer Cleaning." If
you plan to hire a contractor we recommend getting
estimates from more than one company.

Agency representative notes:

Agency Representative:

For questions or comments, please call:

(916) 622-6095



Castlewood Service Area

On (date) _____, at

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

We discovered a blockage in:

- ☐ The sanitary sewer main and cleared the line
- ☐ The County-maintained portion of your sanitary
sewer lateral and cleared the line.
- ☐ Your portion of the sanitary sewer lateral,
which is your responsibility to maintain. We
also found the County's portion of the lateral
and the main to be flowing normally.

If you require assistance to clear your portion of the
lateral you can search the internet for "Sewer Con-
tractors" or "Plumbing Drains & Sewer Cleaning." If
you plan to hire a contractor we recommend getting
estimates from more than one company.

Agency representative notes:

Agency Representative:

For questions or comments, please call:

(916) 622-6095

APPENDIX C:
Sanitary Sewer Overflow/Backup Response Workbook

County of Alameda Castlewood County Service Area

Overflow Emergency Response Plan

Sanitary Sewer Overflow and Backup Response Workbook

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Start Here

- ☐ If this is a Category 1 SSO greater than or equal to 1,000 gallons, **immediately contact the Director of Public Works at (510) 670-5455 to make the 2-hour notification to CALOES.** If they cannot be reached, contact CalOES directly at (800) 852-7550 within 2 hours.
- ☐ **Refer to the Regulatory Reporting Guide** for additional reporting requirements.
- ☐ **If there is a backup into a residence or business**
County Risk Management (510) 272-6920
- ☐ **For Water Sampling Collection:** Coleman Engineering (916) 622-6095
- ☐ **For any media inquiries/requests:**
Public Information Specialist (510) 670-6578

**Don't forget to take photos!****O/M Contractor:**

- ☐ Follow the instructions on the Overflow/Backup Response Flowchart and complete forms in this workbook as indicated.
- ☐ After all work is done and prior to leaving the site, review all documentation including photos to ensure accuracy, completeness, and legibility of documentation collected.
- ☐ Complete the chain of custody record (to the right) and deliver this workbook to the Chief Utility System Operator.

Print Name: _____

Initial: _____

Date: _____

Time: _____

Chief Utility System Operator:

- ☐ Review the SSO Event Checklist and the forms in this booklet. Contact the O/M Contractor for additional information if necessary.
- ☐ Confirm that all required regulatory notifications other than CIWQS have been made.
- ☐ If this was a Sewer Backup, complete the Backup Forms Checklist.
- ☐ Complete the Collection System Failure Analysis Form.
- ☐ Complete the Chain of Custody record (right) and forward to the Director of Public Works or their designee.

Print Name: _____

Initial: _____

Date: _____

Time: _____

Director of Public Works or their designee:

- ☐ Review the SSO Event Checklist and the forms in this booklet. Contact the O/M Contractor for additional information if necessary.
- ☐ Confirm that all required regulatory notifications have been made.
- ☐ Enter data into CIWQS.
- ☐ File this booklet

SSO Event Checklist

Date of SSO: _____	SSO Location/Name: _____
CIWQS Event ID #: _____	Category? <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 OES#: _____
Property Damage? <input type="checkbox"/> Yes <input type="checkbox"/> No	Service Request #: _____

<ul style="list-style-type: none"> <input type="checkbox"/> Effort made to contain and return a portion/all to the sanitary sewer <input type="checkbox"/> Pictures/video taken of overflow <input type="checkbox"/> Pictures taken of affected/unaffected area <input type="checkbox"/> If property damage, start that process <input type="checkbox"/> Pictures taken of containment efforts <input type="checkbox"/> If Cat 1 > 1000 gals: OES Control # _____ <input type="checkbox"/> Impacted waters identified? <input type="checkbox"/> No impacted waters? <input type="checkbox"/> SSO Report Form Complete (includes fields for all required fields in CIWQS, and a sketch of SSO) <input type="checkbox"/> Volume Estimation Worksheet(s) done <input type="checkbox"/> Start Time Determination Form done <input type="checkbox"/> Initial review of forms is complete (ensure consistency with dates, times, volumes, and other data) <input type="checkbox"/> Review of photos and videos (label/date) <input type="checkbox"/> Start Folder for all documentation for this SSO event. Put everything in it (Field Reports, Worksheets/Forms, follow-up work orders, notes, pics, drawings, etc. CIWQS print outs and emails) <input type="checkbox"/> Failure Analysis <ul style="list-style-type: none"> <input type="checkbox"/> TV to determine cause <input type="checkbox"/> Review Asset History <input type="checkbox"/> Determine next steps to prevent recurrence <input type="checkbox"/> Document findings and next steps on SSO Report <input type="checkbox"/> Submit Draft in CIWQS within 3 business days (for Categories 1 and 2 only) <input type="checkbox"/> Print CIWQS Draft hard copy and email 	<ul style="list-style-type: none"> <input type="checkbox"/> Review CIWQS, SSO Report, Worksheets, CMMS, and any other documentation to ensure data is consistent (e.g. dates, times, volumes, cause, follow-up action, etc.) <input type="checkbox"/> Attach photos, forms etc. to CIWQS <input type="checkbox"/> Submit Ready to Certify in CIWQS (with sufficient time for LRO review) <input type="checkbox"/> Print CIWQS Ready to Certify and email <input type="checkbox"/> Hand folder to LRO <input type="checkbox"/> LRO review folder and CIWQS verify accurate and consistent data <input type="checkbox"/> Certify in CIWQS (within 15 calendar days for Categories 1 & 2, 30 days after the month for Category 3) <input type="checkbox"/> Print Certified CIWQS and email <input type="checkbox"/> Any changes? Change in CIWQS and hard copies and explain changes, print our current version <input type="checkbox"/> Move completed folder to SSO Binder <input type="checkbox"/> For 50,000 gallons or larger <ul style="list-style-type: none"> <input type="checkbox"/> Follow Water Quality Monitoring and Sampling procedures <input type="checkbox"/> Map of where samples were taken <input type="checkbox"/> Sampling results <input type="checkbox"/> Write Technical Report <input type="checkbox"/> Attach to CIWQS <input type="checkbox"/> Add to SSO Folder/Binder <input type="checkbox"/> If any changes are made to SSMP <ul style="list-style-type: none"> <input type="checkbox"/> Update SSMP and link on CIWQS to SSMP <input type="checkbox"/> Add change to SSMP Change Log <input type="checkbox"/> If change is substantive, re-certify SSMP
--	---

INSERT TAB:
Regulatory Reporting

Regulatory Reporting Guide

Deadline	Category 1 SSO	Category 2 SSO	Category 3 SSO
2 hours after awareness of SSO	<ul style="list-style-type: none"> If the spill is greater than or equal to 1,000 gallons, notify CalOES. Notify County of Alameda Department of Environmental Health 	-	-
As soon as possible	If SSO impacts private property that may be a failure of the sewer main and/or if a claim for damages may be submitted against CCSA, notify the Director of Public Works for their Designee.		
48 Hours after awareness of SSO	If 50,000 gal or more were not recovered, begin water quality sampling.	-	-
3 Business 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 date.	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 CIWQS. Update as needed until 120 days after SSO end date.
45 days after SSO end date	If 50,000 gal or more were not recovered, submit SSO Technical Report in CIWQS.	-	-

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, including all the discharge points associated with the SSO event.

Category	Definition
1	Discharges of untreated or partially treated wastewater of any volume resulting from an enrollee's sanitary sewer system failure or flow condition that: <ul style="list-style-type: none"> - Reach surface water and/or reach a drainage channel tributary to a surface water; or - Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).
2	Discharges of untreated or partially treated wastewater of 1,000 gallons or greater resulting from an enrollee's sanitary sewer system failure or flow condition that do not reach surface water, a drainage channel, or a MS4 unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.
3	All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.
Private Lateral Sewage Discharge (PLSD)	Discharges of untreated or partially treated wastewater resulting from blockages or other problems <u>within a privately-owned sewer lateral</u> connected to the enrollee's sanitary sewer system or from other private sewer assets. PLSDs that the enrollee becomes aware of may be <u>voluntarily</u> reported to the California Integrated Water Quality System (CIWQS) Online SSO Database.

Authorized Personnel:

The following are authorized to perform regulatory reporting:

- Director of Public Works
- Supervising Civil Engineer, Construction
- County Service Areas Administrator
- Operations and Maintenance Consultant
- Alameda County Sheriff (after hours)

The following are the County's Legally Responsible Officials (LRO) and are authorized to electronically sign and certify SSO reports in CIWQS:

- Director of Public Works, Daniel Woldesenbet
- Supervising Civil Engineer, Construction

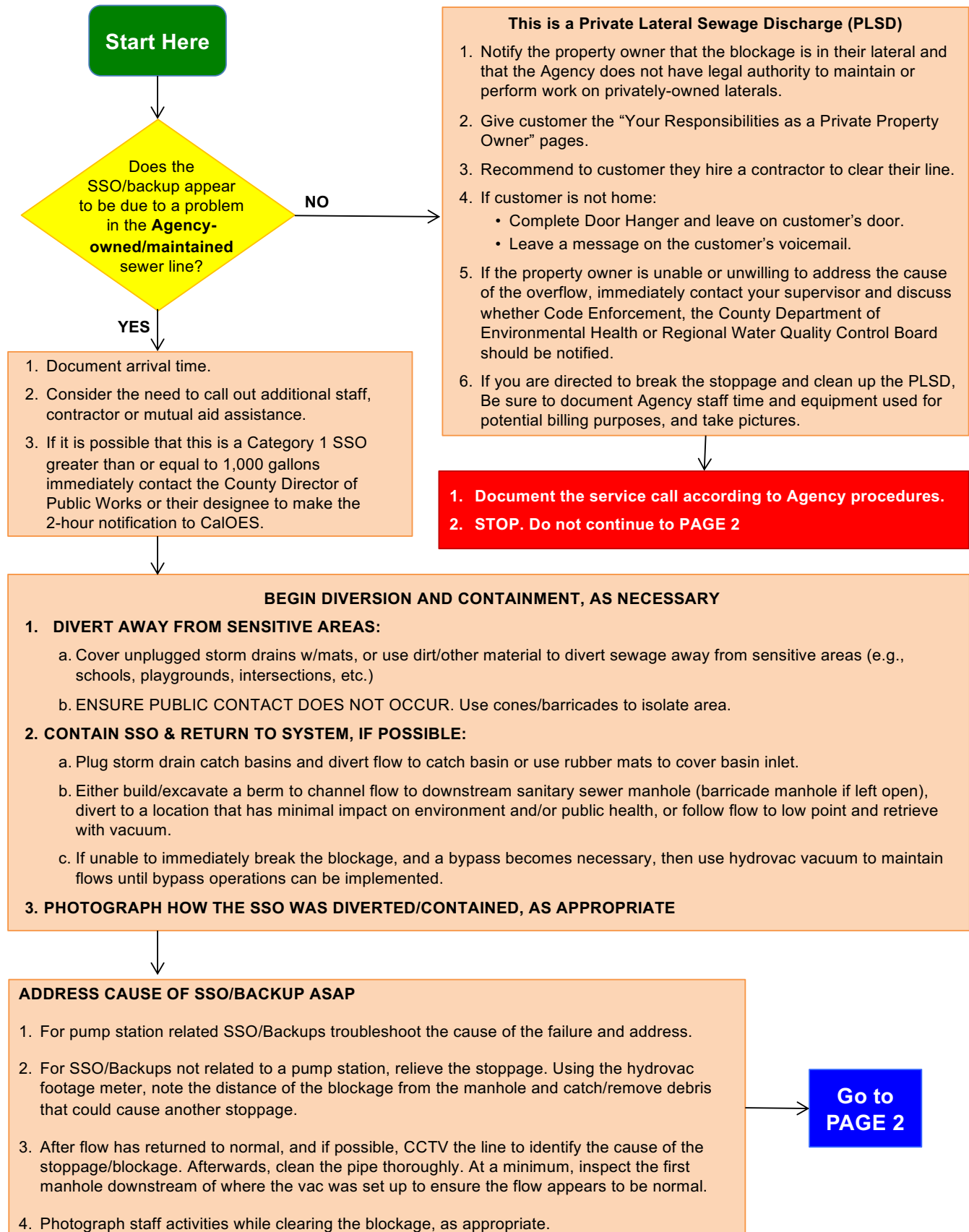
The following individuals and firms may need to be contacted during the response:

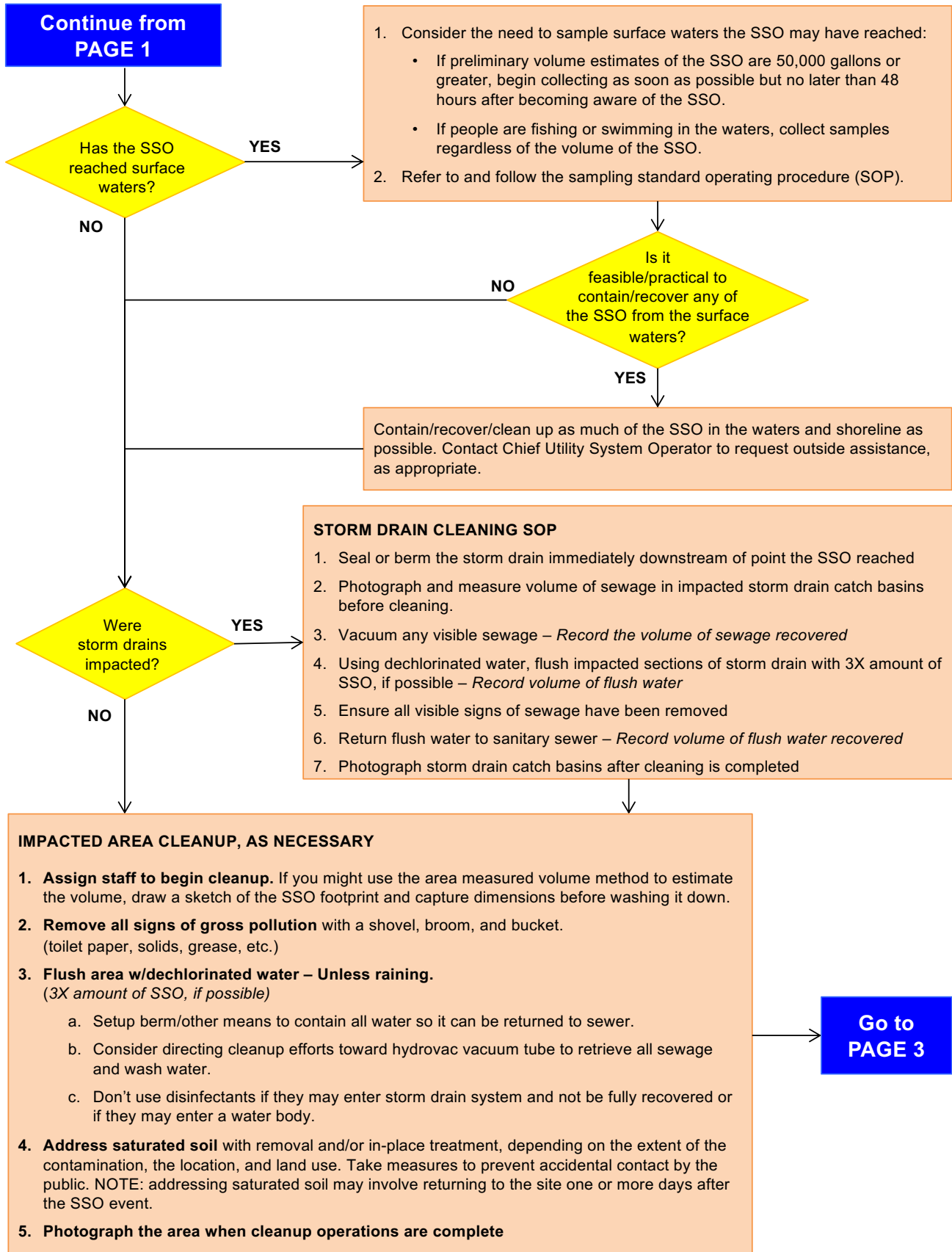
Contact	Telephone/Email
Alpha Labs	262 Rickenbacker Circle, Livermore, CA (925) 828-6226
CalOES	(800) 852-7550
Coleman Engineering	(916) 622-6095
County of Alameda Department of Environmental Health	(510) 567-6700 Ronald.Browder@acgov.org
County Service Areas Administrator, Lorena Arroyo	(510) 670-5212
Director of Public Works Daniel Woldesenbet	(510) 670-5455
County Risk Management	(510) 272-6920
Public Information Specialist, Halimah Anderson	(510) 670-6578
Regional Water Quality Control Board	Phone: (510) 622-2300 Fax: (510) 622-2460
Senior Risk and Insurance Analyst, Timothy P. Leibowitz	(510) 272-3869
State Water Resources Control Board Walter Mobley	(916) 323-0878 Walter.Mobley@waterboards.ca.gov
Supervising Civil Engineer, Construction	(510) 670-6694

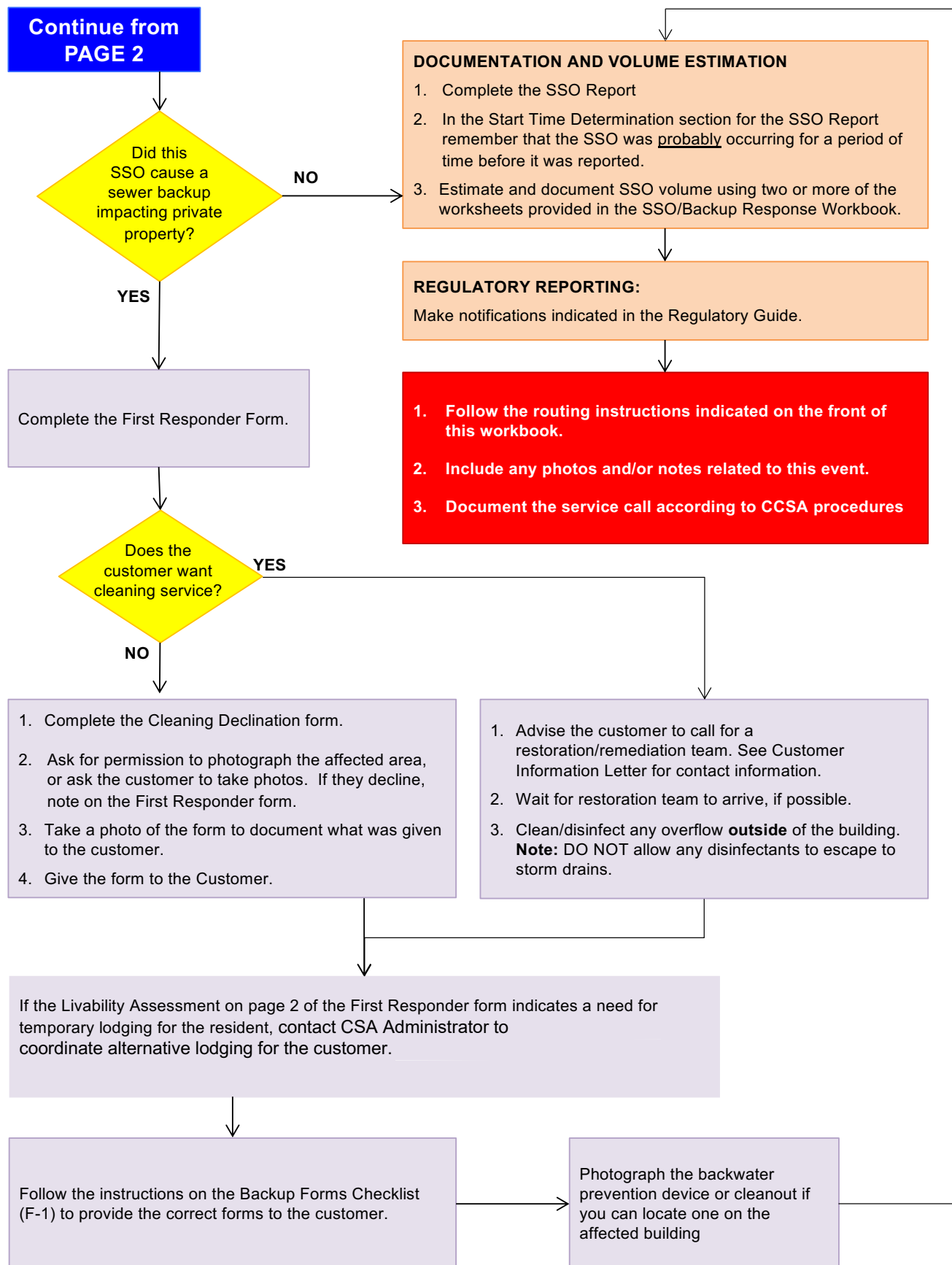
Regulatory Reporting Notifications Log**B-3**

NOTIFICATIONS	
CAL OES (800) 852-7550	
Notification Date/Time:	
Name of Who You Spoke To:	
OES Control Number:	
County of Alameda Department of Environmental Health	
Notification Date/Time:	
Name of Who You Spoke To:	
Left Message: <input type="checkbox"/>	
Alpha Labs	
Notification Date/Time:	
Name of Who You Spoke To:	
Left Message: <input type="checkbox"/>	
County Risk Management	
Notification Date/Time:	
Name of Who You Spoke To:	
Left Message: <input type="checkbox"/>	
Other Notification:	
Notification Date/Time:	
Name of Who You Spoke To:	
Left Message: <input type="checkbox"/>	

INSERT TAB:
Flowchart





Overflow/Backup Response Flowchart

INSERT TAB:
SSO Report

Sanitary Sewer Overflow Field Report**D-1: Page 1**

PHYSICAL LOCATION DETAILS		
Spill location name	Latitude of spill location	
	Longitude of spill location	
County Alameda County	Regional Water Quality Control Board San Francisco	
RESPONDING STAFF		
Person(s) completing this form:	Name:	Signature:
	Name:	Signature:
	Name:	Signature:
Name(s) of person(s) involved in the response:		
VOLUMES BY DESTINATION	Volume Spilled (Gallons)	Volume Recovered (Gallons)
2.a/2.b Estimated spill volume that reached a separate storm drain that flows to a surface body of water? (If not all recovered, this is a Category 1)		
2.c/2d Estimated spill volume that directly reached a drainage channel that flows to a surface water body? (Any volume spilled is a Category 1)		
2.e/2.f Estimated spill volume discharged directly to a surface water body? (Any volume spilled is a Category 1)		
2.g/2.h Estimated spill volume discharged to land? (Includes discharges directly to land, and discharges to a storm drain system or drainage channel that flows to a storm water infiltration/retention structure, field, or other non-surface water location. Also, includes backups to building structures).		
	Volume Spilled	Volume Recovered
Total Volume Spilled (Verify this matches the table in between 2.h and 3 in CIWQS)		
Describe any assumptions made to determine any of the volume estimates including recovered volumes:		

Sanitary Sewer Overflow Field Report**D-1: Page 2**

DATE/TIME DETERMINATIONS		
	DATE	TIME
Start of SSO (Use Start Time Determination/Notes Below)		
CCSA Notified		
Sewer Crew Dispatched		
Sewer Crew Arrived		
End of SSO		
End of Spill Response		

Start Time Determination/NotesDon't forget to
take photos!

Witness 1: _____

Name Contact Information

Where did you see sewage spill from?

☐ Manhole ☐ Inside Building ☐ Vent/Clean Out ☐ Catch Basin ☐ Wet Well/Lift Station ☐ Other: _____

When did you notice the sewage spilling? _____ AM / PM Date ____ / ____ / ____

When did you last observe **NO Spill** occurring? _____ AM / PM Date ____ / ____ / ____

Comments: _____

Witness 2: _____

Name Contact Information

Where did you see sewage spill from?

☐ Manhole ☐ Inside Building ☐ Vent/Clean Out ☐ Catch Basin ☐ Wet Well/Lift Station ☐ Other: _____

When did you notice the sewage spilling? _____ AM / PM Date ____ / ____ / ____

When did you last observe **NO Spill** occurring? _____ AM / PM Date ____ / ____ / ____

Comments: _____

Witness 3: _____

Name Contact Information

Where did you see sewage spill from?

☐ Manhole ☐ Inside Building ☐ Vent/Clean Out ☐ Catch Basin ☐ Wet Well/Lift Station ☐ Other: _____

When did you notice the sewage spilling? _____ AM / PM Date ____ / ____ / ____

When did you last observe **NO Spill** occurring? _____ AM / PM Date ____ / ____ / ____

Comments: _____

Start Time Determination/Notes continued

If the volume of the SSO and rate of flow are known, divide volume by rate of flow to get duration of SSO event.

_____ Gallons ÷ _____ GPM = Minutes (SSO Duration).

Subtract the Duration from the SSO End Date/Time to establish the SSO Start Date/Time.

Other Efforts to Determine Start Time: _____

Other Comments Regarding Spill Start Time: _____

Estimated SSO Start Time: _____ AM / PM Date: _____ / _____ / _____

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

SSO FIELD REPORT
Spill location description:
Number of appearance points:
Spill appearance points: (Check all that apply) <input type="checkbox"/> Backflow Prevention Device <input type="checkbox"/> Force Main <input type="checkbox"/> Gravity Mainline <input type="checkbox"/> Inside Building/Structure <input type="checkbox"/> Lateral Clean Out (Private/Public) <input type="checkbox"/> Lower Lateral (Private/Public) <input type="checkbox"/> Manhole <input type="checkbox"/> Pump Station <input type="checkbox"/> Upper Lateral (Private/Public) <input type="checkbox"/> Other Sewer System Structure
Spill appearance point explanation. (Enter information here if "Other" or multiple appearance points were selected):
Final spill destination: (Check all that apply) <input type="checkbox"/> Building/Structure <input type="checkbox"/> Combined Storm Drain <input type="checkbox"/> Drainage Channel <input type="checkbox"/> Other (Specify Below) <input type="checkbox"/> Paved Surface <input type="checkbox"/> Separate Storm Drain <input type="checkbox"/> Street/Curb and Gutter <input type="checkbox"/> Surface Water <input type="checkbox"/> Unpaved Surface
Explanation of final spill destination (Enter information if "Other" was selected):

SSO FIELD REPORT

Spill cause: (Check One)

- ☐ Air Relief Valve (ARV)/Blow Off Valve (BOV)/Backwater Valve Failure
- ☐ Construction Diversion Failure
- ☐ CS Maintenance Caused Spill/Damage
- ☐ Damage by Others Not Related to CS Construction/Maintenance (Specify Below)
- ☐ Debris from Construction
- ☐ Debris from Lateral
- ☐ Debris-General
- ☐ Debris-Rags
- ☐ Debris Wipes/Non-Dispersible
- ☐ Flow Exceeded Capacity (Separate CS Only)
- ☐ Grease Deposition (FOG)
- ☐ Inappropriate Discharge to CS
- ☐ Natural Disaster
- ☐ Operator Error
- ☐ Other (Specify Below)
- ☐ Pipe Structural Problem/Failure
- ☐ Pipe Structural Problem/Failure – Installation
- ☐ Pump Station Failure – Controls
- ☐ Pump Station Failure – Mechanical
- ☐ Pump Station Failure – Power
- ☐ Rainfall Exceeded Design, I and I (Separate CS Only)
- ☐ Root Intrusion
- ☐ Siphon Failure
- ☐ Surcharged Pipe (Combined CS Only)
- ☐ Vandalism

Spill cause explanation: (Required if Spill Cause is "Other")

Sanitary Sewer Overflow Field Report**D-1: Page 6**

SSO FIELD REPORT		
Where did the problem occur? <input type="checkbox"/> Air Relief Valve (ARV)/Blow Off Valve (BOV) Failure <input type="checkbox"/> Force Main <input type="checkbox"/> Gravity Mainline <input type="checkbox"/> Lower Lateral (Public) <input type="checkbox"/> Manhole <input type="checkbox"/> Other (Specify Below) <input type="checkbox"/> Pump Station Failure – Controls <input type="checkbox"/> Pump Station Failure – Mechanical <input type="checkbox"/> Pump Station Failure – Power <input type="checkbox"/> Siphon <input type="checkbox"/> Upper Lateral (Public)		
Explanation of where failure occurred: (Required if Where Failure Occurred is “Other”)		
Was spill associated with a storm event?	YES	NO
Diameter of sewer pipe at the point of blockage or failure:	inches	
Material of sewer pipe at the point of blockage or failure:		
Estimated age of sewer asset at the point of blockage or failure (if applicable):	years	
Spill Response Activities. (Check all that apply) <input type="checkbox"/> Cleaned-Up <input type="checkbox"/> Mitigated Effects of Spill <input type="checkbox"/> Contained All or Portion of Spill <input type="checkbox"/> Other (Specify Below) <input type="checkbox"/> Restored Flow <input type="checkbox"/> Returned All Spoil to Sanitary Sewer System <input type="checkbox"/> Property Owner Notified <input type="checkbox"/> Other Enforcement Agency Notified		
Explanation of spill response activities: (Required if spill response activities is “Other”):		

SSO FIELD REPORT

Spill corrective action taken: (Check all that apply)

- ☐ Add location to, or increase frequency check, in Preventive Maintenance Program
- ☐ Adjusted Schedule/Method of Preventive Maintenance
- ☐ Enforcement Action Against FOG Source
- ☐ Inspected Sewer Using CCTV to Determine Cause
- ☐ Other (Specify Below)
- ☐ Plan Rehabilitation or Replacement of Sewer
- ☐ Repaired Facilities or Replaced Defect

Explanation of corrective action taken: (Required if spill corrective action is "Other")

Is there an ongoing investigation?	YES	NO
Health warnings posted?	YES	NO
Did spill result in beach closure?	YES	NO

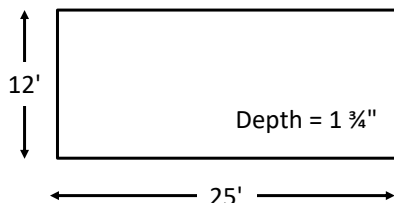
Name of Impacted Beach(es): (Enter N/A if none)

Name of impacted surface waters:

INSERT TAB:
Volume Estimation

Miscellaneous Computations & Examples

		Convert Inches to Feet	
		Inches	Feet
To convert inches to feet (NOTE: for the purposes of this worksheet, the unit of measurement will be in feet for formula examples)	Divide the inches by 12 or use the chart on the right. Example 1: $27" \div 12 = 2.25'$ Example 2: $1\frac{3}{4}" = ?'$ $1" (0.08') + \frac{3}{4}" (0.06') = 0.14'$	1/8"	0.01'
		1/4"	0.02'
Volume of one cubic foot	7.48 gallons of liquid	3/8"	0.03'
		1/2"	0.04'
Area: Two-dimensional measurement represented in square feet (SQ/FT or ft ²)	Square/rectangle: Area = Length x Width Circle: Area = $\pi \times r^2$ (where $\pi \approx 3.14$ and r = radius = $\frac{1}{2}$ diameter) Triangle: Area = $\frac{1}{2}$ (Base x Height)	5/8"	0.05'
		3/4"	0.06'
Volume: Three-dimensional measurement represented in cubic feet (CU/FT or ft ³)	Rectangle/square footprint: Volume = Length x Width x Depth Circle footprint (cylinder): Volume = $\pi \times r^2 \times \text{Depth}$ (where $\pi \approx 3.14$ and r = radius = $\frac{1}{2}$ diameter) Triangle footprint: Volume = $\frac{1}{2}$ (Base x Height) x Depth	7/8"	0.07'
		1"	0.08'
Depth: Wet Stain on Concrete or asphalt surface	If the depth is not measurable because it is only a wet stain, use 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") These were determined to be a reasonable depth to use on the respective surfaces through a process of trial and error. One gallon of water was poured onto both asphalt and concrete surfaces. Once the area was determined as accurately as possible, different depths were used to determine the volume of the wetted footprint until the formula produced a result that (closely) matched the one gallon spilled. This process was repeated several times.	2"	0.17'
		3"	0.25'
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. Use that number in your formula to determine volume.	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'

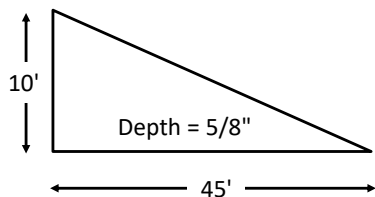
Miscellaneous Computations & Examples (continued)**Area/Volume of a Rectangle or Square**Formula: Length x Width x Depth = Volume in **cubic feet**

$$\frac{25'}{\text{Length}} \times \frac{12'}{\text{Width}} \times \frac{0.14'}{\text{Depth}} = \frac{42 \text{ Cubic Feet}}{\text{Volume}}$$

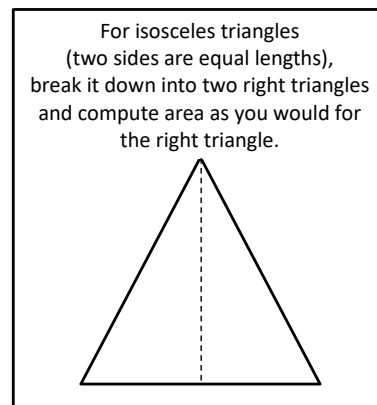
Multiply the volume by 7.48 gallons to determine the volume in **gallons**:

$$\frac{42 \text{ ft}^3}{\text{Volume}} \times \frac{7.48}{\text{gal/ft}^3} = \frac{314.16 \text{ gallons}}{\text{Volume}}$$

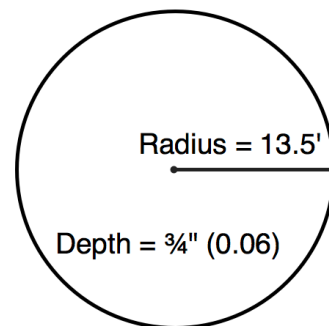
Convert Inches to Feet	
Inches	Feet
1/8"	0.01'
1/4"	0.02'
3/8"	0.03'
1/2"	0.04'
5/8"	0.05'
3/4"	0.06'
7/8"	0.07'
1"	0.08'
2"	0.17'
3"	0.25'
4"	0.33'
5"	0.42'
6"	0.50'
7"	0.58'
8"	0.67'
9"	0.75'
10"	0.83'
11"	0.92'
12"	1.00'

Area/Volume of a Right TriangleFormula: $\frac{1}{2} \times \text{Base} \times \text{Height} \times \text{Depth} = \text{Volume in cubic feet}$ 

$$0.5 \times \frac{45'}{\text{Base}} \times \frac{10'}{\text{Height}} \times \frac{0.05'}{\text{Depth}} \times \frac{7.48}{\text{gal/ft}^3} = \frac{84.15 \text{ gallons}}{\text{Volume}}$$

**Area/Volume of a Circle**Formula: $\pi \times r^2 \times \text{Depth} = \text{Volume in cubic feet}$ The radius is $\frac{1}{2}$ the diameter, which is a straight line passing from side to side through the center of a circle.

$$\frac{13.5'}{\text{Radius}} \times \frac{13.5'}{\text{Radius}} \times \frac{3.14}{\pi} \times \frac{0.06'}{\text{Depth}} \times \frac{7.48}{\text{gal/ft}^3} = \frac{256.8 \text{ gallons}}{\text{Volume}}$$



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

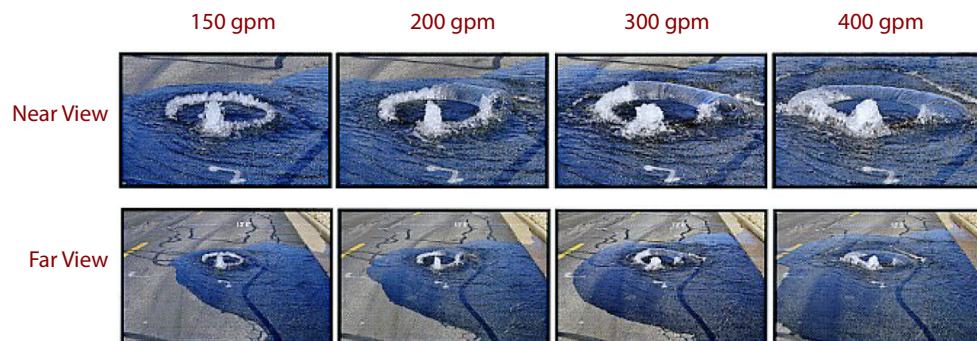
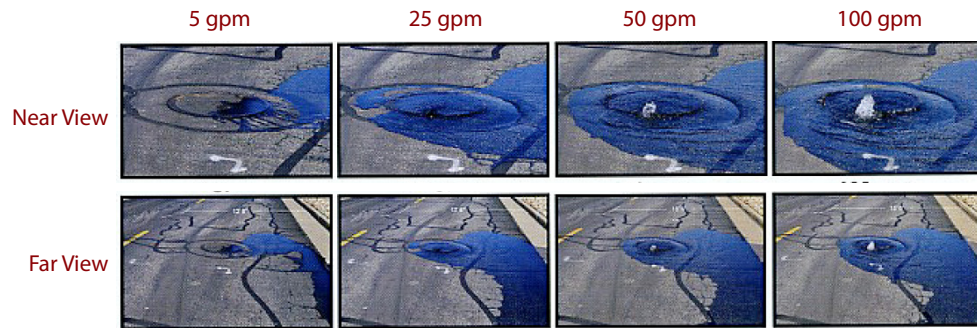
If yes, describe how you determined the amount of rainfall in the observed spill?

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**

Compare the SSO to reference images below to estimate flow rate of the current overflow. **NOTE: If the manhole cover in your picture has vent holes or more than one pry hole, do not use these pictures for comparison.**

Describe which reference photo(s) were used and any additional factors that influenced applying the reference photo data to the actual SSO:



*SSCSC Manhole Overflow Gauge: CWEA Southern Section Collections Systems Committee
Overflow Simulation courtesy of Eastern Municipal Water District*

Flow Rate Based on Photo Comparison: _____ gallons per minute (gpm)

Start Date and Time	1.
End Date and Time	2.
SSO Event Total Time Elapsed (subtract Line 1 from Line 2. Show in minutes.)	3.
Average Flow Rate GPM (Account for diurnal flow pattern)	4.
Total Volume Estimated Using Duration and Flow Method (Line 3 x Line 4)	5.

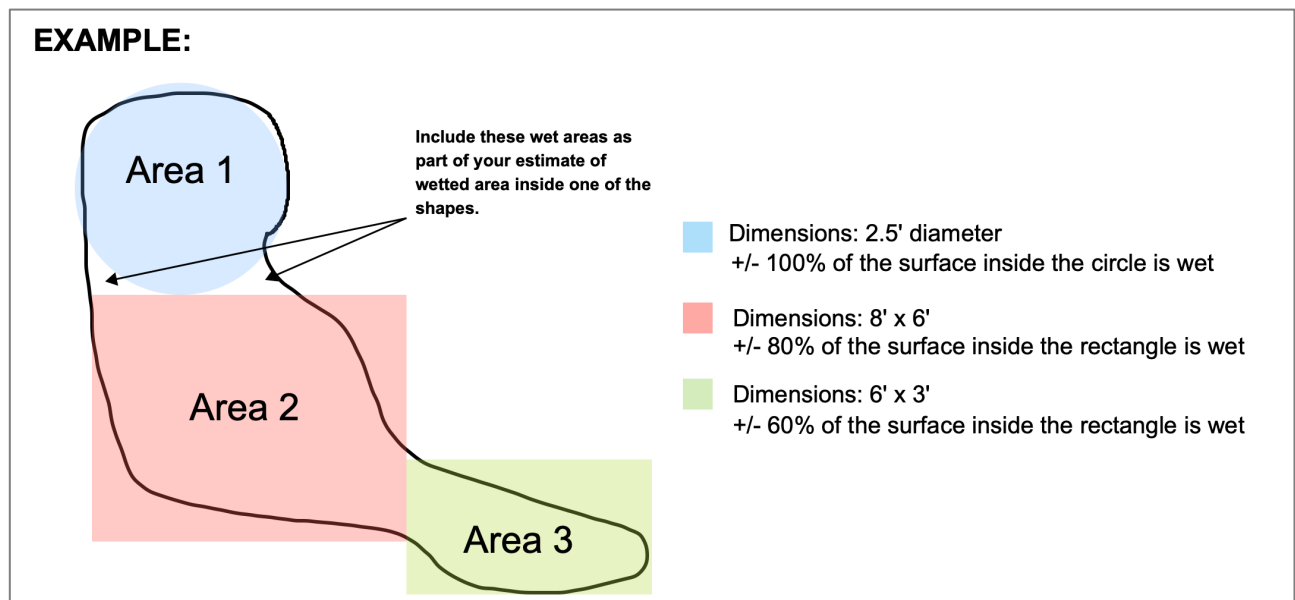
Volume Estimation: Area/Volume Method

E-4: Page 1

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 rectangles and circles. Label each area. See example below.



STEP 3: Calculate the area of the footprint by completing the table below for each area in Step 2. Measure actual depth of standing sewage whenever possible. When depth varies, measure several representative sample points and determine the average. If the depth is not measurable because it is only a wet stain, use 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")

Rectangles:

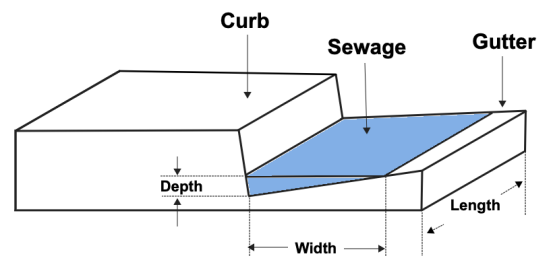
Area # (from labeled drawing)		Length	X	Width	X	% Wet	=	Area	X	Depth	=	Volume
	→	ft	X	ft	X	%	=	ft ²	X	ft	=	ft ³
	→	ft	X	ft	X	%	=	ft ²	X	ft	=	ft ³
	→	ft	X	ft	X	%	=	ft ²	X	ft	=	ft ³

Circles:

Area # (from labeled drawing)		π	X	Radius	X	Radius	X	% Wet	=	Area	X	Depth	=	Volume
	→	3.14	X	ft	X	ft	X	%	=	ft ²	X	ft	=	ft ³
	→	3.14	X	ft	X	ft	X	%	=	ft ²	X	ft	=	ft ³
	→	3.14	X	ft	X	ft	X	%	=	ft ²	X	ft	=	ft ³

STEP 4: If part of the spill is in a gutter, use the formula below to calculate the volume:

$$\frac{\text{Length}}{\text{Length}} \times \frac{\text{Depth}}{\text{Depth}} \times \frac{\text{Width}}{\text{Width}} \times 0.5 = \frac{\text{Volume}}{\text{Volume}} \text{ ft}^3$$



STEP 5: Calculate Total Spill Volume (sum of all of the volume calculations above): _____ ft³

STEP 6: Convert from cubic feet to gallons by multiplying by 7.48.

$$\frac{\text{spill volume in cubic feet}}{\text{spill volume in cubic feet}} \text{ ft}^3 \times 7.48 \text{ gallons} = \frac{\text{Total estimated volume}}{\text{Total estimated volume}} \text{ gallons}$$

Volume Estimation: Upstream Connections Method**E-5**

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 CCSA 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 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
	Gallons per Period	Hours per period	$A \div B =$ Gallons per Hour	$C \div 60 =$ Gallons per Minute	Minutes SSO was active during period	$D \times E =$ Gallons spilled per period
Time 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.

$$\frac{\text{gallons}}{\text{Volume per EDU}} \times \frac{\text{EDUs}}{\text{\# of EDUs}} = \frac{\text{gallons}}{\text{Estimated SSO Volume}}$$

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).

Total Estimated SSO Volume: _____ gallons

INSERT TAB:
Backup Forms

Backup Forms Checklist (Backup Only)

Complete this form only if there is a backup into a residence or business.

****NOTE:** Provide a set of the forms below to each claimant if there are more than one. **

Instructions to Sewer Crew:

1. Take photo of each form before giving it to the customer for documentation.
2. Tear forms listed below out of this workbook and hand to customer. *Leave the First Responder Form (F-2) in this workbook, do not give to Customer.*
3. Check each item that was provided to the customer.
4. Have customer sign below.

Forms/Documents:

- ☐ F-3: Declination of Cleaning Services
- ☐ F-4: Customer Information Letter
- ☐ F-5: Your Responsibilities as a Private Property Owner
- ☐ F-6: Claim Form

Forms Provided to:

Customer Name

Customer Signature

Date

Check here if customer declines to sign: ☐

Formularios / Documentos:

- ☐ F-3: Declinación de los Servicios de Limpieza
- ☐ F-4: Carta de Información del Cliente
- ☐ F-5: Sus Responsabilidades Como Propietario de Una Propiedad Privada
- ☐ F-6: Formulario de Reclamación

Formularios proporcionados a:

Nombre del cliente

Firma del cliente

Fecha

Marque aquí si el cliente se niega a firmar: ☐

Forms Provided by:

Employee Name

Initial

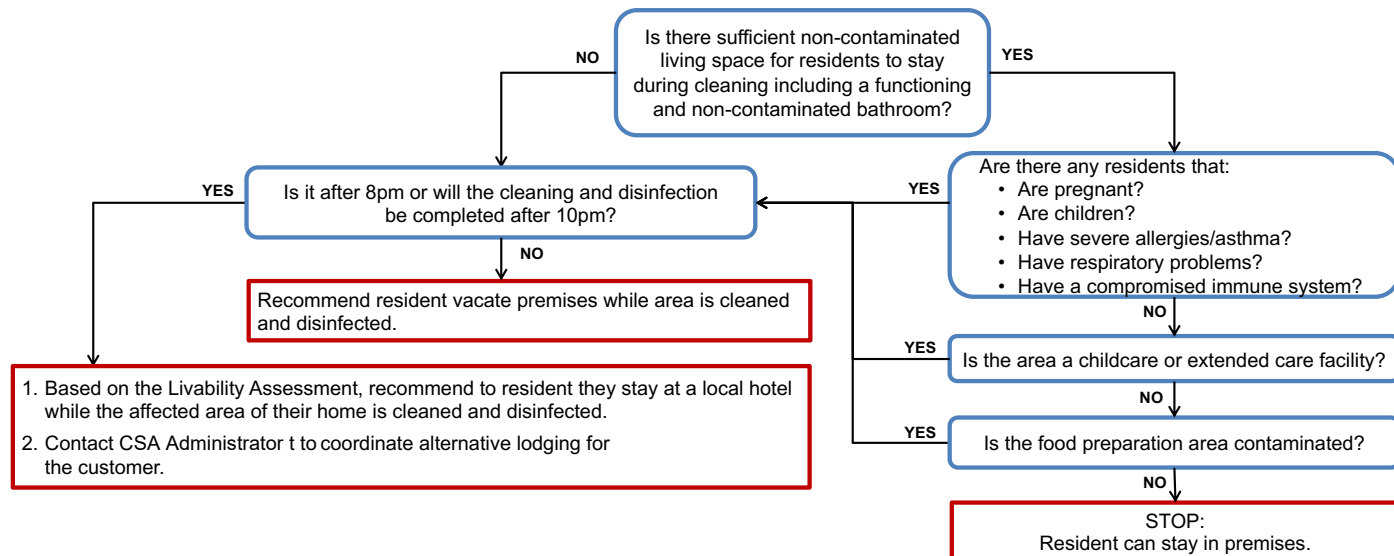
Instruction to Chief Utility System Operator:

Send photos and a copy of the First Responder form to the Senior Risk and insurance Analyst:

Timothy P. Leibowitz, Senior Risk and Insurance Analyst
125 12th Street #300, Oakland, CA 94607
(510) 272-3869; fax (510) 272-6815
Timothy.Leibowitz@acgov.org

Ask customer if you may enter the home. If so, take photos of all damaged and undamaged areas.

GO TO Page 2

LIVABILITY ASSESSMENT**SANITARY SEWER LINE BLOCKAGE LOCATION****PLEASE CHECK THE BOXES THAT DESCRIBE YOUR OBSERVATIONS:**

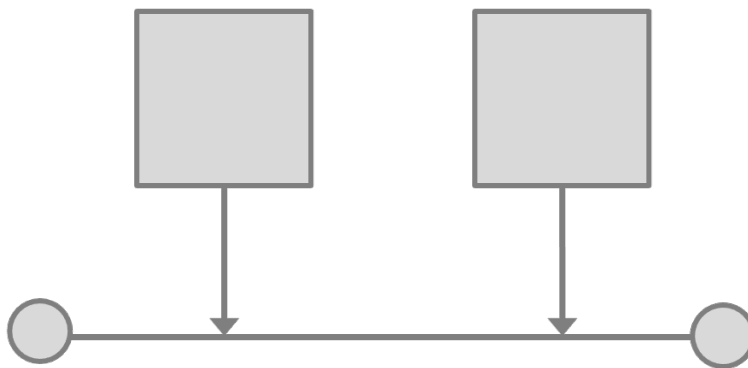
Building Cleanout Was:

- ☐ Non-Existent
- ☐ Full
- ☐ Empty

Property Line Cleanout was:

- ☐ Non-Existent
- ☐ Full
- ☐ Empty

On the diagram below, place an X where in the mainline or lateral you believe the problem occurred.

**Recommended Follow-Up Action(s):**Did sewage go under buildings? ☐ Yes ☐ No ☐ Unsure

Declination of Cleaning Services (Backup Only)**F-3**

Customer Information			
NAME:		ADDRESS:	
TELEPHONE:			

ON (date)	AT (time)	Approximately (quantity)	GALLONS OF: <input type="checkbox"/> Sewage <input type="checkbox"/> Grey Water <input type="checkbox"/> Toilet Bowl Water <input type="checkbox"/> Odor <input type="checkbox"/> Other (describe):
Overflowed from (or odor emanating from) <input type="checkbox"/> Toilet <input type="checkbox"/> Shower/Tub <input type="checkbox"/> Washer <input type="checkbox"/> Other (describe):			The overflow affected the following areas (check one): <input type="checkbox"/> Bathroom <input type="checkbox"/> Bedroom <input type="checkbox"/> Hallway <input type="checkbox"/> Garage <input type="checkbox"/> Kitchen <input type="checkbox"/> Crawlspace <input type="checkbox"/> Other (specify):
The overflow affected the following flooring: <input type="checkbox"/> Tile <input type="checkbox"/> Wood Flooring <input type="checkbox"/> Linoleum <input type="checkbox"/> Carpet <input type="checkbox"/> Other (specify):		and/or additional materials: <input type="checkbox"/> Area Rugs <input type="checkbox"/> Towels <input type="checkbox"/> Clothing <input type="checkbox"/> Other (specify):	

This Form Completed By: Name: _____ (Write legibly) Title: _____	Date: _____ Time: _____
--	--

CUSTOMER, please read the following and sign below. I/We acknowledge that the County of Alameda Castlewood County Service Area (CCSA) has discussed the need for 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 CCSA assistance, and that CCSA will not accept responsibility for work performed by persons other than those engaged by CCSA. CCSA will also not accept responsibility for any charges related to this incident that are not usual and customary.

CLIENTE, por favor lea lo siguiente y firme a continuación. Reconocemos que el Condado de Alameda Área de Servicio del Condado de Castlewood (CCSA) ha discutido la necesidad de servicios profesionales de limpieza y descontaminación para remediar el respaldo y / o desbordamiento de aguas residuales descrito anteriormente y que rechazamos la oferta. Además, entendemos y reconocemos que, debido a que nos hemos negado, cualquier actividad de remediación necesaria se llevará a cabo sin la asistencia de CCSA, y que CCSA no aceptará la responsabilidad por el trabajo realizado por personas que no sean las contratadas por la CCSA. CCSA tampoco aceptará responsabilidad por ningún cargo relacionado con este incidente que no sea habitual.

Customer Signature/Firma del cliente *:		Date/Fecha:
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, 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.
- Seek immediate attention if you become injured or ill.

Dear Property Owner:

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

If the County 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 County is not responsible for cleanup charges or damages caused by blockages in the property owner's sewer line or caused by code violations. Regardless of whether you or the County is responsible for the loss, it is up to you to arrange for the repair of your property and to present a claim to the County for evaluation.

You or the property owner should immediately contact a firm for clean-up of the affected areas. If you do not know of a company to call for service, the following 24-hour emergency restoration companies are available to respond: *

Emergency Clean Up / Restoration Vendors*		
Vendor	Location	Contact
American Technologies, Inc. (ATI)	25000 Industrial Blvd, Hayward, CA 94545	(510) 429-5000 (800) 400-9353 (24 hours)
Anderson Group International	Bay Area Service Center	(800) 994-7575 (24 hours)
Restoration Management	4142 Point Eden Way, Hayward, CA 94501	(510) 315-5400 (800) 400-5058 (24 hours)
Service Master Restore	Bay Area Regional Response Center	(415) 336-6258 (800) 480-TIDY (24 hours)
SERVPRO	1032 Serpentine Lane #101, Pleasanton, CA 94566	(925) 892-4621 (24 hours)

** Note: This list is provided as a resource only and is not to be construed as exclusive, comprehensive or limiting in any way. Qualified remediation contractors can also be found by searching the internet for "Water Damage Restoration" or "Fire & Water Damage Restoration."*

If temporary lodging is necessary during the cleaning process, we will coordinate the arrangements with you.

To discuss this matter, contact CSA Administrator at (510) 670-5212.

To submit a claim for damages, complete the Claim Form and contact County Risk Management at (510) 272-6920.

Sincerely,
County of Alameda
Castlewood County Service Area

What you need to do now:

- 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) until cleanup has been completed.
- Turn off any 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 done, contact your plumber or contractor and inform them of this incident.

Estimado propietario:

Reconocemos que los incidentes de respaldo de alcantarillado pueden ser estresantes y requieren una respuesta inmediata, mientras que todos los hechos relacionados con cómo ocurrió un incidente aún se desconocen. Tenga la seguridad de que hacemos todo lo posible para evitar que este tipo de evento ocurra en primer lugar. Sin embargo, ocasionalmente las raíces de los árboles u otros escombros en las líneas de alcantarillado causan una copia de seguridad en las casas inmediatamente aguas arriba del bloqueo. En este momento, el Condado está investigando la causa de este incidente.

Si se descubre que el Condado es responsable del incidente, nos comprometemos a limpiar y restaurar su propiedad, y a proteger la salud de los afectados durante el proceso de remediación. El Condado no es responsable de los cargos de limpieza o daños causados por bloqueos en la línea de alcantarillado del propietario de la propiedad o causados por violaciones del código. Independientemente de si usted o el Condado son responsables de la pérdida, depende de usted organizar la reparación de su propiedad y presentar un reclamo al Condado para su evaluación.

Usted o el dueño de la propiedad deben comunicarse inmediatamente con una empresa para la limpieza de las áreas afectadas. Si no conoce una compañía a la que llamar para recibir servicio, las siguientes compañías de restauración de emergencia las 24 horas están disponibles para responder: *

Proveedores de Limpieza / Restauración de Emergencia*		
Vendedor	Ubicación	Información de contacto
American Technologies, Inc. (ATI)	25000 Industrial Blvd, Hayward, CA 94545	(510) 429-5000 (800) 400-9353 (24 hours)
Anderson Group International	Bay Area Service Center	(800) 994-7575 (24 hours)
Restoration Management	4142 Point Eden Way, Hayward, CA 94501	(510) 315-5400 (800) 400-5058 (24 hours)
Service Master Restore	Bay Area Regional Response Center	(415) 336-6258 (800) 480-TIDY (24 hours)
SERVPRO	1032 Serpentine Lane #101, Pleasanton, CA 94566	(925) 892-4621 (24 hours)

* Nota: Esta lista se proporciona solo como un recurso y no debe interpretarse como exclusiva, completa o limitante de ninguna manera. También se pueden encontrar contratistas de remediación calificados buscando en Internet "Restauración de daños por agua" o "Restauración de daños por incendio y agua."

Si es necesario un alojamiento temporal durante el proceso de limpieza, nos comunicaremos para coordinar los arreglos con usted. Para discutir este asunto, comuníquese con el CSA Administrador al (510) 670-5212. Para presentar un reclamo por daños y perjuicios, complete el Formulario de Reclamo y comuníquese con el County Risk Management al (510) 272- 6920.

Sinceramente
Condado de Alameda
Área de Servicio del Condado de Castlewood

Lo que debe hacer ahora:

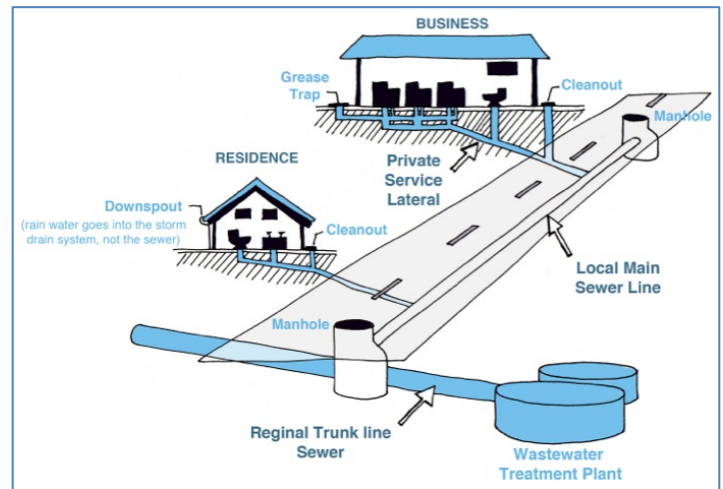
- Minimizar el impacto de la pérdida respondiendo rápidamente a la situación.
- No intente limpiar el área usted mismo, deje que la empresa de limpieza y restauración se encargue de esto.
- Mantenga a las personas y mascotas alejadas de las áreas afectadas hasta que se haya completado la limpieza.
- Apague cualquier aparato que use agua.
- Apague los sistemas de calefacción / aire acondicionado.
- No retire los artículos del área: la empresa de limpieza y restauración se encargará de esto.
- Si ha realizado trabajos de plomería recientes, comuníquese con su plomero o contratista e infórmeles de este incidente.

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.

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. Common causes of sewage spills include grease build-up, tree roots, broken/cracked pipes, missing or broken cleanout caps, undersized sewers, and groundwater/rainwater entering the sewer system through pipe defects and illegal connections.



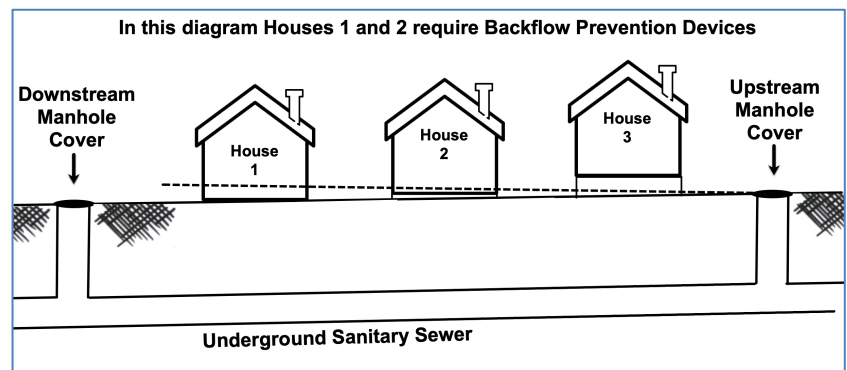
Prevent most sewage backups with a Backflow Prevention Device

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.

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."



Spill cleanup inside the home:

For large clean ups, a professional cleaning firm should be contacted to clean up impacted areas. 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.

Seek immediate attention if you become injured or ill during or after the cleanup process.

Other Tips:

- Keep children and pets out of the affected area.
- Turn off heating/air conditioning systems
- Wear rubber boots, rubber gloves, and goggles during cleanup.
- Discard items that cannot be washed and disinfected (such as: mattresses, rugs, cosmetics, 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 & 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.

Spill cleanup outside the home:

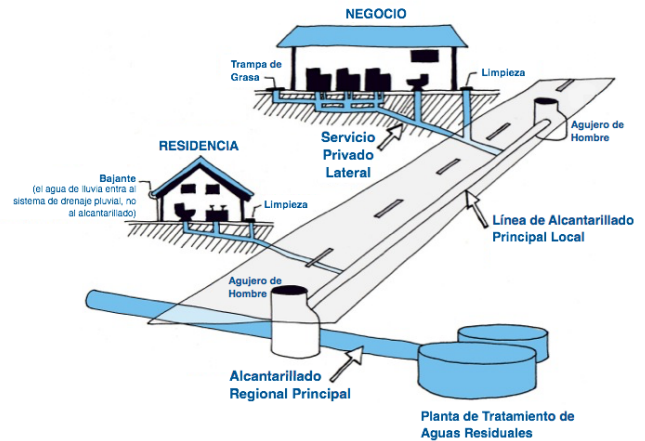
- Keep children and pets out of the affected area until cleanup has been completed.
- Wear rubber boots, rubber gloves, and goggles during cleanup of affected area.
- Clean up sewage solids (fecal material) and place in properly functioning toilet or double bag and place in garbage container.
- On hard surfaces areas such as asphalt or concrete, it is safe to use a 2% bleach solution, 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.

Cómo funciona un sistema de alcantarillado

Las tuberías de alcantarillado de un propietario se denominan servicios laterales y están conectadas a líneas troncales principales y regionales locales más grandes. Los servicios laterales se ejecutan desde la conexión en el hogar hasta la conexión con el sistema de alcantarillado del Distrito. Estos laterales son responsabilidad del propietario y deben ser mantenidos por el propietario.

¿Cómo ocurren los derrames de aguas residuales?

Los derrames de aguas residuales ocurren cuando las aguas residuales en las tuberías subterráneas se desbordan a través de un pozo de acceso, limpieza o tubería rota. La mayoría de los derrames son relativamente pequeños y se pueden detener y limpiar rápidamente, pero si se los deja desatendidos, pueden causar riesgos para la salud, dañar viviendas y negocios y amenazar el medio ambiente, las vías fluviales locales y las playas. Las causas comunes de derrames de aguas residuales incluyen acumulación de grasa, raíces de árboles, tuberías rotas / agrietadas, tapas de limpieza faltantes o rotas, alcantarillas de tamaño insuficiente y aguas subterráneas / pluviales que ingresan al sistema de alcantarillado a través de defectos en las tuberías y conexiones ilegales.



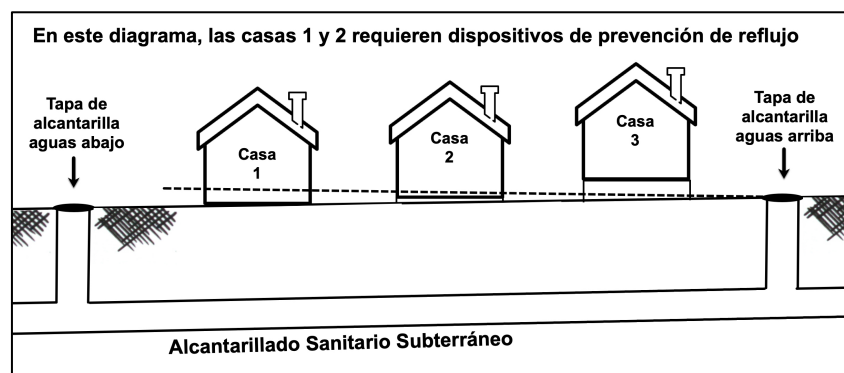
Prevenga la mayoría de las copias de seguridad de aguas residuales con un dispositivo de prevención de reflujo

Este tipo de dispositivo puede ayudar a prevenir las copias de seguridad de aguas residuales en hogares y empresas. Si aún no tiene un dispositivo de prevención de reflujo, comuníquese con un plomero o contratista profesional para instalar uno lo antes posible.

¿Se requiere que mi hogar tenga un dispositivo de prevención de reflujo?

La Sección 710.1 del Código Uniforme de Plomería (UPC) establece: "Los accesorios de tuberías de drenaje que tienen llantas de nivel de inundación ubicadas debajo de la elevación de la siguiente boca de alcantarilla corriente arriba o la alcantarilla privada que atiende dicha tubería de drenaje deben protegerse contra el reflujo de aguas residuales al instalar un tipo de válvula de evacuación". La intención de la Sección 710.1 es proteger el interior del edificio de los desagües o sobrecargas de alcantarillado de la línea principal.

Adicionalmente, U.P.C. 710.6 dice: Las válvulas de aguas residuales deben ubicarse donde puedan ser inspeccionadas y reparadas en todo momento y, a menos que estén continuamente expuestas, deben estar encerradas en un pozo de mampostería equipado con una cubierta removible del tamaño adecuado.



Limpieza de derrames dentro de la casa:

Para grandes limpiezas, se debe contactar a una empresa de limpieza profesional para limpiar las áreas afectadas. Si contrata a un contratista, se recomienda obtener estimaciones de más de una compañía. A veces, el seguro del propietario de vivienda pagará la limpieza necesaria debido a las reservas de alcantarillado. No todas las pólizas tienen esta cobertura, así que consulte con su agente.

Si decide limpiar un pequeño derrame dentro de su casa, protéjase de la contaminación observando las siguientes medidas de seguridad. Aquellas personas cuya resistencia a la infección esté comprometida no deben intentar este tipo de limpieza.

Otros consejos:

- Mantenga a los niños y mascotas fuera del área afectada.
- Apague los sistemas de calefacción / aire acondicionado
- Use botas de goma, guantes de goma y gafas durante la limpieza.
- Deseche los artículos que no se puedan lavar y desinfectar (como: colchones, alfombras, cosméticos, juguetes, etc.)
- Retire y deseche los paneles de yeso y el aislamiento contaminado con aguas residuales o aguas de inundación.
- Limpie a fondo todas las superficies duras (como pisos, concreto, molduras, muebles de madera y metal, mostradores, electrodomésticos, fregaderos y otros accesorios de plomería) con agua caliente y ropa o detergente para platos.
- Ayude al proceso de secado con ventiladores, unidades de aire acondicionado y deshumidificadores.
- Después de completar la limpieza, lávese las manos con agua y jabón. Use agua que haya sido hervida por 1 minuto (deje que el agua se enfríe antes de lavarse las manos) O use agua que haya sido desinfectada (solución de 1/8 cucharadita de lejía doméstica por 1 galón de agua). Dejar reposar durante 30 min. Si el agua está turbia, use ¼ cucharadita de lejía de uso doméstico por 1 galón de agua.
- Lave la ropa usada durante la limpieza con agua caliente y detergente (lave aparte de la ropa no contaminada).
- Lavar la ropa contaminada con aguas residuales en agua caliente y detergente. Considere usar una lavandería hasta que su sistema de aguas residuales en el sitio haya sido inspeccionado y reparado profesionalmente.

Busque atención inmediata si se lesiona o se enferma durante o después del proceso de limpieza.

Limpieza de derrames fuera de la casa:

- Mantenga a los niños y las mascotas fuera del área afectada hasta que se haya completado la limpieza.
- Use botas de goma, guantes de goma y gafas protectoras durante la limpieza del área afectada.
- Limpie los sólidos de alcantarillado (material fecal) y colóquelos en un inodoro o bolsa doble que funcione correctamente y colóquelos en un contenedor de basura.
- En áreas de superficies duras como el asfalto o el concreto, es seguro usar una solución de lejía al 2%, o ½ taza de lejía a 5 galones de agua, pero no permita que llegue a un drenaje de tormenta ya que la lejía puede dañar la ambiente.
- Después de la limpieza, lávese las manos con agua y jabón. Use agua que haya sido hervida por 1 minuto (deje enfriar antes de lavarse las manos) O use agua que haya sido desinfectada (solución de 1/8 cucharadita de cloro por 1 galón de agua). Dejar reposar durante 30 min. Si el agua está turbia, use ¼ cucharadita de lejía de uso doméstico por 1 galón de agua.
- Lave la ropa usada durante la limpieza con agua caliente y detergente (lave aparte de la ropa no contaminada).
- Lavar la ropa contaminada con aguas residuales en agua caliente y detergente. Considere usar una lavandería hasta que su sistema de aguas residuales en el sitio haya sido inspeccionado y reparado profesionalmente.

CLAIM AGAINST THE COUNTY OF ALAMEDA

F-6

PLEASE TYPE OR PRINT

Please complete the form, retain one (1) copy for your records.

Return the signed original:

Clerk, Board of Supervisors Office,
Administration Building, 1221 Oak Street, Room 536
Oakland, CA 94612
Phone: (510) 208-4949

Please provide a copy of all attachments supporting your claim
(estimates, bills, receipts, police report, etc.)

CBS CLAIM NO. _____

FOR CLERK'S USE ONLY

FOR FUTURE INFORMATION ON YOUR CLAIM PLEASE CONTACT:
George Hills Company (707) 792-4980

1. Claimant's Name: _____
(Last, First, Middle Initial)

1.5 Claimant's PFN (if applicable): _____

2. Address: _____ - _____
(Number, Street, City, State & Zip Code) (Phone Number)

3. Address to which notices are to be sent, if different from 1 & 2:
Name: _____
Address: _____ - _____
(Number, Street, City, State & Zip Code) (Phone Number)

*4. Total Amount of Claim: \$ _____

5. Date of Accident/Loss: _____

6. Location of Accident/Loss: _____

7. Describe How Accident/Loss Occurred: _____

8. Describe Injury/Damage/Loss: _____

9. Name of Public Employee(s) Causing Injury/Damage/Loss, if known: _____

10. Itemization of Claim (List items totaling the amount in line #4). (Use separate sheet for additional items.)

ITEM DESCRIPTION	AMOUNT	ITEM DESCRIPTION	AMOUNT
_____	\$ _____ / _____	_____	\$ _____
_____	\$ _____ / _____	_____	\$ _____
		*TOTAL AMOUNT OF CLAIM	\$ _____

11. Signed by or on behalf of claimant: _____ Date: _____

NOTICE: Section 72 of the Penal Code provides:

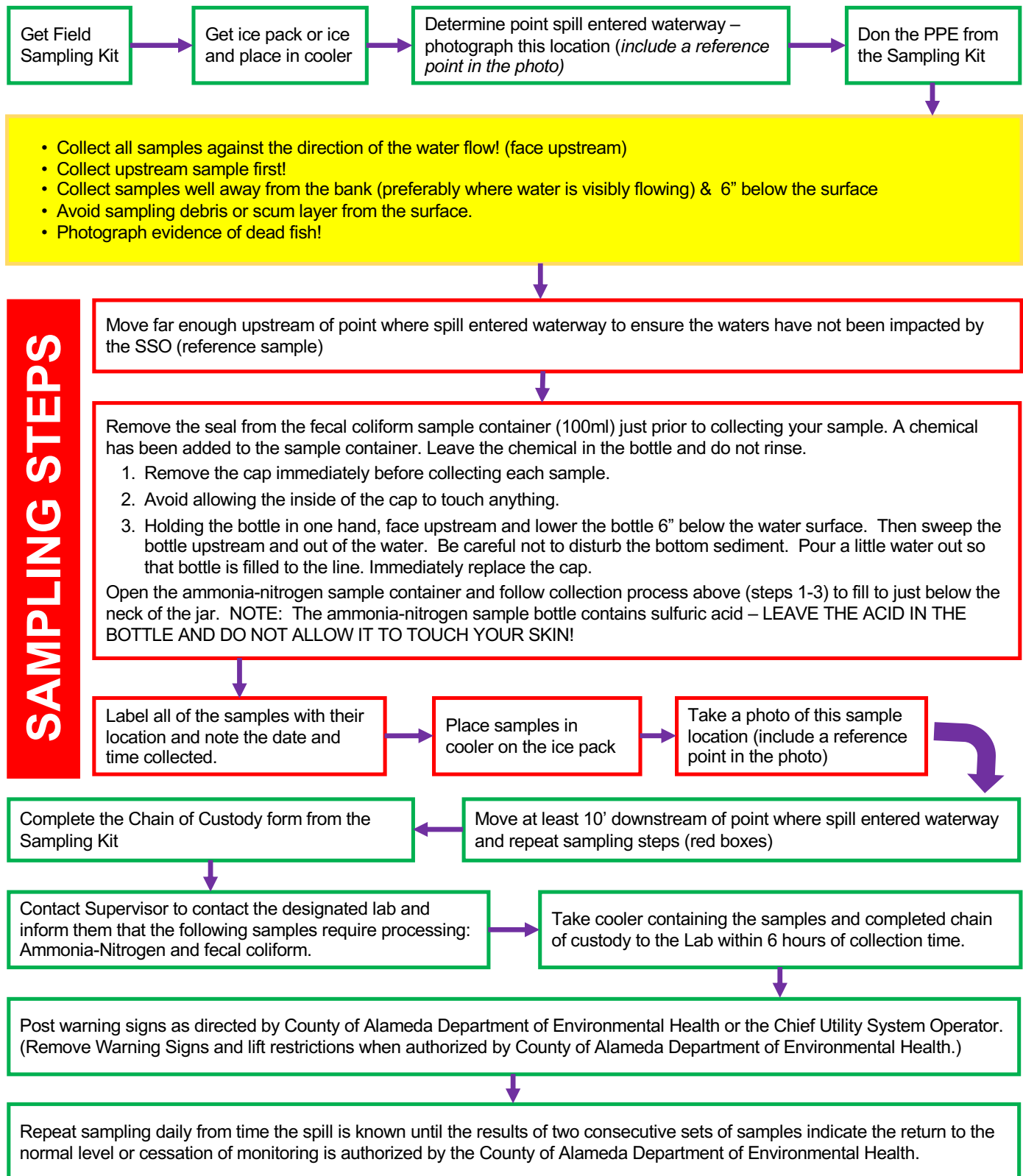
"Every person who, with intent to defraud, presents for allowance or for payment to any state board or officer, or to any county, city or district board or officer, authorized to allow or pay the same if genuine, any false or fraudulent claim, bill, account, voucher, or writing, is punishable either by imprisonment in the county jail for a period of not more than one year, by a fine of not exceeding one thousand (\$1,000), or by both such imprisonment and fine; or by imprisonment in the state prison, or by a fine not exceeding ten thousand (\$10,000), or by both such imprisonment and fine."

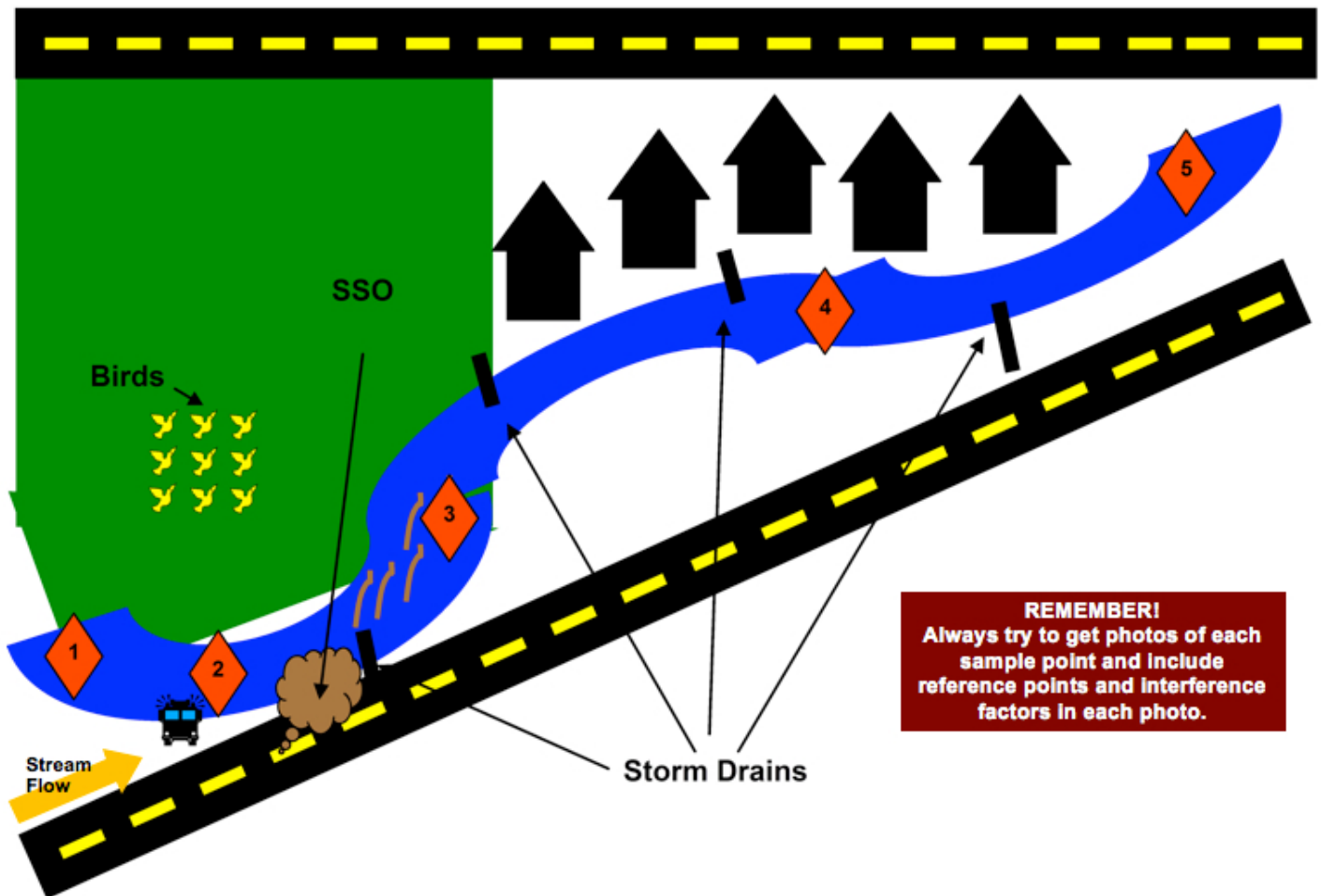
INSERT TAB:
Field Sampling

<u>Form</u>	<u>Form Number</u>
Procedures for Sampling Receiving Waters and Posting Warnings after a Sewage Spill	G-2
Sample Collection Chain of Custody Record	-3

The Field Sample Kit contains:

- Cooler w/ice pack
- Latex gloves
- Safety glasses
- 2 ammonia-nitrogen sample bottles (1pt bottle w/H₂SO₄)
- 20 Sample bottle labels
- Waterproof Pen (i.e. Sharpie®)
- 10 Enterococcus sample bottles (100ml sterilized bottle)
- Combination temperature/pH meter
- Extra batteries for temperature/pH meter
- Chain of Custody form





- 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

NOTE: 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.

Sample Collection Chain of Custody Record

G-3

Customer Name				<input type="checkbox"/>	Hazardous Waste	PO#	
Customer Address				<input type="checkbox"/>	Unknown Material	WO#	
Customer Telephone		Mail Code		CONTRACT LAB INFORMATION		Turnaround Requirement	
Program Name				Ship to:		<input type="checkbox"/> Normal (21 days) <input type="checkbox"/> Rush: _____ <input type="checkbox"/> Other: _____	
Lab Program Coordinator		Phone #		Ship Date:			
Sampled By				Courier:			

LIMS# (Issued by Lab)	SAMPLE COLLECTION INFORMATION							# Containers	Matrix*	Analysis Requested					QA/QC Requirements	
	Date	Time	Type		Sample Location	Field pH	Field Temp			Ammonia	Enterococcus				<input checked="" type="checkbox"/>	Lab Standard
			Composite	Grab											<input type="checkbox"/>	Special (see attached)
			<input type="checkbox"/>	<input checked="" type="checkbox"/>	Upstream			2	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input checked="" type="checkbox"/>	Entry Point			2	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input checked="" type="checkbox"/>	Downstream			2	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>				2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>				2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>				2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>				2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

*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		
<input type="checkbox"/> USPS	<input type="checkbox"/> UPS	<input type="checkbox"/> FedEx
Tracing #:		
<input type="checkbox"/> Other:		

Sample Receiving Documentation

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

INSERT TAB:
Failure Analysis

OFFICE USE ONLY

Incident Report #:		Prepared By:	
CIWQS Event #:		County WO #:	
SSO/Backup Information			
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 Side B

Collection System Failure Analysis**H-1: 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:			Department Head Review Date:		

Appendix F: Water Quality Monitoring Plan

County of Alameda:
Castlewood Service Area
Water Quality Monitoring Plan
Final 2/8/23

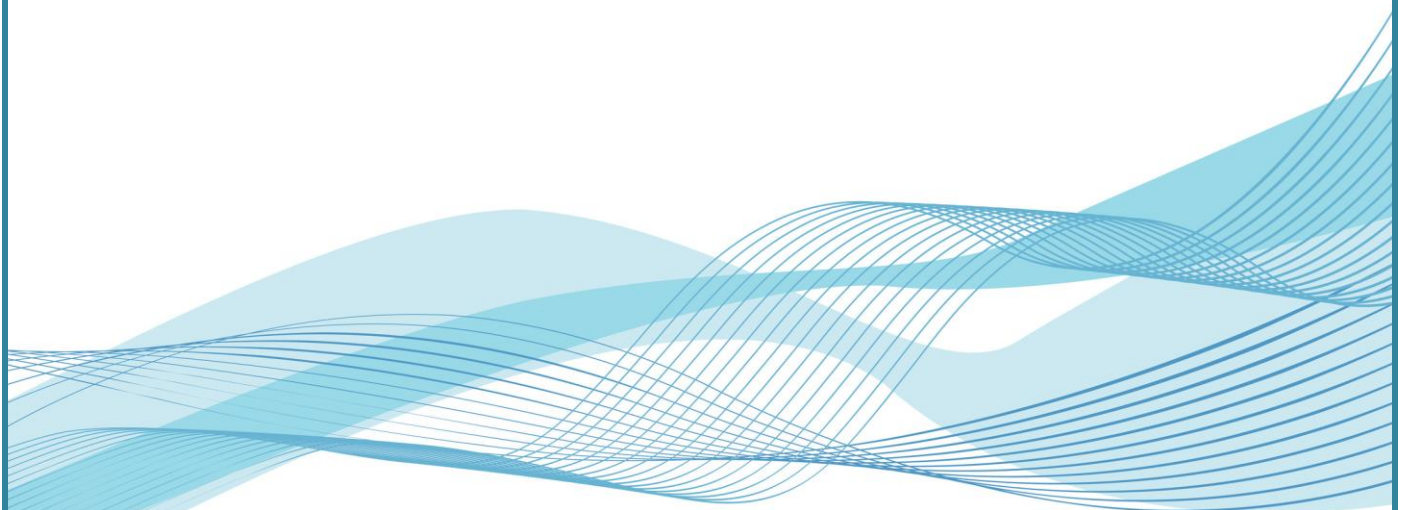


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1. PURPOSE OF PROGRAM PLAN

The purpose of this Water Quality Monitoring Program Plan (WQMP or Plan) is to implement the 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 County of Alameda: Castlewood Service Area (CCSA) policies and procedures to assure consistent conformance to the regulatory requirements and to establish procedures for CCSA 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 CCSA Overflow Emergency Response Plan, Element VI of its SSMP. Finally, this document will be used to coordinate training for the CCSA'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 CCSA 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 Plans and the unique character of the CCSA'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 CCSA 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	Prokaryotic 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

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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

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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 CCSA shall designate responsibility for all WQMP roles to appropriate classifications in the CCSA's organizational structure and/or to an Operations and Maintenance contractor (*O/M Contractor*) 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 CCSA to individual classifications or service contractors of the CCSA:

<u>Roles and Responsibility</u>	<u>Responsible Classification</u>
Provide and document regular training on WQMP for all CCSA classifications or O/M Contractor that	Supervising Civil Engineer - Construction

Water Quality Monitoring Program Plan

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

Water Quality Monitoring Program Plan

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 several applicable references that are available to assist with the Water Quality Monitoring Program as follows:

- A. Basin Plan of the San Francisco Regional Water Quality Control Board
- B. Water Quality Control Plan Ocean Waters Of California, State Water Resources Control Board
- C. Best Management Practices for Sanitary Sewer Overflow (SSO) Reduction Strategies, Central Valley Clean Water Associates and Bay Area Clean Water Agencies, December 2009
- D. CCSA Overflow Emergency Response Plans
- E. Field Guide for Surface Water Sample and Data Collection, Air Program, USDA Forest Service, June 2001.
- F. Standard Operating Procedures for Surface Water Quality Sampling, Arizona Department of Environmental Quality, Surface Water Section, September 2012.
- G. 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 CCSA 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 CCSA will also identify and evaluate areas where collection system pipelines and force mains cross

Water Quality Monitoring Program Plan

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 within the CCSA's service area that may be impacted by a sanitary sewer overflow from the CCSA'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 CCSA 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 fish habitats. In addition, having all storm water infrastructure located on the collection system field maps will help the CCSA'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 CCSA's jurisdiction:

- Arroyo de la Laguna along Foothill Blvd and its tributaries north and south of the CCSA service area

6. LAB SELECTION

A. Analytical Lab

Samples collected for SSO response and background monitoring purposes pursuant to Section 5.0 will be analyzed at an ELAP-certified lab selected by the O/M Contractor. The 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 O/M Contractor-selected lab and processed.

7. SAMPLING PARAMETERS

A. Required Sampling Parameters

The RWQCB Basin Plan and/or NPDES permit and/or the SWRCB's current Water Quality Control Plan for the Ocean Waters of California 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 and Ocean 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 CCSA'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 for the San Francisco Regional Water Quality Control Board and the State Water Resources Control Board's California Ocean Plan are shown in Table 7.1 and 7.2.

Table 7.1: SFRWQCB Water Quality Objectives for Coliform Bacteria^a		
Beneficial Use	Fecal Coliform (MPN/100ml)	Total Coliform (MPN/100ml)
Water Contact Recreation	Geometric mean < 200 90 th percentile < 400	Median < 240 No sample > 10,000
Non-contact Water Recreation ^d	Mean < 2000 90 th 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.

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- 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: Water Quality Control Plan (Basin Plan) for the San Francisco Basin (Region 2) 2016

B. Sampling Parameters for County of Alameda: Castlewood Service Area

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/Enterococcus

- 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 County of Alameda: Castlewood Service Area and/or their O/M Contractor

The following are examples of the sampling equipment used by the O/M Contractor:

- Sampling pole with fixed container
- Sampling pole with removable container
- Sampling pail and rope
- Stream velocity meter
- Grab-n-Go Sample Kit containing, at a minimum:
 - Ice pack
 - Waterproof pen
 - Sample labels
 - Camera
 - Sample bottles
 - Distilled water for Sample Blanks
 - Appropriate PPE

9. Sampling Procedures

A. Sample Location and Identification Procedures:

Samples will be collected by the CCSA O/M Contractor. 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 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 CCSA O/M Contractor 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

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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 County of Alameda:

Castlewood Service Area may be summarized as follows:

- Physical removal
- Tap water rinse
- 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 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 CCSA O/M Contractor 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

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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 CCSA O/M Contractor 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 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. For slow moving streams, a visual estimation may be used by measuring the time it takes for a floating object to travel a measured distance.

G. Grab-n-Go Sampling Kit

The CCSA and/or their O/M Contractor shall maintain a Grab-n-Go sampling kit.

Any CCSA or CCSA O/M Contractor employee utilizing the kit is responsible for decontaminating sampling equipment and field monitoring devices and replenishing the kit.

Sample SSO Sample Collection Kit Inventory:

- Cooler
- Surface Water Sampling SOP (Attachment B)
- Ice Pack
- 9 Ammonia sample bottles, preserved (6 for samples (3 sets of duplicates), 2 for Field Blanks and 1 extra in the event of contamination, spillage of the preservative or other contingency)
- 9 Coliform sample bottles (6 for samples (3 sets of duplicates), 2 for Field Blanks and 1 extra in the event of contamination, or other contingency)
- 6 Enterococcus sample bottles (6 for samples (3 sets of duplicates))
- 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)
- Stream Velocity meter

H. Surface Water Maps

Maps of surface waters in the County of Alameda: Castlewood Service Area 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 Alameda County Environmental Health Department, until such time as one of the following criteria have been met:
 - The 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

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 County of Alameda: Castlewood Service Area Sanitary Sewer Overflow Emergency Response Plan section 11.0 (effective 5/16/23).

11. TECHNICAL REPORT

The MRP requires that in the event of a 50,000 gal or greater overflow spilled to surface waters, the CCSA 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,

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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 CCSA'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 CCSA 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 CCSA 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 County of Alameda: Castlewood Service Area Surface Water Sampling Training Program	
Who Is Trained To Collect Surface Water Samples?	CCSA O/M Contractor Crew
Training Curriculum	at a minimum, training shall include: <ul style="list-style-type: none"> • The County of Alameda: Castlewood Service Area Water Quality Monitoring Plan • Sampling technique, including hands on practice

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	<ul style="list-style-type: none"> • 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 the County of Alameda: Castlewood Service Area.
Refresher Training Frequency	Annual
Who is Responsible for Ensuring Training Occurs?	Director of Public Works or designee
Required Training Records	Employee training sign in log
Who is Responsible for Maintaining Records?	Director of Public Works or designee

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 CCSA 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 CCSA 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 CCSA should also conduct regular reviews of the WQMP 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.

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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

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

**County of Alameda:
Castlewood Service Area
Water Quality Monitoring Program Plan**

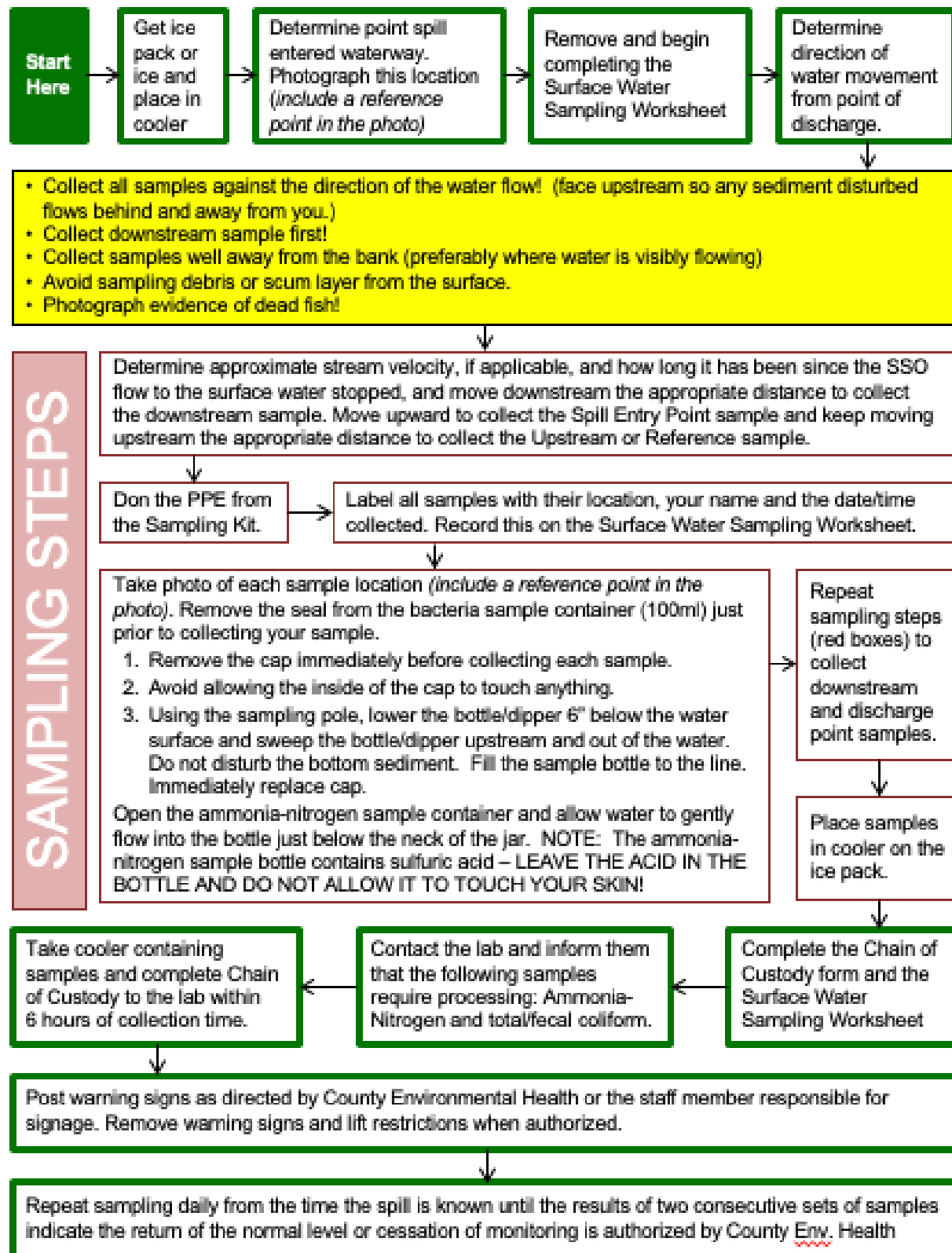
Water Quality Monitoring Plan Change Log

Date	Section(s) Changed	Summary of Change	Approved (signature)

**ATTACHMENT B
Surface Water Sampling SOP**

**County of Alameda:
Castlewood Service Area
Water Quality Monitoring Program Plan**

Surface Water Sampling Standard Operating Procedure



**ATTACHMENT C
Sample Collection Chain of Custody Record**

County of Alameda: Castlewood Service Area Water Quality Monitoring Program Plan
Surface Water Sample Collection Chain of Custody Record

Customer Name				<input type="checkbox"/>	Hazardous Waste	PO#	
Customer Address				<input type="checkbox"/>	Unknown Material	WO#	
Customer Telephone		Mail Code		CONTRACT LAB INFORMATION		Turnaround Requirement	
Program Name				Ship to:		<input type="checkbox"/> Normal (21 days) <input type="checkbox"/> Rush: _____ <input type="checkbox"/> Other: _____	
Lab Program Coordinator		Phone #		Ship Date:			
Sampled By				Courier:			

LIMS# (Issued by Lab)	SAMPLE COLLECTION INFORMATION						# Containers	Matrix*	Analysis Requested					QA/QC Requirements	
	Date	Time	Type		Sample Location	Sample Label ID			Ammonia	Total and Fecal Coliform	Enterococcus			<input checked="" type="checkbox"/>	Lab Standard
			Composite	Grab										<input type="checkbox"/>	Special (see attached)
			<input type="checkbox"/>	<input checked="" type="checkbox"/>	Upstream		2	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input checked="" type="checkbox"/>	Entry Point		2	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input checked="" type="checkbox"/>	Downstream		2	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input checked="" type="checkbox"/>	Field Blank		2	O	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sterile deionized water	

*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		
<input type="checkbox"/> USPS	<input type="checkbox"/> UPS	<input type="checkbox"/> FedEx
Tracing #:		
<input type="checkbox"/> Other:		

Sample Receiving Documentation

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

**ATTACHMENT D
Surface Water Sampling Worksheet**

Surface Water Sampling Worksheet

County of Alameda: Castlewood Service Area Water Quality Monitoring Program Plan

Sample Date:	Sample Time: <input type="checkbox"/> AM <input type="checkbox"/> PM	Sample Location:	
Sampler(s)' Name(s):			
Sampler(s)' Signature(s):			
What is being sampled? <input type="checkbox"/> Stream <input type="checkbox"/> Pond <input type="checkbox"/> Lake <input type="checkbox"/> River <input type="checkbox"/> Other:		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:	
Weather at time of sampling: <input type="checkbox"/> Sunny <input type="checkbox"/> Overcast <input type="checkbox"/> Sprinkling <input type="checkbox"/> Raining			
Was the SSO actively entering the surface water during Sampling? <input type="checkbox"/> YES <input type="checkbox"/> NO If no, complete A-D in the gray box to the right →			

Sample Location	# of Samples*	Photo ID# of Sample Location	Visual Observations and/or Interferences
Upstream*			
Source*			
Downstream*			
Field Blank*			

* Collect duplicate bacteria samples at each location FINISH CHECKLIST <input type="checkbox"/> All Samples Labeled with: <input type="checkbox"/> Date: a six-digit number indicating the year, month, day of collection <input type="checkbox"/> Time: a four-digit number indicating military time of collection. e.g. 0954 <input type="checkbox"/> Sample Location: Upstream, Source, or Downstream <input type="checkbox"/> Samplers: each sampler is identified <input type="checkbox"/> Parameter/preservative: analysis to be conducted for sample/sample preservation <input type="checkbox"/> Chain of Custody Completed <input type="checkbox"/> Samples on Ice in Cooler <input type="checkbox"/> Pictures Taken of Each Sample Location and the Photo ID/# Noted Above <input type="checkbox"/> All Sampling Equipment Collected	NOTES / OBSERVATIONS
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**ATTACHMENT E
Technical Report**

**County of Alameda:
Castlewood Service Area
Water Quality Monitoring Program Plan**

**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**

Add top to bottom flow direction. Arrows

Add boundaries of Castlewood service area

