Running Springs Water District

Sewer System Management Plan (SSMP)

FIRST CERTIFIED: MAY 2010
REVISION 1: MARCH 2013
REVISION 2: MAY 2017
REVISION 3: MAY 2019
REVISION 4 (ADDED GREEN VALLEY LAKE): FEBRUARY 2023

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ABBREVIATIONS / ACRONYMS

ADWF	Average Dry Weather Flow
af	Acre-Foot
APCWD	Arrowbear Park County Water District
Cal OES	California Office of Emergency Services
cf	Cubic Foot
CIP	Capital Improvement Program
CLAWA	Crestline-Lake Arrowhead Water Agency
CSA79	San Bernardino County Service Area 79 (Green Valley Lake)
CIP	Capital Improvement Plan
CIWQS	California Integrated Water Quality System
DISPATCHER	Normal Operating Hours – Office Personnel After Hours – Answering Service
DISTRICT	Running Springs Water District
ENROLLEE	RSWD as Owner/Operator of Wastewater Collection and Treatment System (On-line Electronic Reporting)
EPA	US Environmental Protection Agency
EPS	Extended Period Simulation
ERSC	Engineering Resources of Southern California, Inc.
FOG	Fats, Oils, and Grease
FSE	Food Service Establishment
ft	Feet
FY	Fiscal Year
gal	Gallon
GIS	Geographic Information System
gpcpd	Gallons per Capita per Day
gpd	Gallons per Day
gpm	Gallons per Minute
gpdidm	Gallons per Day per Inch Diameter – Mile
GVL	Green Valley Lake
GWI	Groundwater Infiltration
IC	Incident Commander
I/I	Infiltration/Inflow
LF	Linear Foot
LRWQCB	Lohantan Regional Water Quality Control Board
LS	Lump Sum
MBR	Membrane Bioreactor
mg	Million Gallons

mgd	Million Gallons Per Day
mg/L	Milligrams per Liter
MPN/100 mL	Most Probable Number per 100 Milliliters
MRP	Monitoring and Reporting Program
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
OES	Office of Emergency Services
Order	California State Water Resource Control Board Order No. 2022-0103-DWQ
OSHA	Occupational Safety and Health Administration
PDWF	Peak Dry Weather Flow
POMP	Preventive Operation and Maintenance Program
PWWF	Peak Wet Weather Flow
RDI/I	Rainfall-Dependent Infiltration/Inflow
RSWD	Running Springs Water District
RWQCB	Regional Water Quality Control Board
SARWQB	Santa Ana Regional Water Quality Control Board
SCADA	Supervisory Control and Data Acquisition
SSO	Sanitary Sewer Overflow and any sewer spill or overflow of sewage
SSMP	Sewer System Management Plan
SWRCB	California State Water Resources Control Board
UPC	Uniform Plumbing Code
USGS	US Geological Survey
WDR	Waste Discharge Requirements or General Waste Discharge Requirements
WWTP	Wastewater Treatment Plant
yr	Year

INTRODUCTION

This section describes background information regarding the purpose and organization of the Sewer System Management Plan (SSMP), and provides a brief overview of the Running Springs Water District's (RSWD) sewer system.

The California State Water Resources Control Board ("SWRCB") promulgated a waste discharge requirement ("WDR") permit on December 6, 2022 to regulate sanitary sewer systems. This permit is known as SWRCB Order No. 2022-0103-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems.

This permit, among other things, requires local public sewer collection system agencies, referred to as "Enrollees," to develop a Sewer System Management Plan ("SSMP"). SSMPs must be self-audited at least every two (2) years and updated every five (5) years from the original adoption date by the Enrollee's governing board. The original SSMP must have been approved by the governing board of the Enrollee at a public meeting and adopted.

The five-year SSMP update must also be approved and certified as do all significant updates to the SSMP. The SSMP, all references in the document, and the adoption documents by the governing board must be available on the agency website or submitted to the SWRCB upon adoption or recertification. Enrollees do not send their SSMP to the State or Regional Water Boards for review or approval, but must make it publicly available, and upload an electronic copy to the SSO database or provide a link to the Enrollees' website where the SSMP is posted.

This document will include all elements required to complete the SSMP and comply with WDR Order 2022-0103-DWQ. It will be developed and implemented by RSWD and will be available to the State and Regional Water Quality Control Board as well as for public information. RSWD's board will approve each phase of the document at a public hearing.

This Plan is meant to be a "living document" subject to periodic updates and revisions as may be required either through legislative changes, or through refinements of procedures once policy implementation has begun. The last update of this plan was in May 2019.

SSMP REQUIREMENT BACKGROUND

The California State Water Resources Control Board (SWRCB) adopted statewide Order No. 2022-0103-DWQ (see **Appendix A1**) on December 6, 2022. The General Waste Discharge Requirements (WDR) of this Order requires all public wastewater collection system agencies

in California with greater than one mile of sewer pipes to be regulated and monitored. The SWRCB action mandates the development of a SSMP and requires the reporting of sanitary sewer overflows (SSOs) using the electronic online reporting system.

SWRCB also adopted a time schedule for when various sections of the SSMP are required to be completed by each agency based on its population size. RSWD's SSMP Development Plan and Schedule is presented in **Appendix A2**.

DOCUMENT ORGANIZATION

This SSMP is intended to meet the requirements of the statewide WDR. The organization of this document is consistent with the SWRCB's guideline. This SSMP includes eleven elements. Each of these elements listed below forms a complete, stand-alone section of the SSMP.

1. Element 1 – Goals
2. Element 2 – Organization
3. Element 3 – Legal Authority
4. Element 4 – Operation and Maintenance Program
5. Element 5 – Design and Performance Provisions
6. Element 6 – Overflow Emergency Response Plan
7. Element 7 – Fats, Oils, and Grease (FOG) Control Program
8. Element 8 – System Evaluation and Capacity Assurance Plan
9. Element 9 – Monitoring, Measurement, and Program Modifications
10. Element 10 – SSMP Program Audits
11. Element 11 – Communication Program

Each element section is organized into subsections as follows:

1. Description of SWRCB requirements for that element;
2. Identification of associated appendix and list of supporting information included in the appendix;
3. Discussion of element.

DISTRICT SERVICE AREA AND SEWER SYSTEM

Running Springs Water District, formed in 1958, is located in the San Bernardino Mountains in the County of San Bernardino, California. The District's power and authority are primarily regulated and defined by Division 12, Sections 30000-33901 inclusive, of the California Water Code. Its five-member Board of Directors is elected from the communities of

Running Springs and Green Valley Lake (GVL) at large to govern the District's operations and policies. RSWD is a multi service organization that operates three departments: a water department that provides retail water distribution, a fire department that provides fire protection and pre-hospital emergency medical aid service, and a wastewater department that collects, treats, and disposes of the area's wastewater. The District's entire wastewater service area encompasses approximately seventeen square miles. The District's wastewater service area consists of approximately 2,484 sewer manholes, 94.5 miles (500,000 feet) of gravity, trunk and interceptor sewer pipelines ranging in sizes from 6-inch to 15-inch, and consisting of Asbestos Cement Pipe, PVC Pipe, and Cement Truss Pipe. RSWD has one wastewater treatment plant (WWTP) designed for a maximum flow of 1.0 million gallons per day (MGD).

The District's services also include treating wastewater from Arrowbear Park County Water District (APCWD) WDID# 6SSO11493 and Green Valley Lake WDID# 6SSO11380. This SSMP does not cover the wastewater collection system for APCWD.

Based on a 2020 census, the service population of the RSWD Service Area is approximately 5,568; this does not include the population of APCWD. RSWD is located in both the Southern Lahontan and the Santa Ana watershed regions, which are governed by the Lahontan and Santa Ana Regional Water Quality Control Boards (RWQCBs), respectively. Lift station information for RSWD is summarized in Table 1-1.

Table 1-1. Lift Station Information

Station	Location	Type	Force Main Length (Size)	Generator	In Service
#1	AD #1	Submersible	2,515' (8")	80 kw	Replaced in 2016
#2	AD #2	Submersible	1000' (8")	125 kw	Replaced in 2016
#3	AD #1	Submersible	590' (4")	50 kw	Replaced in 2016
#4	AD #4	Submersible	1,079' (6")	25 kw	1972 / Rebuilt 2004
#5	AD #4	Submersible	1,800' (6")	125 kw	1972 / Rebuilt 2001
#6	AD #6	Progressive Cavity/Mazorator	2,453' (4")	42 kw	1972 / Rebuilt 2008
#7	AD #6	Submersible	1,020' (4")	30 kw	Aug. 1975
#8	AD #6	Submersible	600' (4")	(from LS #7)	Aug. 1975
#9	AD #6	Submersible	960' (4")	(from LS #7)	Aug. 1975
Deerlick	AB	Centrifugal	3,900’ (8”)	135 kw	1976
Ahwahnee	GVL	Centrifugal	2,775’ (8”)	130 kw	1976
Crab Flats	GVL	Centrifugal	1,140’ (8”)	80 kw	1976
Canyon	GVL	Centrifugal	116’ (6”)	40 kw	1976

AD = Assessment District

AB = Arrowbear

GVL = Green Valley Lake

To date, the RSWD wastewater service area has 4,048 active residential or commercial services. During installation of the sewer mains, more than 5,100 tee connections were installed to the property lines to assist property owners to reduce construction costs when connecting to the sewer system.

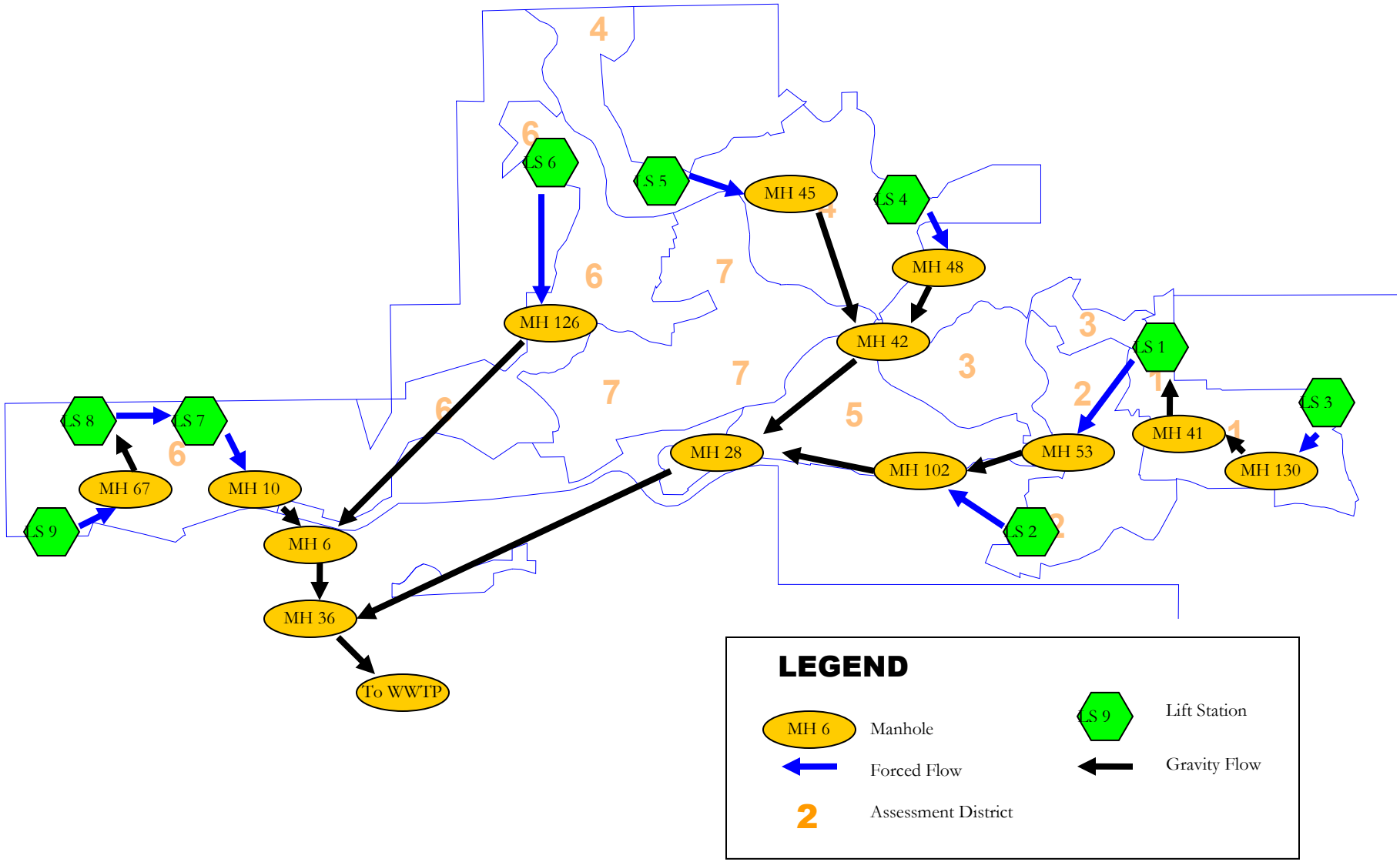


Figure I-1. Topological Structure of Running Springs Water District's Sewer Collection System.

Note: The District's sewer services also include treating wastewater from APCWD. The wastewater from APCWD is conveyed by Lift Station #2.

ELEMENT 1 - GOALS

This section identifies goals that RSWD has set for the management, operation, and maintenance for all parts of the sewage system owned and/or operated by RSWD. This section fulfills the SWRCB Element 1 SSMP requirements.

1.1. SWRCB REQUIREMENTS FOR GOALS ELEMENT

The Agency has developed goals to properly manage, operate, and maintain all parts of its wastewater collection system in order to minimize SSOs, while mitigating any SSOs that may occur.

1.2. ELEMENT 1 APPENDIX

RSWD is required to comply with the order from the Santa Ana Regional Water Quality Control Board (SARWQCB), a copy of which is presented in Appendix B. Supporting information for Element 1 is also included in Appendix B, which contains the following documents:

1. Santa Ana Region Order No. 87-8 entitled "Waste Discharge Requirements for Running Springs Water District, San Bernardino County". **(Appendix B1)** In addition to complying with the Santa Ana Regional Board, RSWD must notify the Lahontan Regional Water Quality Control Board (LRWQCB) for all spills occurring north of Highway 18.

1.3. GOALS DISCUSSION

RSWD's ultimate goals for the operation and maintenance of its sewer system are as follows:

1. Protect public health and the environment;
2. Perform all operations in a safe manner to avoid personal injury and property damage;
3. Minimize sanitary sewer overflows;
4. Ensure a timely response to any spills/release of untreated or treated wastewater; and
5. Protect the large investment in the collection system by maintaining adequate system capacity while extending the useful life of the collections and treatment system.

The SSMP prepared by RSWD will ensure full compliance with the SWRCB order by supporting high-level, consolidated guidelines and procedures for all aspects of management of its sewer collection and treatment system.

ELEMENT 2 - ORGANIZATION

This section describes RSWD's organizational structure and chain of communication. This section identifies the administrative and maintenance positions responsible for implementing this SSMP, responding to SSO events, and meeting the SSO reporting requirements. This section also includes the designation of the authorized representative to meet SWRCB requirements for completing the certification of all spill reports. This section fulfills the organization requirement of SWRCB Element 2 SSMP requirements.

2.1. SWRCB REQUIREMENTS FOR ORGANIZATION ELEMENT

The District's SSMP must identify:

(1) The name of the responsible or authorized representative (Table 2-1);

(2) The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program, including lines of authority as shown in an organization chart or similar document with a narrative explanation (Table 2-1); and

(3) 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) (Figures 2-1 & 2-2).

2.2. ELEMENT 2 APPENDIX

Supporting information for Element 2 is included in Appendices C1-C3, which include the following documents:

1. Table of District Sewer Staff/Consultant Names and Phone Numbers **(Appendix C1)**
2. Running Springs Water District Wastewater Transportation, Treatment and Disposal Agreement for Arrowbear Park County Water District **(Appendix C2)**

2.3. ORGANIZATION DISCUSSION

This section discusses the organization and roles of sewer staff, the authorized representative to the SWRCB, and the key staff responsible for implementing and maintaining the SSMP.

2.3.1. ORGANIZATION CHART (SEE FIGURE 2-1)

RSWD has six (7) employees for the management, operation and maintenance of the wastewater collections/treatment system. RSWD obtains legal, auditing, and engineering services from contracted consultants. The Organizational Chart for the sewer system is shown in Figure 2-1. The names and phone numbers of staff filling these positions and the consultants are included in Appendix C1. To ensure enough personnel under emergency situations, RSWD also entered into informal agreements with CSA79 and Arrowbear Park County Water District (APCWD) to provide emergency assistance.

2.3.2. GENERAL RESPONSIBILITIES

The responsibilities of each position are described as follows:

- Board of Directors – Establish policy.

- General Manager – Enforces RSWD policies; plans, organizes, directs, and supervises RSWD's activities; advises the Board of Directors on engineering matters; prepares and controls RSWD budget; reviews project plans, specifications, and technical engineering planning studies for water and wastewater projects; authorizes outside contractors to perform services; delegates responsibility; serves as the public information officer; plans, organizes, and supervises the maintenance and repair of the District's infrastructure, including the wastewater treatment plant and the sewer collection system; manages the Capital Improvement Program; reviews plans and specifications for sewer and other projects; makes recommendations regarding maintenance, construction, and operation aspects; controls budget expenditures for maintenance; confers with contractors, engineer, and members of the general public on construction, maintenance problems, and procedures; coordinates development and implementation of SSMP; implements contingency plans.

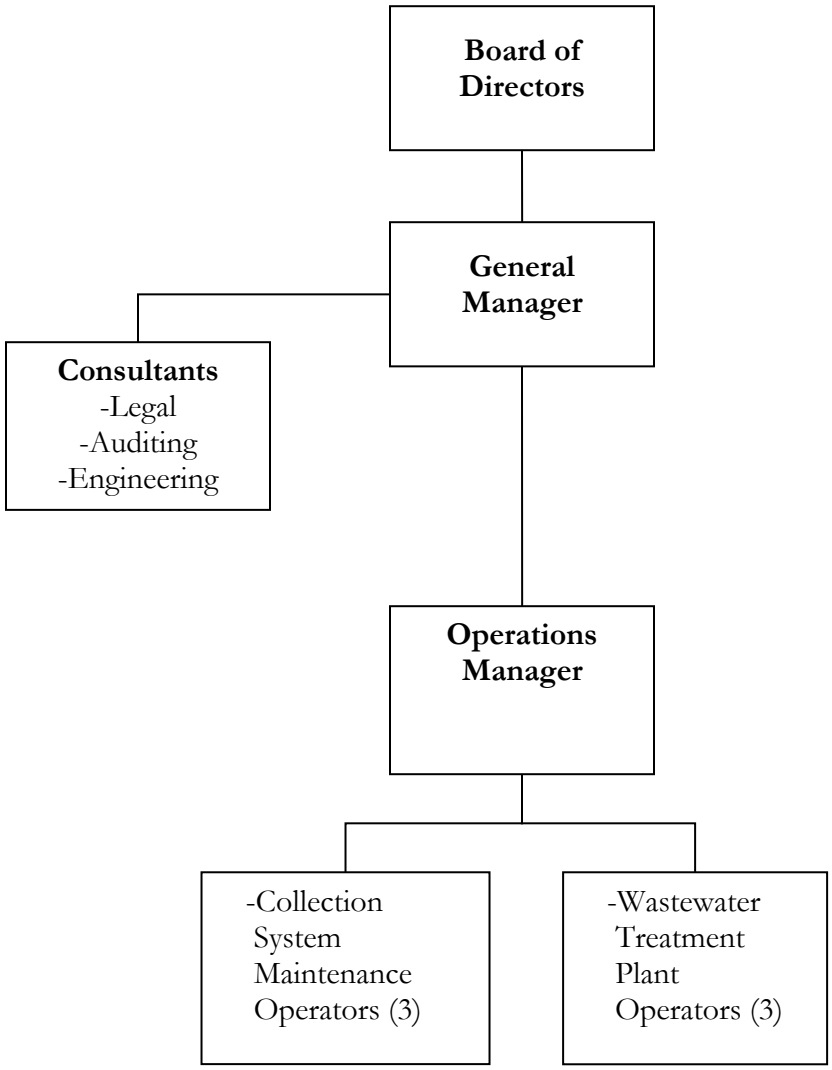
- Operations Manager – Supervises collection system maintenance work; prepares division budgets; investigates sewer-related complaints from the general public; personally assists in the cleaning and repair of sewer mains and lines; schedules work assignments, maintains records of sewage collection system projects assigned and completed, supplies and equipment used, and cost incurred; trains crew members in specific tasks, as needed, including collection system preventive maintenance and SSO response; checks work of assigned crew; ensures that new and rehabilitated assets meet District's standards, confers with contractors, engineer, and members of the general public on construction, maintenance problems, and procedures;

coordinates development and implementation of SSMP; implements contingency plans, leads emergency response, investigates and reports SSOs, and trains field crews. The Operations Manager also Supervises treatment plant, outfall line and disposal facilities (ponds) operations and maintenance work; prepares division budget; personally assists in the cleaning and repair of treatment facilities; schedules work assignments, maintains records of treatment facility projects assigned and completed; tracks supplies and equipment used and cost incurred; makes estimates of needed equipment and equipment maintenance for treatment facilities; trains crew members in specific tasks, as needed, including treatment system preventive maintenance and SSO response; checks work of assigned crew, confers with contractors, engineer, and members of the general public on construction, maintenance problems, and procedures; coordinates development and implementation of SSMP; implements contingency plans, leads emergency response, investigates and reports SSOs, and trains field crews.

- Collection System Maintenance Operators – Conducts preventative and corrective maintenance activities of sewage collection system; mobilizes and responds to notification of stoppages and SSOs.

- Wastewater Treatment Operators – Operates wastewater treatment facilities; conducts preventative and corrective maintenance activities of wastewater treatment facilities; mobilizes and responds to notification of stoppages and SSOs.

Figure 2-1. Organization Chart of Sewer Staff



2.3.4. AUTHORIZED REPRESENTATIVE

RSWD's authorized representative in all sewer system matters is the Operations Manager. The Operations Manager is authorized to submit SSO reports to the appropriate government agencies and certify all electronic reports submitted to the SWRCB. The General Manager is authorized to act in the Operations Manager's absence.

2.3.5. RESPONSIBILITY FOR SSMP IMPLEMENTATION

The General Manager is responsible for implementing and maintaining all elements of this SSMP.

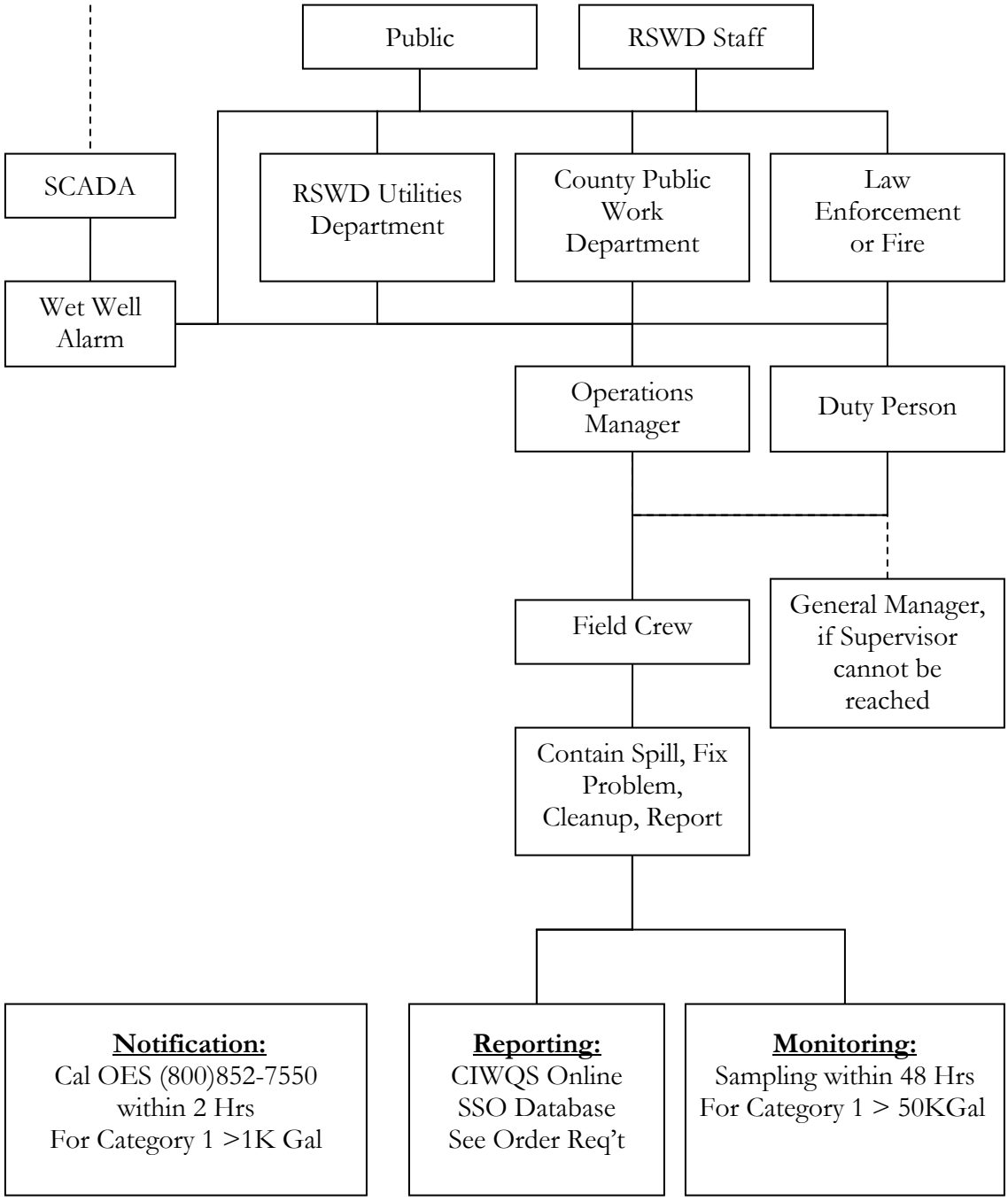
2.4. SSO REPORTING CHAIN OF COMMUNICATION

Figure 2-2 demonstrates RSWD's chain of communication for responding to and reporting any spill. The contact phone numbers for the parties included in the chain of communication is listed in Table 2-1.

Table 2-1. Contact Numbers for SSO Chain of Communication

Contact	Telephone Number
General Manager	909-867-2766
Operations Manager	909-867-2766
On-Duty Operator/After Hours Operator	909-519-1528
Fire Chief	909-867-2630
Lift Station 1 – Internal Use Only	909-867-7637
Lift Station 2 – Internal Use Only	909-867-7690
Lift Station 3 – Internal Use Only	909-867-4971
Lift Station 4 – Internal Use Only	909-867-9289
Lift Station 5 – Internal Use Only	909-867-4354
Lift Station 6 – Internal Use Only	909-867-2608
Lift Station 7/8/9 – Internal Use Only	909-867-7936
Deerlick	909-867-2766
Ahwahnee	909-867-2766
Crab Flats	909-867-2766
Canyon	909-867-2766

Figure 2-2. SSO Response Chain of Communication



ELEMENT 3 - LEGAL AUTHORITY

This section identifies the legal authority that RSWD has set to implement the SSMP plans and procedures. This section fulfills the SWRCB Element 3 SSMP requirements.

3.1. SWRCB REQUIREMENTS FOR LEGAL AUTHORITY ELEMENT

The agency must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

(1) Prevent illicit discharges into its sanitary sewer system (examples may include I/I, storm water, chemical dumping, unauthorized debris and cut roots, etc.);

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

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

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

(6) Enforce any violation of its sewer ordinances.

3.2. ELEMENT 3 APPENDIX

Supporting information for Element 3 is included the following compliance documents:

1. Running Springs Water District Ordinance No. 49 Rules and Regulations for Water and Wastewater Service **(Appendix D1)**
2. Running Springs Water District FOG Program Resolution No. 14-10 & Resolution No. 15-10, **Appendix G1**

3.3. LEGAL AUTHORITY DISCUSSION

The SSMP must include the legal authority, through sewer use ordinances, service agreements, or other legally binding procedures, to (a) control infiltration and connections from inflow sources, including satellite systems; (b) require that sewers and connections be properly designed and constructed; (c) ensure proper installation, testing, and inspection of new and rehabilitated sewers (such as new or rehabilitated collector sewers and new or rehabilitated service laterals); (d) limit fats and greases and other debris that may cause

blockage in the sewage collection system; and (e) implement the general and specific prohibitions of the national pretreatment program under 40 CFR 403.5.

For part (a), the inflow sources may include items such as sump pumps, roof leaders, yard and stairwell drains, satellite systems, or any other materials that adversely affect the performance of the collection system and / or the WWTP.

For part (b), RSWD has developed and continues to update as needed construction standards for the District's pumping stations and collection system.

For part (c), the legally binding documents will also ensure that the testing is conducted, and baseline condition assessment is completed for sewer system construction projects (air test, CCTV, pump station performance, etc.) and that the procedures are in place to transfer the resulting test data to the end user. There is also a requirement for the development and implementation of technical requirements and training standards for construction inspectors.

For part (d), the grease, oils, and fats control program will be for commercial, industrial and institutional users and will combine source and field control to reduce SSOs caused by the discharge of FOG to the collection system.

3.3.1. COMPLIANCE SUMMARY

This SSMP complies with the Order requirements for legal authority under the following enacted ordinances / resolutions or agency policies:

Legal authority for control of fats, oil, and grease (FOG) from Food Service Establishments (FSEs) was established by Running Springs Water District Resolution No. 14-10 (*Adoption Fats, Oil and Grease Control Program*) and Running Springs Water District Resolution No. 15-10 (*Establishing Fats, Oil and Grease Control Program Fees*), which were passed and adopted by the RSWD Board of Directors on April 21, 2010. RSWD's wastewater discharge regulations ordinance (Ordinance No. 49 Rules and Regulations for Water and Wastewater Service) implements the general and specific prohibitions of the national pretreatment program under 40 CFR 403.5. A copy of the FOG Program Resolutions No. 14-10 and No. 15-10 and a copy of the "FOG Control Program" are included in this Plan.

The construction and inspection of new lateral connections and bypass piping facilities is legally enforced through RSWD's connection permit program, as authorized by RSWD's Charter. RSWD issues permits to property owners and/or their contractors according to RSWD standards. Approved design and construction standards are situated in electronic files, and are also available in electronic format. A special standard derived from the master specifications is issued for property owner contractors and is available at the District's main office.

3.3.2. ROLES AND RESPONSIBILITIES

The roles and responsibilities for enforcement of the legal authority to enact the SSMP programs and policies is derived from acts of RSWD's governing Board. Interpretation of the enabling state legislation giving authority to RSWD is provided by RSWD's General Counsel, Best, Best and Krieger of Riverside, California.

During the course of implementing FOG Source Control Program, programmatic changes are anticipated which may necessitate revision of the FOG Program Resolution No. 14-10. RSWD Collections Division will be responsible for periodically reviewing and updating these documents, as the need arises, to ensure that the legal authority is comprehensive and covers all aspects of the FOG Source Control Program.

Ordinance No. 49 Rules and Regulations for Water and Wastewater Service, revised July 19, 2017, is RSWD's main ordinance for regulating sewer use and wastewater discharges, and controlling inflow and infiltration (I/I) and illegal connections to the system. The RSWD Wastewater Division is responsible for maintaining and updating this ordinance as necessary.

ELEMENT 4 - OPERATION AND MAINTENANCE PROGRAM

This section of the SSMP provides an overview and summary of the RSWD's operation and maintenance documents and procedures for sewer collection system. This section fulfills the Operation and Maintenance Program requirements of SWRCB Element 4 SSMP requirements.

4.1. SWRCB REQUIREMENTS FOR OPERATION AND MAINTENANCE PROGRAM ELEMENT

The SSMP must include those elements listed below that are appropriate and applicable to the agency's system:

(1) 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 storm water conveyance facilities;

(2) 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;

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

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

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

4.2. ELEMENT 4 APPENDIX

Supporting information for Element 4 includes the following documents:

1. Running Springs Water District Collection System 11" x 17" Atlas Map (**Appendix E1**)
2. Running Springs Water District Lift Station Information **(Appendix E2)**
3. Running Springs Water District Sewer System Preventive Operation and Maintenance Program (**Appendix E3**)
4. Running Springs Water District Sewer System Rehabilitation and Replacement Program Capital Improvement Plan (**Appendix E4**)
5. Running Springs Water District Sewer System Operation and Maintenance Training Program (**Appendix E5**)
6. Running Springs Water District Sewer System Contingency Equipment and Replacement Inventory (**Appendix E6**)

4.3. OVERVIEW OF OPERATION AND MAINTENANCE PROGRAM

RSWD's Operation and Maintenance Program consists of a Collection System Map and database, a Preventive Operation and Maintenance Program, a Capital Improvement Plan, a Training Program, and a Contingency Equipment and Replacement Inventory.

4.3.1. COLLECTION SYSTEM MAP

Because good mapping is essential to the operation and maintenance of any sewage collection system, RSWD has developed an AutoCAD Collection System Map (11" x 17" atlas map as in **Appendix E1**, also see the 24" x 36" atlas map in RSWD's office); this map is linked to a database file, with which operation and maintenance queries and reports can be produced if required. The Collection System Map and the database include all necessary information for operation and maintenance of sewer system. Currently the Map and the database include the following information:

1. Manhole:
   2.1) ID number;
   2.2) Location (Assessment District);
   2.3) Depth;
   2.4) Rim Elevation;

2.5) Pipe Invert elevation.

2. Gravity Pipes & Force Mains:
   2.1) ID number;
   2.2) Location
   2.3) Upstream manhole ID and downstream manhole ID
   2.4) Diameter (Size);
   2.5) Material type;
   2.6) Flow Direction;
   2.7) Length;
   2.8) Slope.
3. Lift Station:
   2.1) ID;
   2.2) Location (Assessment District);
   2.3) Pump control;
   2.4) Wet well capacity;
   2.5) Pump capacity;
   2.6) Pump type.
4. Land Use Information
   2.1) Land parcel line, land parcel area;
   2.2) Existing land use type;
   2.3) Planned land use type.
5. Topography
6. Other Information such as:
   2.1) Sewer lateral location;
   2.2) Water main and water lateral location;
   2.3) Fire hydrant location;
   2.4) Street name, address number;
   2.5) Satellite picture.

Detailed lift station information is also listed in **Appendix E2** (Running Springs Water District Lift Station Information).

The Collection System Map and the database are able to duplicate, expand, update and zoom in for easily displayed details. RSWD updates the map and the database to include the renewal and maintenance information.

4.3.2. PREVENTIVE OPERATION AND MAINTENANCE PROGRAM

RSWD's on-going Preventive Operation and Maintenance Program (POMP) (**Appendix E3**) describes what work is performed on a regular basis with respect to the collection pipes, lift stations and associated equipment to prevent them from failing and causing SSOs. POMP also identifies and prioritizes system deficiencies based on the inspection records and SSO reports.

The POMP consists of the following programs:

1. Preventive Maintenance: inspection, cleaning, replacing parts, and other maintenance activities at pre-determined times.
2. Predictive Maintenance: inspection and conditional assessment maintenance performed.
3. Corrective Maintenance: tasks are performed in response to a failure of an asset, component or part, or a critical utility outage.

4.3.3. REHABILITATION AND REPLACEMENT PROGRAM

RSWD's sewer infrastructure rehabilitation and replacement projects are identified in the adopted Wastewater Master Plan and through ongoing condition assessment programs. Condition assessment programs include CCTV inspections, manhole inspections, sewer flushing/cleaning, etc. Once the deficiencies have been identified and a priority list was established, a Capital Improvement Plan (CIP) was developed. The District s Sewer System Rehabilitation and Replacement Program is shown in **Appendix E4**. The District's Wastewater Master Plan and CIP can be found in the District's Office.

4.3.4. TRAINING PROGRAM

RSWD has developed a training program (**Appendix E5**) for staff in sanitary sewer system operations and maintenance. The program introduced the technical certificate requirements of the Operations Manager and the minimum technical certificate requirements of all other employees. The program consists of skill and safety training programs, including standard operation procedures, emergency response procedures, OSHA trainings, etc. RSWD also has detailed requirements for the contractors' safety and skills training.

4.3.5. EQUIPMENT AND REPLACEMENT INVENTORY

RSWD's Equipment and Replacement Inventory (**Appendix E6**) is in a dynamic worksheet. This worksheet records critical components to help assure interrupted service.

ELEMENT 5 – DESIGN AND PERFORMANCE PROVISIONS

This section of the SSMP provides an overview of the RSWD's sewer system design criteria. This section fulfills the Overflow Emergency Response Plan requirements of SWRCB Element 5 SSMP requirements.

5.1. SWRCB REQUIREMENTS FOR DESIGN AND PERFORMANCE PROVISIONS ELEMENT

The SSMP must identify:

(1) 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

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

5.2. ELEMENT 5 APPENDIX

Supporting information for Element 1 includes the following compliance document:

1. Running Springs Water District Standards for Sewer Facilities (**Appendix H2**)

5.3. OVERVIEW OF SANITARY SEWER DESIGN AND PERFORMANCE PROVISIONS

Running Springs Water District has existing Standards for domestic water and sewer facilities. RSWD hires experienced and qualified professionals to update this Standard from time to time. The last revision occurred in 2017.

5.3.1. Sewer Design Standards

The RSWD's Sewer Design Standard includes the following sections as well as standard drawings:

(1) General Sewer Design Criteria including
- 1.1) General
- 1.2) Oversizing Required by District
- 1.3) Manholes and Cleanouts

1.4) Sewage Lift Stations

1.5) Plan Preparation

1.6) Technical Specifications

1.7) Standard Drawings

1.8) Pre-Design Conference

1.9) District Engineer Certification

1.10) Improvement Plan Qualification

(2) Detailed Technical Provisions

2.1) Earthwork

2.2) Concrete Construction

2.3) Conductor Pipe

2.4) Erosion Control

2.5) Removal and Replacement of Paved Surfaces

2.6) Criteria for the Separation of Water Mains and Non-Potable Pipelines

2.7) Water Quality Sample Station (not a part of SSMP)

2.8) Water Service (not a part of SSMP)

2.9) Pipe, Fittings and Installation for Water System (not a part of SSMP)

2.10) Water Pipeline Testing and Disinfection (not a part of SSMP)

2.11) Fire Hydrant Assemblies (not a part of SSMP)

2.12) Flush-Out and Blow-Off Assemblies

2.13) Valves, Valve Boxes and Covers

2.14) Air Valves Assemblies

2.15) Concrete Thrust Blocks and Blankets

2.16) Backflow Preventers (not a part of SSMP)

2.17) Chain-Link Fence and Gate

2.18) Furnish and Install Plastic Sewer Pipe System

2.19) Manholes and Cleanouts

2.20) Machine Tapping into Existing Sewer for Laterals

(3) Standard Drawings

5.3.2. INSPECTION FOR NEW AND REHABILITATED FACILITIES

The inspection and testing of new facilities is important to ensure that the standards established are actually implemented in the field. It is important that completed construction not be accepted by the wastewater collection division until inspection and testing have been completed. This approach will help to ensure a proper operation and maximum life expectancy of the system.

Inspections by the District or the Engineer are usually performed during construction and at the completion of the project. Acceptance testing for gravity sewers include low pressure air test or water test to identify leakage, mandrel test to identify deflection in flexible pipe, water or vacuum test of manholes to identify leakage, and television inspection to identify grade variations or other construction defects.

5.3.3. DESIGN AND PERFORMANCE STANDARDS MODIFICATION/CHANGE

If design and performance standards require modification or change, the District will require the District Engineer to process that change. The Governing Board will approve said modifications or changes.

ELEMENT 6 - OVERFLOW EMERGENCY RESPONSE PLAN

This section of the SSMP provides an overview and summary of the RSWD's emergency response documents and procedures for sewer overflow. This section fulfills the Overflow Emergency Response Plan requirements of SWRCB Element 6 SSMP requirements.

6.1. SWRCB REQUIREMENTS FOR OVERFLOW EMERGENCY RESPONSE PLAN ELEMENT

The agency shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. This plan must include the following:

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

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

(3) 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 WDRs or National Pollutant Discharge Elimination System (NPDES) permit requirements. The SSMP should identify the officials who will receive immediate notification;

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

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

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

6.2. ELEMENT 6 APPENDIX

Supporting information for Element 6 includes the following compliance documents:

1. Running Springs Water District Sanitary Sewer Overflow Emergency Response Plan (**Appendix F1**)
2. Running Springs Water District Sanitary Sewer Overflow Emergency Response Training (**Appendix F2**)
3. Running Springs Water District Reported Sanitary Sewer Overflows Since May 2010 (**Appendix F3**)

6.3. OVERVIEW OF SANITARY SEWER OVERFLOW RESPONSE PROGRAM

RSWD's SSO emergency response program includes the elements of Response, Notification, Reporting, Impact Mitigation and Training, pursuant to the requirements of the Order.

6.3.1. SUMMARY OF OVERFLOW EMERGENCY RESPONSE PLAN

The element of Response, Notification, Reporting and Impact mitigation are detailed in the Running Springs Water District Sanitary Sewer Overflow Response Plan (**Appendix F1**) and its appendices. This plan is divided into nine sections, as follows:

(1) Authority
(2) Introduction, including plan objectives
(3) Overflow Emergency Response Team
(4) Overflow Response Procedure
(5) Public Advisory Procedure
(6) Regulatory Agency Notification Procedure
(7) Sanitary Sewer Overflow Record Keeping
(8) Media Notification Procedure
(9) Distribution and Maintenance of this Plan

The objectives of RSWD's overflow response plan are to:

- Protect public health, water, the environment and beneficial uses of receiving waters;
- To mitigate any adverse impacts on the public and to the environment;
- Insure a timely response to uncontrolled release of untreated or partially treated wastewater;
- Establish a basis for corrective action to prevent uncontrolled release of wastewater;

- Satisfy regulatory agency requirements and minimize risk of enforcement actions against the District.

Additional objectives of the Plan include providing appropriate customer service and protecting District personnel, the collection system and facilities, and private and public property.

6.3.1.1. Overflow Emergency Response Resources

The section regarding the Overflow Emergency Response Team as listed in the Response Plan, describes the available resources for RSWD's overflow emergency response. This section also clarifies the responsibilities of each team member under emergency situations and the personnel assumed responsibility of the Incident Commander (IC). The appendix to this section provides daytime and after hours telephone number of the response team member.

6.3.1.2. Initial Notification and Response

The Overflow Response Procedure detailed in the Response Plan covers response procedures from initial notification through field response and internal reporting. An Overflow Emergency Response Flow Chart is presented in the appendix to this section. Subsections include the following:

(1) Receipt of Information Regarding an SSO: provides for the chain of communication for receiving overflow reports. Refer to Element 2 of this SSMP for a flow chart depicting the chain of communication.

(2) Dispatch of Appropriate Crews to Site of SSO: details protocols for dispatching appropriate crews and equipment and discusses additional communication between the response crew and supervisors, guidelines for completing and documenting a preliminary damage assessment are provided, and coordination with any hazardous material response is explained.

(3) Overflow Correction, Containment and Clean-up: describes the responsibilities of the response crew while on-site. Upon arrival, the crew is responsible for determining the cause of the overflow, assessing the need for additional equipment or assistance, notifying the dispatcher if the private property is impacted and if any school is in the vicinity of the affected area, and taking immediate steps to stop the overflow. This subsection also discusses measures that should be taken for containment, sampling and site clean-up.

(4) Overflow Report: details the information to be included in the field report, including an indication whether the overflow reached surface waters, duration of the overflow, overflow volume, damage assessment, and the description of the actions taken to control, contain and clean up the overflow. A sample of the spill report is presented in the appendix to this subsection.

6.3.1.3. Public Notification

The Public Advisory Procedure and the Media Notification Procedure described in the Response Plan discuss circumstances under which the public should be notified of an SSO and establish responsibilities for posting notices or contacting the media. Potential public notification measures include temporary signage to indicate any polluted surface water or groundwater due to an SSO and notification through media outlets. The Operations Manager is responsible for determining whether temporary signage and further notification are necessary. The General Manager is the contact person for all media notification.

6.3.1.4. Agency Reporting and Record Keeping

The Regulatory Agency Notification Procedure portion of the Response Plan details reporting requirements to the SWRCB, the State Office of Emergency Serves (OES), and all other authority agencies. The appendix to this section provides contact information for agencies that may need to be contacted.

The section of Sanitary Sewer Overflow Record Keeping details the mandatory requirements by the Order to keep all SSO records (see **Appendix F3**). All records shall be made available for review upon SWRCB or RWQCB staff's request.

6.3.1.5. Distribution, Update of the Plan

The section of Distribution and Maintenance of this Response Plan specifies that all departments and staff should receive the plan. This section also provides for annual review and updates of the plan.

6.3.2. OVERFLOW EMERGENCY RESPONSE TRAINING PROGRAM

RSWD reviews and updates, as needed, the various contact persons listed in the response plan, and conducts annual training sessions with appropriate personnel. A sample of the training material is presented in the **Appendix E5**.

ELEMENT 7 - FATS, OILS AND GREASE CONTROL PROGRAM

This section of the SSMP discusses RSWD's Fats, Oils and Grease (FOG) control measures, including identification of problem areas, focused cleaning, and source control. This section fulfills the FOG Control requirement of SWRCB Element 7 SSMP requirements.

7.1. SWRCB REQUIREMENTS FOR FOG CONTROL ELEMENT

The agency 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:

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

(2) 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;

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

(4) 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;

(5) Authority to inspect grease producing facilities, enforcement authorities, and whether the agency has sufficient staff to inspect and enforce the FOG Program Resolution No. 14-10;

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

(7) Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (6) above.

7.2. ELEMENT 6 COMPLIANCE DOCUMENTS

Supporting information for Element 7 includes the following compliance documents:

1. Running Springs Water District FOG Program Resolution No. 14-10 (**Appendix G1**)

2. List of Food Service Establishments in Running Springs (potential grease dischargers, **Appendix G2**)
3. Running Springs Water District FOG Control Program (**Appendix G3**)
4. Fats, Oils and Grease Reduction, A Guidebook for Commercial Kitchens (**Appendix G4**)
5. Residential FOG Public Outreach Poster (**Appendix G5**)
6. Running Springs Water District Grease Trap Inspection Form (**Appendix G6**)
7. Running Springs Water District Grease Trap and Interceptor Maintenance Log (**Appendix G7**)

7.3. FOG CONTROL DISCUSSION

RSWD has determined that a FOG control program is necessary per SSMP requirements. As of January 31, 2023, twenty-one food service facilities, which include commercial, camp and school kitchens, were located within RSWD's service area limits and discharge to RSWD controlled sewers. Operations and maintenance staff have also noted the tendency for grease buildup in specific sewer lines. This section discusses measures RSWD takes to control FOG.

Pursuant to SWRCB Element 7 SSMP requirements, RSWD's FOG control program (as presented in **Appendix G3**) consists of identification and cleaning of grease-prone areas, legal authority to prohibit grease discharge and to require a grease removal device, facility inspection, and FOG public education outreach program.

7.3.1. IDENTIFICATION AND SEWER CLEANING

RSWD keeps a list of all food service establishments (FSEs) in the RSWD's service area, as presented in **Appendix G2**. RSWD also inspects manholes and pipelines yearly to locate potential sources of stoppages or spills caused by accumulation of FOG, roots or debris. Observations are recorded; debris type and severity will be noted and will be compared with previous inspection reports. The problem areas will be labeled as hot spots in the system. Areas with several restaurants or grease-producing facilities are also considered likely potential grease problem areas. If the source of the grease in a lateral can be identified, RSWD contacts that restaurant or source of grease.

The gravity section of the collection system is hydro-cleaned and videoed (CCTV) by Assessment District as determined by the collections staff. Cleaning and inspection schedules are adjusted when visual or CCTV inspection identifies a problem area. At this time, the cleaning schedule appears sufficient to prevent FOG overflows.

7.3.2. PLAN AND SCHEDULE OF DISPOSAL OF FOG GENERATED

A list of where to dispose of Food Service Facility generated FOG can be obtained from the RWQCB (Regional Water Quality Control Board) during normal business hours.
Residents may also obtain a list of where to dispose of grease and cooking oil from the RWQCB (Regional Water Quality Control Board) during normal business hours. FOG shall not be discharged into any upstream manhole.

7.3.3. LEGAL AUTHORITIES

Legal measures available to RSWD to control sources of FOG are included in the RSWD's Resolution 14-10 (FOG Program Resolution No. 14-10, as presented in **Appendix G1**). Legal authorities include the authority to prohibit discharges, the requirements of grease removal device, and enforcement measures, as appropriate.

7.3.3.1. Authority to Prohibit Discharges

The Ordinance prohibits all FSEs to discharge of FOG into the sewer system which may accumulate and/or cause or contribute to blockages in the sewer system or at the sewer system lateral. The Ordinance also regulates or prohibits:

- The installation of food grinders in the plumbing system of new construction of FSEs;
- The introduction of any additives into a FSEs wastewater system for the purpose of emulsifying FOG;
- The disposal of cooking oil into drainage pipes;
- The discharge of wastewater from dishwashers to any grease trap or grease interceptor;
- The discharge of wastewater with temperatures in excess of 140°F to any grease control device;
- The use of biological additives for grease remediation or as a supplement to interceptor maintenance;
- The discharge of waste from toilets, urinals, washbasins, and other fixtures containing fecal materials to sewer lines intended for grease interceptor service;
- The discharge of any waste including FOG and solid materials removed from the grease control device to the sewer system;
- Dishwashers and food waste disposal units connected to or discharged into any grease trap;

- Operation of grease interceptors with FOG and solids accumulation exceeding 25% of the design hydraulic depth of the grease interceptor.

7.3.3.2. Requirement of Grease Removal Device

The Ordinance requires that all FSEs shall implement best management practices (BMPs) in their operation, and all newly constructed FSEs, or existing FSEs undergoing remodeling or a change in operations, or existing FSEs that currently are or have the reasonable potential to adversely impact the sewer system shall install grease removal devices prior to commencing the discharge of wastewater to the sewer system.

Grease interceptors shall be constructed in accordance with the design approved by the FOG control program manager and in accordance with the California Plumbing Code (CPC) design requirements and shall have a minimum of two (2) compartments with fittings designed for grease retention.

All grease interceptors and grease traps shall be operated in accordance with the manufacturer's specifications and shall be maintained in efficient operating condition by periodic removal of the full contents of the interceptor. The maintenance records shall be maintained for a minimum two (2) years and shall be provided to the District upon written request.

7.3.3.2. Inspection and Enforcement Authorities

The Ordinance includes authority to allow RSWD to inspect grease producing facilities, and to enforce the Ordinance. The FSE shall allow the District access to the FSE premises, during normal business hours for inspection purpose. The FOG control program manager or his/her designee shall have the right to place or order the placement on the FSEs property such devices as are necessary to conduct sampling or metering operations. Enforcement measures for violations of any sewer protection measure, including grease discharge range from issuance of a notice of non-compliance to criminal penalties.

7.3.4. PUBLIC EDUCATION OUTREACH

RSWD recognizes that its ability to be proactive and effective is also dependent upon public outreach and education. RSWD's outreach activities include newsletters and working with other local agencies to bring about regulations that "make sense" to FSEs and the community.

RSWD's interaction with FSEs occurs on a day-to-day basis, as part of the daily operation of the FOG Control Program. Additionally, RSWD has a brochure entitled "*Fats, Oils and Grease Reduction, A Guidebook for Commercial Kitchens*" (as presented in **Appendix G4**) mailed to all of the FSEs in the RSWD's service area along with the copies of FOG Program Resolution No. 14-10 and RSWD FOG Control Program. This brochure includes important information on general BMPs, kitchen BMPs, food service waste reduction, and design, operation and maintenance guidelines for grease interceptors.

RSWD has produced a residential FOG public outreach poster targeted to all residents. This poster is displayed at RSWD office and provided to FSEs and residents who are affected by a blockage or backup. A copy of the poster is included in **Appendix G5**.

ELEMENT 8 - SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

This section of the SSMP discusses RSWD's System Evaluation and Capacity Assurance Plan to provide hydraulic capacity of key sewer system elements under peak flow conditions. This section fulfills the System Evaluation and Capacity Assurance Plan requirement of SWRCB SSMP Element 8.

8.1. SWRCB REQUIREMENTS FOR SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN ELEMENT

The agency has prepared and will implement a Capital Improvement Plan (CIP) through the wastewater master plan which provides hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as wet weather events. At a minimum, the plan must include:

(1) Evaluation: Actions needed to evaluate the sanitary sewer system that may experience or contribute to an SSO discharge caused by hydraulic deficiency. The evaluation provides estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those which may cause overflow events; estimates of the capacity of key system components; hydraulic deficiencies (including components of the system with limiting capacities); and the major sources that contribute to the peak flows associated with overflow events;

(2) Design Criteria: Where design criteria did not exist or were deficient, the evaluation identified in (1) above was used to establish appropriate design criteria; and

(3) Capacity Enhancement Measures: The steps needed to establish a short- and long-term CIP which addresses identified hydraulic deficiencies, and includes prioritization, alternatives analysis, and schedules for the CIP. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacities, and storage facilities. The CIP includes an implementation schedule and identifies funding sources.

(4) Schedule: The agency has developed a schedule of completion dates for all portions of the capital improvement program developed in (1)-(3) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements.

8.2. ELEMENT 8 APPENDIX

Supporting information for Element 8 is included the following compliance document:

1. Running Springs Water District System Evaluation and Capacity Assurance Plan (**Appendix H1**).
2. Running Springs Water District Standards for Sewer Facilities (**Appendix H2**)

8.3. SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN DISCUSSION

Running Springs Water District's Sanitary Sewer System Evaluation and Capacity Assurance Plan evaluate the impact of additional flows from growth within the service area in both the near and distant future. If the evaluation determines that capacity problems exists or will develop in the future, then a pipeline capacity Capital Improvement Plan (CIP) may be developed per District's Standards for Sewer Facilities (**Appendix H2**) to construct the needed facilities.

This Sanitary Sewer System Evaluation and Capacity Assurance Plan includes the projection of the future (to the year of 2028) sewer loads in Running Springs area, the review of the existing RSWD sewer system data, the description of the sewer model development, the evaluation of the sewer system capacitates for the existing and future sewer loads, and recommended Capacity Improvement Projects.

8.3.1. Existing and Projected Sewer Flows

This section describes the approach for the projection of sewer flows (for both dry weather and wet weather) over the next 20 years.

Sewer flows are composed of three components: (1) Sanitary base flow generated by homes, businesses, etc., sanitary base flows are roughly equal to a certain percentage of the water demand which approximates the customers' water demand which is returned to the sanitary sewer; (2) Infiltration due to normal groundwater levels (dry weather infiltration); and (3) Infiltration/inflow (I/I) due to rainfall and high groundwater levels (rainfall-dependent I/I, or RDI/I)

The projection of sanitary base flow is based on the projection of the water demand. A disaggregated method was used in the Plan to compute the future water demands in the Running Springs Area. The disaggregated method separated water demands into more uniform groups of users as the basis for future projections. This approach was paired with land use information and water duties to develop water demands. It provided more accuracy and flexibility in analyzing the future water demands (accordingly sanitary base flows) and

allowed us to build conservatism into the sizing of facilities and piping in the latter stages of the planning process, thereby minimizing the amount of rework required to update plans and proposed improvement projects.

The planned land use types and acreage information were obtained from San Bernardino County General Land Use Map. Based on the land use information, the average day water demand of the entire District service area is expected to increase from 0.552 mgd (2008) to 0.742 mgd under buildout conditions. It should be noted that while there exists fewer than 300 buildable lots within the District's Boundaries, we cannot know or predict upstream contribution due to upstream developmental growth. As such, we have used Census Data for projected population growth in the Running Springs area as a conservative estimate to account for this upstream growth and contribution.

Historical sewer flow rates at the Wastewater Treatment Plant were carefully reviewed in order to estimate the GWI and percentage rate of water consumption returning to the sanitary sewer.

The historical data indicated that the components of sewer flows in the area were significantly different in dry weather months (June to November) than the wet weather months (December to May). During wet weather months, rainfall-dependent infiltration / inflow had considerable contribution to the WWTP sewer flows. It is estimated that the amount of water consumed when combined with the GWI rate is estimated to be 100 gpdidm.

Average daily sewer flow during the dry weather months is expected to increase from 0.458 mgd (2008) to 0.508 mgd under buildout conditions. The projected average daily sewer flows in dry weather months for the Year 2013, 2018, 2023, 2028 are 0.483 mgd, 0.507 mgd, 0.523 mgd and 0.530 mgd, respectively.

Peak day sewer flow during the wet weather months is expected to increase from 0.892 mgd (2006) to 0.951 mgd under buildout conditions. The projected peak day sewer flows in wet weather months for the Year 2013, 2018, 2023, 2028 are 0.908 mgd, 0.923 mgd, 0.932 mgd and 0.937 mgd, respectively.

Peak hour sewer flow during the wet weather months was expected to increase to 1.489 mgd under buildout conditions. The projected peak hour sewer flows in wet weather months for the Year 2013, 2018, 2023, 2028 are 1.504 mgd, 1.519 mgd, 1.528 mgd and 1.533 mgd, respectively.

8.3.2. Collection System Modeling

This section describes the process of H2OMap Sewer hydraulic modeling development for the sewer collection system evaluation, and the resultant collection system deficiencies identified by the model.

The sewer system model was obtained and based on an inventory of sewer piping and facilities identified in RSWD's system map (LINKS). Pipes in the model were represented by line segments and were defined by an upstream manhole, a downstream segment of pipe and a downstream manhole. The model considered manholes, cleanouts and wet wells as "nodes", and pipes, force mains and lift stations as "links".

RSWD's sewer planning and design criteria were used as the evaluation basis to assess the sewer collection system and to plan future improvements, upgrades, and expansions of facilities. RSWD's planning and design criteria proposed for use in this Plan were comparable to the criteria used by similar agencies in the region. The criteria include elements of pipe roughness, slope, diameter etc.

A series of hydraulic model simulations were conducted in the H2OMap Sewer model to evaluate the sewer system capacity under various scenarios (dry weather average daily flow, wet weather peak day flow and wet weather peak hour flow) for the Years 2008, 2013, 2018, 2023, 2028 and through buildout conditions. Projected sewer loads including sanitary base flow, GWI, RDI/I were allocated to each manhole, based on land use type and acreage.

Sewer pipes and lift stations must be able to deliver wet weather peak hour flow, thus wet weather peak hour flow was considered as the design and evaluation basis for sewer pipes and lift stations. The model simulations indicated that under all scenarios, all 9 lift stations have adequate capacities for the peak hour flows. The model simulations also identified surcharging gravity pipelines and suggested diameters for replacement pipes. For the worst situation (buildout and wet weather peak hour flow conditions), the total length of failed or undersized sewer gravity pipelines is approximately 2,485 linear feet. There exist 13,337 feet of 6-inch diameter pipe which may need to be upgraded to a minimum 8-inch diameter pipe in order to satisfy requirements under current District Standards.

8.3.3. Treatment System Capacity Evaluation and Improvements

This section evaluates the treatment capacity of RSWD's wastewater treatment plant WWTP). The purpose of the evaluation was to ensure the treatment plant had adequate capacity to treat or store wastewater under peak conditions in order to prevent an SSO occurrence at the plant.

RSWD's wastewater treatment facility is equipped and is designed to produce a tertiary treated effluent utilizing a Microfiltration Membrane Bioreactor (MBR) system. The effluent from the WWTP is discharged to ponds in the US Forrest Service (USFS) lands and for spray irrigation of a green belt adjacent to the treatment plant.

With the existing EQ basin and the existing MBR treatment capacity of 1.0 mgd, the treatment plant can treat any instantaneous flows under 1.0 mgd; flows in excess of the 1.0 mgd may cause the system to overload. Utilizing the equalization basin, the District can defer treatment for up to 5.9 hours until the peak instantaneous flows have subsided to a more manageable rate.

In 2016, the District expanded the MBR system to 1.0 mgd and the treatment plant can defer treatment by utilizing the equalization basin for up to 9.7 hours until the peak instantaneous flows have subsided.

Under the worst situation, the plant can employ more options to trim off the peak flow including using the Anaerobic / Flow Equalization Tanks as a buffer with each tank of 80,000 gal capacity, temporarily using Aerobic Digestion Chamber to store the influent, and using the peak capacity of the MBR itself.

8.3.4. Costs and Schedule for Recommended Improvements

This section summarizes the costs and schedules for recommended wastewater CIP improvements. The total cost of the CIP till the year of 2028 is estimated to be $1,600,000.

ELEMENT 9 - MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS

This section of the SSMP discusses RSWD's Monitoring, Measurement, and Program Modifications of SSMP. This section fulfills the Monitoring, Measurement, and Program Modifications requirement of SWRCB SSMP Element 9.

9.1. SWRCB REQUIREMENTS FOR MONITORING, MEASUREMENT, AND PROGRAM MODIFICATION ELEMENT

The agency shall:

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

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

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

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

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

9.2. ELEMENT 9 APPENDIX

Supporting information for Element 9 is included the following compliance document:

1. Running Springs Water District Reported Sanitary Sewer Overflows Since May 2010 (**Appendix F3**)

9.3. MONITORING, MEASUREMENT, AND PROGRAM MODIFICATION DISCUSSION

9.3.1. SSO Database

RSWD keeps all operation and maintenance records of the sewer system. RSWD also has developed database files to document SSOs. For each SSO, the following information was recorded:

- Event date;
- Event location;
- Total SSO volume;
- Contained SSO volume;
- Response time;
- The reason causing the SSO including roots, grease, debris, pipe failure, pump station failure, capacity and other.

The locations of each SSO were marked in the Sewer System Map in AutoCAD.

9.3.2. Effectiveness of the SSMP

With the record files and the Sewer System Map, the District is able to track each SSO and sewer stoppage, and conduct periodic statistical analyses on SSO trends. Some examples of these statistics may include:

- Number of SSOs over the past 12 months, distinguishing between dry and wet weather overflows;
- Volume distribution of SSOs (e.g. number of SSOs <100 gallons, 100 to 999 gallons, 1,000 to 9,999 gallons, and >10,000 gallons);
- Volume of SSOs that was contained in relation to total volume of SSOs;
- SSOs by cause (e.g. roots, grease, debris, pipe failure, pump station failure, capacity, other);
- Number of stoppages over the past 12 months;
- Average time to respond to an SSO;
- Relationship of capacity-related SSOs to storm event return frequency;
- Ratio of planned sewer cleaning to unplanned sewer cleaning;
- Backlog of repair, rehabilitation, and replacement projects;
- Plans and/or implementation of activities to target specific problems identified, such as roots, structural deficiencies, or fats, oil, and great (FOG).

The statistics will be used to monitor the implementation of SSMP and evaluate the effectiveness of each elements of the SSMP.

9.3.3. SSMP Update

The elements of the SSMP are updated at periodic interval based on the monitoring or performance evaluations. There are several ways for RSWD to keep the SSMP updated in order to meet the requirements.

- Obtain specific funding to carry out periodic reviews and to participate in any related coordinating meetings;
- Assign staff to review the SSMP periodically to check effectiveness and timeliness;
- Check with the collection system staff at periodic intervals to review the effectiveness and identify potential areas for improvement, either individually or through meetings;
- Prepare progress reports documenting effectiveness, potential changes, and / or a summary of program activities on a periodic basis;
- Obtain internal approval to update the SSMP with specific revisions;
- Solicit peer review by another sewer collection system agency.

As this is meant to be a "living document," there will be necessary revisions and updates to RSWD's Sewer System Management Plan; major changes may need to be approved by the Board of Directors. If changes are identified for implementation in the SSMP, other related documentation may also be affected which may need to be revised as well.

The last update of this SSMP was in May 2019.

ELEMENT 10 - SSMP PROGRAM AUDITS

This section of the SSMP discusses the RSWD's internal audit covering the agency's compliance with all SSMP requirements. This section fulfills the SSMP Program Audits requirement of SWRCB SSMP Element 10.

10.1. SWRCB REQUIREMENTS FOR SSMP PROGRAM AUDITS ELEMENT

The agency 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 agency's compliance with the SSMP requirements, including the identification of any deficiencies in the SSMP and outlining necessary steps to correct them.

10.2. ELEMENT 10 APPENDIX

Supporting information for Element 10 included the following compliance documents, some of the documents are presented in **Appendix I1**:

1. Running Springs Water District Sanitary System Management Plan Internal Audit Finding Form and Guidance (**Appendix I1**)

10.3. SSMP PROGRAM AUDIT DISCUSSION

10.3.1. RSWD's Internal Audit Program

Running Springs Water District is required to conduct an appropriate internal SSMP audit and submit a report of the audit, with an evaluation of the SSMP and RSWD's compliance, including what deficiencies have been encountered and what steps have been taken to correct them. The audit programs are used to provide controls for ensuring that all elements of the SSMP are being implemented and managed appropriately by RSWD. The audit outcomes should provide information about challenges and success implementing the SSMP and identify any program or policy changes which are required to ensure the effectiveness of SSMP implementation.

10.3.2. Internal Audit Program Requirements

The requirements for the internal audit program include the following:

- Development of an audit find form (**Appendix I1**);
- Assigning staff to perform the internal audit program. Staff will need to focus on the internal audit program and be fairly removed from the day-to-day activities;
- The internal audit person will have enough authority to carry out all necessary data gathering. RSWD will fully support and authorize the audit procedures;
- The auditor will submit the findings and reports to the District's management personnel.

10.3.3 Roles and Responsibilities of the Auditors

The positions, roles, and responsibilities of the audit staff are as follows:

- The auditor has the responsibility of scheduling and conducting audits, or using a third party to conduct the audits.
- Any deficiencies identified as a result of the audits will be brought to the attention of each responsible RSWD division / staff.
- Deficiencies and corrective actions will be identified, verified, and documented by the auditor using the Audit Finding Form.

At a minimum, audits will be conducted every two years; a report of the findings must be prepared and kept on file. Strategies to correct deficiencies, if identified, will be developed by the responsible RSWD staff member(s). The audit will identify any deficiencies in RSWD's SSMP programs and include steps to correct the issue.

ELEMENT 11 - COMMUNICATION PROGRAM

This section of the SSMP discusses RSWD's communication program which allows input from interested parties with respect to the development, implementation and performance of the SSMP. This section fulfills the Communication Program requirement of SWRCB SSMP Element 11.

11.1. SWRCB REQUIREMENTS FOR COMMUNICATION PROGRAM ELEMENT

The District 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 District as the program is developed and implemented.

The agency shall also create a plan of communication with systems that are tributary and / or satellite to the District's sanitary sewer system, i.e., CSA79 and Arrowbear Park County Water District.

11.2. ELEMENT 11 APPENDIX

Supporting information for Element 11 is included the following compliance documents:

1. Fats, Oils and Grease Reduction, A Guidebook for Commercial Kitchens (**Appendix G5**)
2. Residential FOG public outreach poster (**Appendix G6**)

11.3. COMMUNICATION PROGRAM DISCUSSION

RSWD's General Manager is the individual who will be responsible for the development of the communication program.

The District recognizes that its ability to be proactive and effective is also dependent upon public outreach. RSWD has identified the key stakeholders who may be interested in the SSMP as in Table 11-1.

The Running Springs Water District's primary customers are the residential and commercial customers that connect to the sewers located within the District's area. In addition, two neighbor agencies, APCWD and CSA79, contribute flow to the Running Springs Water

District sanitary sewer collection system. The primary customers of the neighbor agencies are also the residential and commercial customers that connect to the collector sewers located within the service areas of each of the contributing agencies.

Table 11-1. Running Springs Water District SSMP Key Stakeholders.

Stakeholder Group	Potential Issues of Interest
Ratepayers and local neighborhood associations	Proposed rate increase, FOG program, local impacts from capital program
Food Service Establishments	FOG Program
County of San Bernardino / Law Enforcement.	Emergency response plans, SSMP program audits
Engineering consultants	Design standards, capital programs, consulting opportunities
Contractors	Capital programs, proposed contracting of maintenance activities
Governing board	SSMP progress, costs, public impacts, communication program
APCWD and CSA79	Operating parameters, capacity management, I / I reduction programs

11.3.1. Communications with Contributing Neighbor Agencies

The District has developed and implemented a communications program with its contributing agencies (upstream users). The plan has established a collaborative approach to communicate with contributing agencies and work together during the development and implementation of, and future improvements, to the SSMP. Subsequent meetings will be held periodically with representatives who are responsible for development and maintenance of the SSMP at each contributing agency.

11.3.2. Communications with and Outreach to Customers and the General Public.

Running Springs Water District provides public outreach and education to residents and businesses related to sanitary sewer overflows, preventing grease blockages and Best Management Practices for handling of grease waste. Residential education includes targeted

advertisements and public service announcements, distribution of information at community events and water bills inserts. For example, in the past years, after identifying a common cause of facility pump failures in Running Springs was sanitary wipes dumped to the sanitary sewer system by the residents, the District has included knowledge of "preventing clogs in the sewer system" in quarterly newsletters mailed to all residents. The District also periodically mails information flyers to all residential and business property owners and tenants describing the negative impacts of discharging fats, oil and grease into the sanitary sewer system. Additionally, the District inspects food service facilities in the service area periodically for compliance with Best Management Practices and grease removal device maintenance, and distributes educational materials during these inspections.

APPENDICES

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LIST OF APPENDICES

Appendix G6 Running Springs Water District Grease Trap Inspection Form

Appendix G7 Running Springs Water District Grease Trap and Interceptor Maintenance Log

Appendix H1 Running Springs Water District System Evaluation and Capacity Assurance Plan

Appendix H2 Running Springs Water District Standards for Sewer Facilities

Appendix I1 Running Springs Water District Sanitary System Management Plan Internal Audit Finding Form and Guidance