Big Bear Area Regional Wastewater Agency

# 2021 Sewer System Management Plan

Prepared for:

Prepared by:

WSC
WATER SYSTEMS CONSULTING, INC.

5/7/2020

2 Year Audit 5/26/2021

## Certification

I certify that this document and all attachments were prepared under my direct supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete.

Both the SSMP and the program to implement the SSMP have been certified by the Big Bear Area Regional Wastewater Agency (BBARWA) to be in compliance with the requirements set forth in the Statewide General Waste Discharge Requirements (Order No. 2006-0003-DWQ) and Revised Monitoring and Reporting Program (Order No. WQ 2013-0058-EXEC), or collectively, Sanitary Sewer System Waste Discharge Requirements (SSS WDRs). This document was presented to the BBARWA Governing Board for approval at a public meeting held on 5/27/20 at 5:00pm. The BBARWA Governing Board approved this SSMP at the aforementioned public meeting.

BBARWA certifies that the SSMP, and subparts thereof, comply with the SSS WDRs and that BBARWA has made a good faith effort to comply with the SSS WDRs within the timeframes identified therein. Following this updated SSMP's approval by BBARWA's Governing Board, BBARWA's General Manager, David Lawrence, completed the certification portion in the Online SSO Database Questionnaire by checking the appropriate milestone box, printing and signing the automated form, and sending the form to:

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

6/24/2020

David Lawrence, P.E.
General Manager
Big Bear Area Regional Wastewater Agency

Date

# TABLE OF CONTENTS

# LIST OF TABLES



# LIST OF FIGURES

# LIST OF TERMS, ACRONYMS AND ABBREVIATIONS

| Acronym | Definition |
|---|---|
| **BBARWA** | Big Bear Area Regional Wastewater Agency |
| **BBCCSD** | Big Bear City Community Services District |
| **BMP** | Best Management Practices |
| **Cal OES** | California Office of Emergency Services |
| **City** | City of Big Bear Lake |
| **CCTV** | Closed-Circuit Television |
| **CIP** | Capital Improvement Program |
| **CIWQS** | California Integrated Water Quality System |
| **CMMS** | Computerized Maintenance Management System |
| **CSA 53B** | San Bernardino County Service Area 53B |
| **CWEA** | California Water Environment Association |
| **DS** | Data Submitter |
| **EAP** | Emergency Action Plan |
| **FOG** | Fats, Oils, and Grease |
| **FSE** | Food Service Establishments |
| **GIS** | Geographical Information System |
| **GPM** | Gallons per Minute |
| **JPA** | Joint Powers Agreement |
| **I/I** | Inflow and Infiltration |
| **KPI** | Key Performance Indicator |
| **LRO** | Legally Responsible Official |
| **MGD** | Million Gallons per Day |
| **MRP** | Monitoring and Reporting Program |
| **MS4** | Municipal Separate Storm Sewer System |
| **NPDES** | National Pollutant Discharge Elimination System |
| **OERP** | Overflow Emergency Response Plan |
| **PLSD** | Private Lateral Sewage Discharge |
| **PPE** | Personal Protective Equipment |
| **ROW** | Right of Way |
| **RPM** | Revolutions per Minute |
| **R&R** | Rehabilitation and Replacement |
| **Regional Water Board** | Regional Water Quality Control Board |
| **SECAP** | System Evaluation and Capacity Assurance Plan |
| **SSMP** | Sewer System Management Plan |
| **SSO** | Sanitary Sewer Overflow |
| **SSS WDRs** | Sanitary Sewer System Waste Discharge Requirements |
| **State Water Board** | State Water Resources Control Board |
| **SWPPP** | Storm Water Pollution Prevention Plan |
| **TCSP** | Traffic Control Safety Plan |
| **TDH** | Total Dynamic Head |
| **WDRs** | Waste Discharge Requirements |
| **WQMP** | Water Quality Monitoring Program |
| **WOTUS** | Waters of the United States |
| **WWTP** | Big Bear City Regional Treatment Plant |

# A INTRODUCTION

## A-1 SANITARY SEWER SYSTEM WASTE DISCHARGE REQUIREMENTS

The California State Water Resources Control Board (State Water Board) adopted Statewide General Waste Discharge Requirements (WDRs) for sanitary sewer systems on May 2, 2006 as Water Quality Order No. 2006-0003-DWQ. In 2008, the Monitoring and Reporting Program (MRP) of the Statewide General WDRs was revised as Order No. 2008-0002-EXEC. The MRP was subsequently revised on September 9, 2013, as Order No. WQ 2013-0058-EXEC. Together, Order No. 2006-0003-DWQ and Order No. WQ 2013-0058-EXEC are referred to as the Sanitary Sewer System Waste Discharge Requirements (SSS WDRs) (Appendix I: Sanitary Sewer System Waste Discharge Requirements).

The goal of the SSS WDRs is to provide consistent statewide requirements for quantifying, reporting and reducing the number of wastewater spills and the volume of wastewater spilled in the state of California. The SSS WDRs require all public wastewater collection system agencies in California that own and operate sanitary sewer systems greater than one (1) mile in length, which collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility, to develop, implement, and maintain a Sewer System Management Plan (SSMP) and report sanitary sewer overflows (SSOs) using the State's electronic reporting system, California Integrated Water Quality System (CIWQS).

## A-2 WATER QUALITY ORDER NO. 2006-003-DWQ

Provision 11 of Water Quality Order No. 2006-0003-DWQ (Order 2006-0003-DWQ), sets the requirement for the preparation of an SSMP that addresses proper funding, management, operation and maintenance of the sanitary sewer system:

*The Enrollee shall develop and implement a written Sewer System Management Plan (SSMP) and make it available to the State and/or Regional Water Board upon request. A copy of this document must be publicly available at the Enrollee's office and/or available on the internet. This SSMP must be approved by the Enrollee's governing board at a public meeting.*

## A-3 ORDER NO. WQ 2013-0058-EXEC

The State Water Board amended the Monitoring and Reporting Program (MRP) to improve its efficiency and eliminate the duplicative reporting requirements that were in the previous MRP. The Amended MRP includes updated notification, reporting, water quality monitoring, and record keeping requirements. Additionally, the State Water Board revised the SSO categories by adding a "Category 3" to better evaluate high threat and low threat SSOs. The updated SSO categories under the amended MRP are summarized below:

- **Category 1:** SSOs of any volume which reach surface water, a drainage channel, or a Municipal Separate Storm Sewer System (MS4) and are not fully recovered.
- **Category 2:** SSOs of 1,000 gallons or greater that do not reach surface water, a drainage channel, or an MS4 (unless fully recovered).
- **Category 3:** All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.

## A-4 SSMP REQUIREMENTS

The Big Bear Area Regional Wastewater Agency (BBARWA) has developed this SSMP per the requirements of the SSS WDRs. The following SSMP Elements identify how BBARWA complies with the SSS WDRs:

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

BBARWA currently implements a variety of programs that meet the SSS WDRs objectives and are consistent with the specific requirements of an SSMP. The sections of this SSMP are organized to correspond with the eleven (11) Elements listed above. The SSMP integrates many ongoing activities by BBARWA into one (1) formal document. Some of these activities are described in greater detail in other documents that include, but are not limited to the following:

- *Title 7 (BBARWA's Sewer Code)*
- *Emergency Action Plan (EAP)*
- *System Evaluation and Capacity Assurance Plan (SECAP).*

The SSMP and referenced documents are available at BBARWA's office and as noted in Appendix A: SSMP Supporting Document History.

The SSMP and supporting documents are living documents, meaning that they will evolve, and modifications will be made as necessary to meet the required regulations and continually improve processes. The SSMP must be updated and reapproved by the Governing Board every five (5) years in accordance with the SSS WDRs. Additionally, the SSMP may be amended at any time within the five-year reapproval intervals based on recommendations from required biennial audits of the SSMP, and when changes to any of the required elements are required to improve processes. If an SSMP update occurs and is approved by the Governing Board in a year prior to the required five-year update cycle, the SSMP shall still be reviewed and re-approved on the scheduled year of the five-year update, as set by the initial approval date of the first SSMP. Revisions to the SSMP document are tracked in Appendix B: Sewer System Management Plan Change Log. Revisions to the SSMP supporting documents are tracked in Appendix A: SSMP Supporting Document History.

## A-5 REGIONAL SEWER COLLECTION SYSTEM BACKGROUND

BBARWA was formed by a Joint Exercise of Powers Agreement on March 22, 1974. The primary function of BBARWA is to collect, treat, and dispose of the wastewater generated by each of its three (3) member agencies within its service area in the Big Bear Valley. BBARWA's member agencies include San Bernardino County Service Area 53B (CSA 53B), Big Bear City Community Services District (BBCCSD), and the City of Big Bear Lake (City) as shown in Figure A-1. Each member agency owns and operates their own local sewer collection system. They also act as an agent on behalf of BBARWA to collect fees (user fee, standby fee, and connection fee).

### *San Bernardino County Service Area 53B*

CSA 53B was established in June 1971 under the provision of County Service Area law, which provides fire protection and sanitation services within the Fawnskin communities and North Shore Tract areas of Big Bear Lake. CSA 53B encompasses approximately nine (9) square miles and all flows discharge into the BBARWA North Shore Interceptor.

### *Big Bear City Community Services District*

The Big Bear Community Sanitary District was formed in 1935 and was incorporated into BBCCSD when formed in 1966 to provide water supply, fire protection, street lighting, wastewater collection, and refuse disposal services. BBCCSD encompasses about 11.41 square miles and all flows discharge into the BBARWA Trunk Line.

### *City of Big Bear Lake*

The City Sanitation District was formed in November 1939 to provide sanitation services for the area that is now within the City. The City was incorporated in 1980 and became a Charter City in 1983. The total area encompasses approximately seven (7) square miles and all flows discharge into the BBARWA Lake Pump Station wet well.

### *Big Bear Agency Regional Wastewater Agency*

BBARWA's existing collection system includes 10.29 miles of force main and 4.78 miles of gravity sewer along three (3) major alignments which each receive raw wastewater from one (1) of BBARWA's member agencies: the BBARWA Trunk Line, North Shore Interceptor, and Lake Interceptor Force Main (Figure A-1). BBARWA's collection system does not include storm drains.

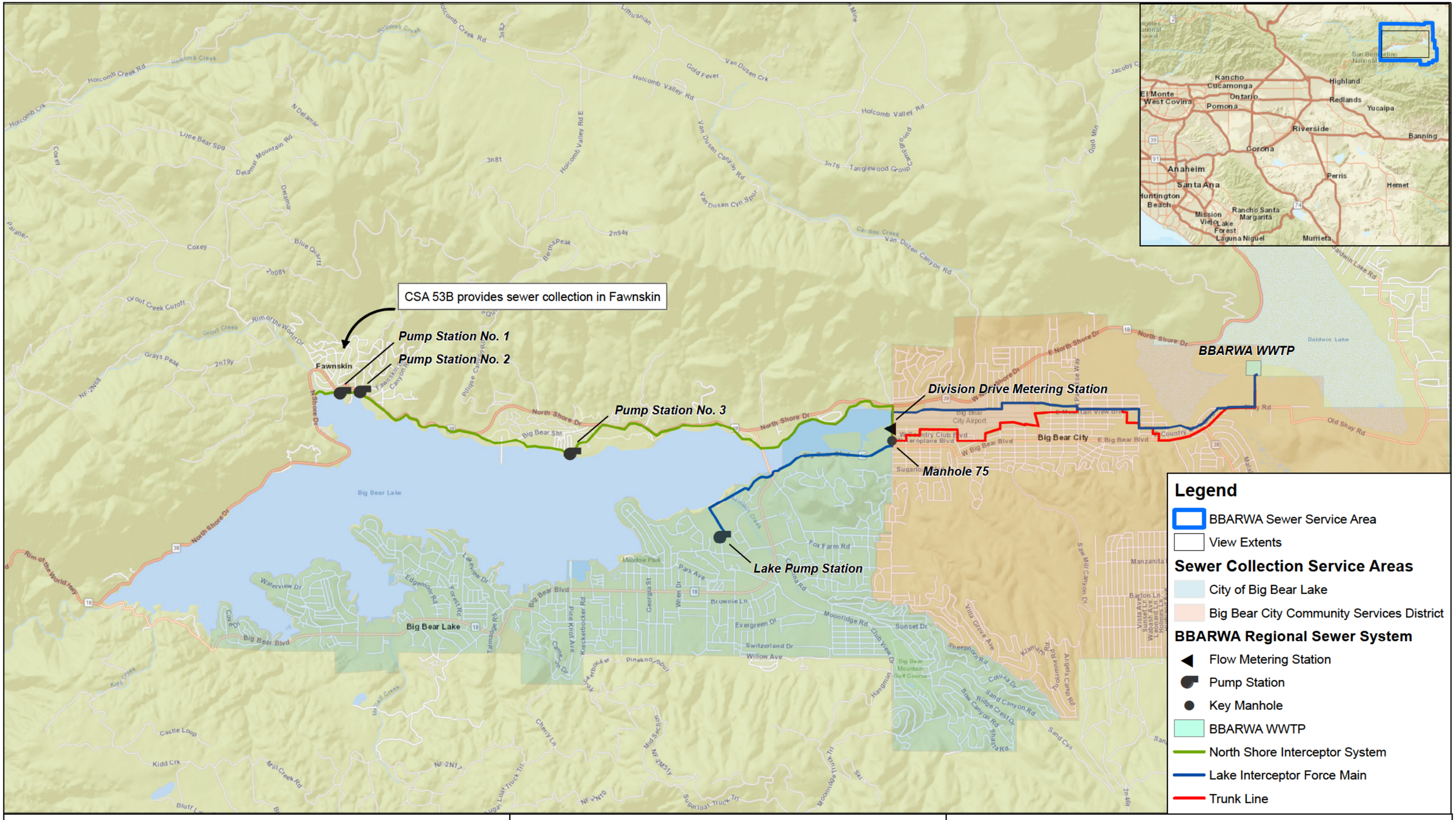
The BBARWA Trunk Line is an 18-inch and 21-inch diameter sewer interceptor that runs from Division Drive east to the BBARWA Wastewater Treatment Plant (WWTP) and receives flows from BBCCSD at multiple points throughout the alignment.

The North Shore Interceptor serves CSA 53B and terminates at the BBARWA Trunk Line at the intersection of Division Drive and Aeroplane Boulevard (Manhole 75). The wastewater flow from CSA 53B is conveyed through gravity pipelines, Pump Stations Nos. 1, 2, and 3, and force mains, which collectively make up the North Shore Interceptor system. CSA 53B flow is metered on Division Drive prior to discharging into the BBARWA Trunk Line.

Wastewater from the City collection system discharges into the wet well of the BBARWA Lake Pump Station, which is owned and operated by BBARWA. The Lake Pump Station pumps City flows into the 16-inch Lake Interceptor Force Main, which conveys wastewater northeasterly directly to the BBARWA

WWTP. The flows from the City are metered in the segment of the Lake Interceptor Force Main in Division Drive.

The BBARWA WWTP is located in the unincorporated community of Big Bear City and treats all wastewater from BBARWA's member agencies. The treatment processes include headworks, oxidation ditches, and secondary clarifiers. The WWTP is on a 93.5-acre site, with the treatment plant facility occupying 11.2 acres and storage ponds and an evaporation lake occupying the remaining 82.3 acres. All of the secondary effluent from the WWTP is discharged to the Lucerne Valley onto property owned by BBARWA for irrigation of fodder and fiber crops. Sludge is collected, dewatered, and disposed of off-site. Operation of the WWTP is regulated by Santa Ana Regional Water Quality Control Board (Regional Water Board) Order No. R8-2005-0044 and discharge of effluent for irrigation in Lucerne Valley is regulated by Colorado River Regional Water Board Order No. R7-2016-0026.




Big Bear Area Regional Wastewater Agency
Sewer System Management Plan
Figure A-1: Sewer Service Area Map

WSC
Water Systems Consulting, Inc.

# 1 ELEMENT 1 - GOAL

## 1-1 WASTE DISCHARGE REQUIREMENTS

***Order 2006-0003-DWQ Section D.13(i):***

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

## 1-2 GOALS OF THE SEWER SYSTEM MANAGEMENT PLAN

BBARWA maintains the following goals that guide its collection system management and operation to provide high quality and reliable wastewater collection for Big Bear Valley residents and businesses:

1. Protect public health and the environment.
2. Reduce the frequency of SSOs.
3. Ensure a timely response for any spills/release of untreated or partially treated wastewater.
4. Implement corrective action for preventing SSOs from reaching surface water bodies in a timely manner.
5. Comply with all SSS WDRs.

# 2 ELEMENT 2 - ORGANIZATION

## 2-1 WASTE DISCHARGE REQUIREMENTS

***Order 2006-0003-DWQ Section D.13.(ii):***

*The SSMP must identify:*

*(a) The name of the responsible or authorized representative as described in Section J of this Order (SSS WDR),*

*(b) The names and telephone numbers of 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 as applicable (such as County Health Officer, County Environmental Health Agency, and/or State Office of Emergency Services (Cal OES)).*

***Order No. WQ 2013-0058-EXEC Section F:***

1. *All information required to be reported into the CIWQS Online SSO Database shall be certified by a person designated as described in subsection J of the SSS WDRs. This designated person is also known as a Legally Responsible Official (LRO). An enrollee may have more than one LRO.*
2. *Any designated person (i.e. an LRO) shall be registered with the State Water Board to certify reports in accordance with the CIWQS protocols for reporting.*
3. *Data Submitter (DS): Any enrollee employee or contractor may enter draft data into the CIWQS Online SSO Database on behalf of the enrollee if authorized by the LRO and registered with the State Water Board. However, only LROs may certify reports in CIWQS.*
4. *The enrollee shall maintain continuous coverage by an LRO. Any change of a registered LRO or DS (e.g., retired staff), including deactivation or a change to the LRO's or DS's contact information, shall be submitted by the enrollee to the State Water Board within 30 days of the change by calling (866) 792-4977 or e-mailing help@ciwqs.waterboards.ca.gov.*
5. *A registered designated person (i.e., an LRO) shall certify all required reports under penalty of perjury laws of the state as stated in the CIWQS Online SSO Database at the time of certification.*

## 2-2 SSMP PROGRAM IMPLEMENTATION

BBARWA complies with the SSS WDRs by having continuous coverage by a Legally Responsible Official (LRO) and Data Submitter (DS); role descriptions and contact information for personnel responsible for implementing SSMP Elements; lines of authority within BBARWA; and a chain of communication for ensuring SSOs are reported to appropriate agencies and response personnel in a timely manner.

### 2-2.a Legally Responsible Officials and Data Submitter

The General Manager and Plant Manager are both LROs. The LROs have the shared responsibility to upload and certify SSO information into CIWQS including no-spill reports. The Operations Administrative/Laboratory Assistant serves as a Data Submitter (DS), which has the ability to upload SSO information to CIWQS but cannot certify SSO information or no-spill reports. Changes to the LROs or DS, either by shifting LRO and/or DS responsibility to a different BBARWA position, or by hiring of a new General Manager, Plant Manager, or Operations Administrative/Laboratory Assistant, will be both reported to the State Water Board and updated in a hard or electronic copy of this SSMP within 30 days per the SSS WDRs.

### 2-2.b BBARWA Organization

BBARWA employs 15 staff, including administration, laboratory staff, and nine (9) plant operators (including the Plant Manager and Plant Supervisor). Current contact information for key personnel is provided in Table 2-1.

**Table 2-1: Contact Information for Key BBARWA Staff as of Publish Date**

| Position | Name | Email | Phone | LRO/DS |
|---|---|---|---|---|
| **General Manager** | David Lawrence | dlawrence@bbarwa.org | (909) 584-4521 | LRO |
| **Plant Manager** | John Shimmin | jshimmin@bbarwa.org | (909) 584-4520 | LRO |
| **Plant Supervisor** | Troy Bemisdarfer | troyb@bbarwa.org | (909) 584-4525 | N/A |
| **Laboratory Analyst** | Nikki Crumpler | ncrumpler@bbarwa.org | (909) 584-4527 | N/A |
| **Management Analyst/Board Secretary** | Bridgette Burton | bburton@bbarwa.org | (909) 584-4524 | N/A |
| **Operations Administrative/ Laboratory Assistant** | Kim Booth | kbooth@bbarwa.org | (909) 584-4533 | DS |

An organization chart of BBARWA staff showing lines of authority is provided in Figure 2-1.

# Organizational Chart

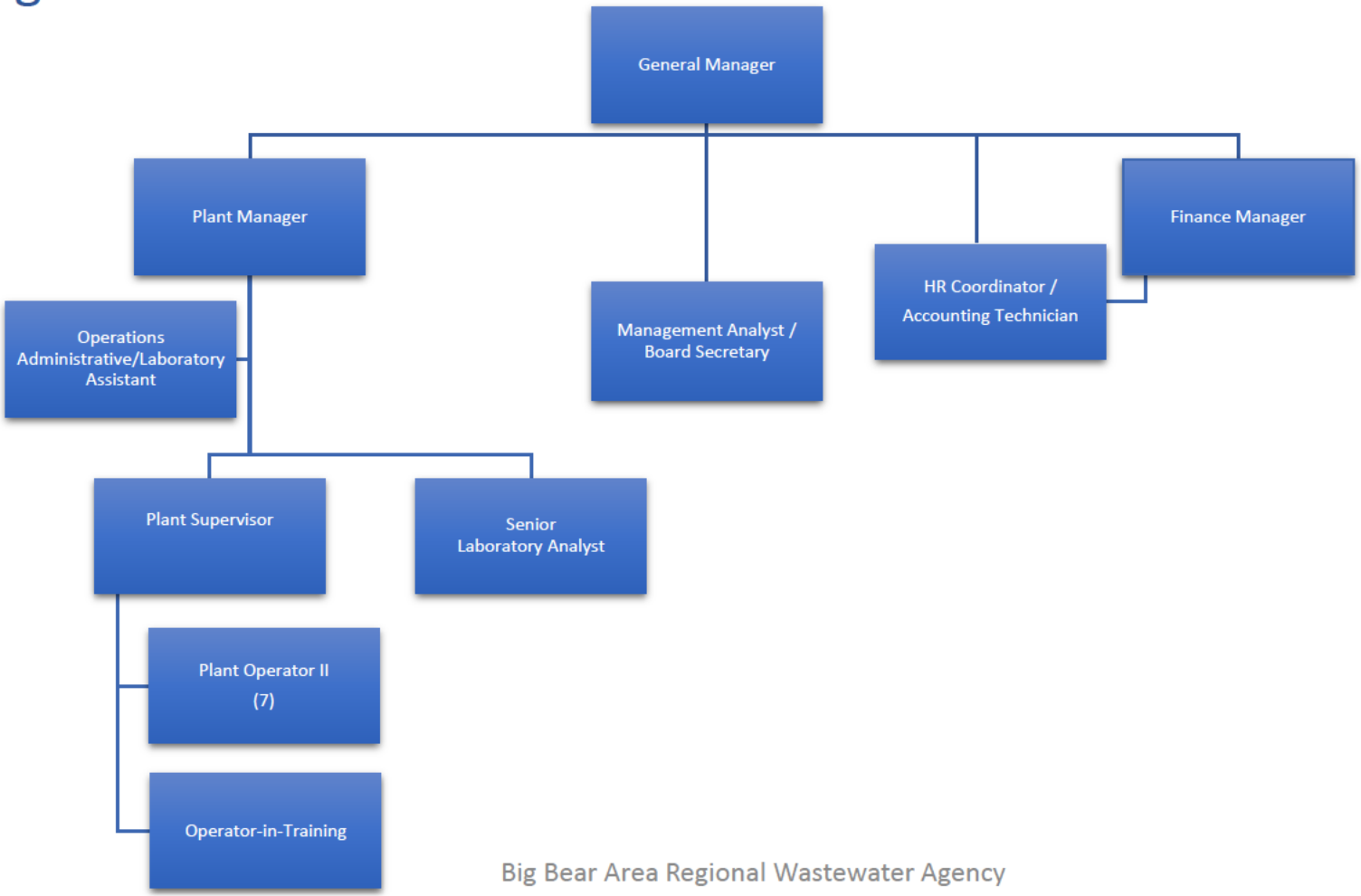



**Figure 2-1: Organization Chart and lines of authority within BBARWA staff.**

The roles and responsibilities of BBARWA Staff are as follows:

- **General Manager**: Under contract and general direction of the Governing Board, the General Manager is the Chief Executive Officer of BBARWA and is charged with administering and supervising the delivery of safe and efficient services of BBARWA. This is an at-will, exempt salaried position.

- **Finance Manager**: To plan, organize, direct and coordinate the financial activities of BBARWA including accounting, budgeting, financial reporting, debt management, cash management, and internal controls; to direct and oversee risk management; and to provide highly complex staff assistance to the General Manager.

- **HR Coordinator/Accounting Technician**: To perform a variety of professional analytical work in support of human resources programs including benefit administration, recruitment and selection, staff development and training, safety and worker's compensation; to perform technical accounting duties including the processing of BBARWA payroll and accounts payable; and to serve as the point of contact for personnel-related questions.

- **Management Analyst/Board Secretary**: To perform a variety of professional analytical work in support of BBARWA's administrative and program activities including the overall day-to-day management, organization and coordination of administrative functions; to provide administrative and analytical support to management and staff; to support grant writing and public outreach and education efforts and legislative monitoring and regulatory compliance; and to serve as Secretary to the Governing Board as appointed.

- **Operations Administrative/Laboratory Assistant**: To perform a variety of routine and complex office, clerical, and administrative operational support duties for management and staff including preparation of compliance reports, in addition to support operations such as laboratory and safety activities.

- **Plant Manager**: To plan, organize, direct and coordinate wastewater treatment plant operations and maintenance activities; to direct and oversee laboratory analysis activities; and to provide highly complex staff assistance to the General Manager.

- **Laboratory Analyst**: To perform a variety of standardized chemical, biochemical and bacteriological tests on samples of wastewater and solids; to clean, maintain and calibrate laboratory and equipment; to track data and complete required reports.

- **Plant Supervisor**: To plan, organize, direct and supervise the maintenance of BBARWA's wastewater treatment system within the Operations Department; to supervise and participate in the maintenance of BBARWA's power generation equipment; and to perform a variety of technical tasks relative to assigned area of responsibility.

- **Plant Operator II**: To operate, inspect, maintain, and troubleshoot wastewater treatment plant equipment, lift stations, and interceptor systems; to adjust, service, and maintain equipment at BBARWA facilities; and to perform related work as required.

- **Operator-in-Training**: To learn and assist in the operation, inspection, and maintenance of wastewater treatment plant equipment, lift stations, and interceptor systems; to adjust, service, and maintain equipment at BBARWA facilities; and to perform related work as required.

Table 2-2 provides a list of all SSMP Elements and the personnel responsible for their implementation within the SSMP.

**Table 2-2: BBARWA Staff Responsible for SSMP Elements**

| SSMP Element | Element Manager |
|---|---|
| **Introduction** | General Manager |
| **1 – Goal** | General Manager |
| **2 – Organization** | General Manager |
| **3 – Legal Authority** | General Manager/Plant Manager |
| **4 – Operation and Maintenance Program** | Plant Manager |
| **5 – Design and Performance Provisions** | General Manager |
| **6 – Overflow Emergency Response Plan** | Plant Manager |
| **7 – FOG Control Program** | Plant Manager |
| **8 – System Evaluation and Capacity Assurance Plan** | General Manager |
| **9 – Monitoring, Measurement, and Program Modifications** | General Manager |
| **10 – SSMP Program Audits** | General Manager |
| **11 – Communication Program** | General Manager |
| **Change Log** | General Manager |
| **Appendices** | General Manager |

### 2-2.c Chain of Communication for Reporting SSOs

BBARWA may be notified of an SSO by phone during business hours at (909) 584-4018, by Owl Exchange answering service for spill reports made after-hours, via their online "Report-a-Spill" webpage, and by BBARWA operators observing SSOs while in the field. Upon any BBARWA staff member becoming aware of an SSO, operators are dispatched to the address to correct the spill, and the Plant Manager or General Manager is notified so they may begin contacting the appropriate regulatory agencies. Section 6-2.a describes BBARWA's SSO notification procedures in greater detail, and includes a notification flowchart in Figure 6-1. Contact information for all regulatory agencies is provided in Section 6-2.c.

# 3 ELEMENT 3 - LEGAL AUTHORITY

## 3-1 WASTE DISCHARGE REQUIREMENTS

***Order 2006-0003-DWQ Section D.13(iii):***

*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.*

## 3-2 SSMP PROGRAM IMPLEMENTATION

BBARWA possesses relevant legal authority to comply with the SSS WDRs through the following documents:

- 1974 Joint Powers Agreement (JPA) which formed BBARWA and its six (6) amendments
- San Bernardino County Special District Standards for Sanitary Sewers (County Sewer Standards)
- BBARWA Code Title 7 – Sewer Use (Title 7) as established by BBARWA Ordinance No. 69

Title 7 is maintained by BBARWA and was last updated in 1999, when it was adopted to replace the previously existing BBARWA Sewer Code. BBARWA is permitted to apply County Sewer Standards for future design and construction of sewers within BBARWA. The following Chapters from Title 7 and BBARWA's adopted County Sewer Standards provide necessary compliance with the five (5) Legal Authority requirements set forth in Section 3-1. A summary of legal authority documents that correlate to the SSS WDRs is provided in Table 3-1.

### 3-2.a Prevention of Illicit Discharges – Title 7 Chapter 7.12

Sections 7.12.010 and 7.12.020 of Chapter 7.12 give BBARWA legal authority to prohibit illicit discharges to BBARWA's collection system. Specific illicit discharges are defined in Chapter 7.12, and include but are not limited to: flammable compounds; fats, oils, and grease (FOG); discharges from persons or parties other than member agencies or permitted domestic waste haulers; and uncontaminated water such as rain water, storm water, groundwater, street, sub-surface, roof or yard draining, et cetera. The list of prohibited illicit discharges in Chapter 7.12 is described in Title 7 as a "non-exclusive list" and therefore does not limit BBARWA's ability to prohibit illicit discharges that are not specifically identified in Chapter 7.12.

Section 7.12.020, Sub-Section B, Item 18 prohibits "Any rainwater, storm water, groundwater, street drainage, sub-surface drainage, roof drainage, yard drainage, water from yard fountains, ponds or lawn sprays, or any other contaminated water" from being discharged into BBARWA's collection system by member agencies.

### 3-2.b Design and Construction Standards – San Bernardino County Special District Standards for Sanitary Sewers

BBARWA is classified as a special district within San Bernardino County and therefore is permitted to use applicable standards developed by San Bernardino County that apply to special districts. BBARWA typically references the San Bernardino County Special District Standards for Sanitary Sewers (Table 3-1).

### 3-2.c Access to Facilities – Title 7 Chapters 7.28 and 7.32

BBARWA maintains three (3) interceptor systems (North Shore Interceptor, Lake Interceptor Force Main, and Trunk Line) as well as four (4) pump stations and a WWTP. Chapters 7.28 and 7.32 provide BBARWA with continuous access to all portions of its collection system and has the authority to access any facility that may be in violation of Title 7.

If a BBARWA capital improvement effort plans to construct a facility outside of the Public Right of Way (ROW), then such action would require an easement allowing continuous access, amendment to Title 7, or other provisions to ensure BBARWA's access to those facilities.

### 3-2.d Fats, Oils, and Grease Discharges – Title 7 Chapter 7.12

Section 7.12.020, Sub-Section B, Item 7 prohibits discharges of FOG into the regional collection system in any concentration that causes adverse effects to the collection and treatment system.

### 3-2.e Enforcement – Title 7 Chapter 7.32

Section 7.32.030 gives BBARWA legal authority to enforce any violation of its Sewer Code listed in Title 7. Further, Section 7.32.010 gives BBARWA legal authority to administer warnings to those in violation or possibly in violation of Title 7. Persons violating Title 7 are guilty of a misdemeanor per Section 7.32.030, and convictions are punishable by a fine of up to $1,000 and/or imprisonment for up to six (6) months.

Chapter 7.28 provides BBARWA legal authority to enforce violations of Title 7 using administrative action, including but not limited to inspections, discharge permit suspension and revocation, administrative penalties, and recovery of costs for damage.

Section 7.08.160 defines BBARWA as an "Enforcement Agency," which grants BBARWA the legal authority to enforce violations of Title 7.

**Table 3-1: Relevant Ordinances and Legal Authority Documents**

| Waste Discharge Requirement | | Regulations | Sections |
|---|---|---|---|
| **a)** | Prevent illicit discharges into its sanitary sewer system (examples may include I/I, stormwater, chemical dumping, unauthorized debris and cut roots, etc.) | BBARWA Code Title 7 | 7.12.010 – General Limitations on Discharges |
| | | | 7.12.020 – Prohibited Discharges |
| **b)** | Require that sewers and connections be properly designed and constructed | San Bernardino County Special District Standards for Sanitary Sewers (November 2012) | Division C – Design Criteria and Plan Preparation |
| | | | Division D – General Conditions and Technical Specifications |
| | | | Division E – Standard Drawings |
| **c)** | Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency | BBARWA Code Title 7 | 7.28 – Administrative Enforcement<br>7.32 – Judicial Enforcement |
| **d)** | Limit the discharge of fats, oils, and grease and other debris that may cause blockages | BBARWA Code Title 7 | 7.12.020 – Prohibited Discharges |
| **e)** | Enforce any violation of its sewer ordinances | BBARWA Code Title 7 | 7.32.010 – Injunction |
| | | | 7.32.030 – Criminal Penalties |
| | | | 7.28.010 – 7.28.130 – Administrative Enforcement |
| | | | 7.08.160 – Defines BBARWA as an Enforcement Agency |

# 4 ELEMENT 4 - OPERATION AND MAINTENANCE PROGRAM

## 4-1 WASTE DISCHARGE REQUIREMENTS

***Order 2006-0003-DWQ Section D.13(iv):***

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

- *(a) Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities.*
- *(b) Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders.*
- *(c) Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short and long-term plans plus a schedule for developing the funds needed for the capital improvement plan.*
- *(d) Provide training on a regular basis for staff in sanitary sewer system operations and maintenance and require contractors to be appropriately trained.*
- *(e) Provide equipment and replacement part inventories, including identification of critical replacement parts.*

## 4-2 SSMP PROGRAM IMPLEMENTATION

BBARWA maintains operation and maintenance procedures that are summarized in the following sections to reduce the likelihood and severity of SSOs and comply with the SSS WDRs.

### 4-2.a Sanitary Sewer System Map

BBARWA maintains AutoCAD and paper copies of its collection system map, showing all sewer facilities including gravity mains, force mains, pump stations, manholes, metering stations, and service area boundaries. A map of key features of BBARWA's collection system is provided in Figure A-1. Paper maps and as-builts with greater detail are stored in the Operations and Administration Buildings. BBARWA is planning on developing a geographical information system (GIS) map of the collection system by using existing AutoCAD maps and surveying the collection system. BBARWA's GIS map will be used in the future to develop hydraulic models and identify capacity-constrained areas in the collection system, as well as identify areas where SSOs would likely flow into storm drains.

### 4-2.b Routine Preventative Operation and Maintenance Activities

BBARWA's existing collection system consists of force main pipeline (ranging from 6-inch to 16-inch diameter pipe), gravity pipeline (ranging from 8-inch to 21-inch), four (4) pump stations (Pump Station Nos. 1, 2, and 3, and the Lake Pump Station), air injection stations, air release vents, and 98 manholes. Table 4-1 provides information on BBARWA's pump stations. Table 4-2 shows the breakdown of the force mains and gravity pipelines within the collection system.

**Table 4-1: Pump Station Information**

| Equipment | Manufacturer | Motor HP (KW) | Flowrate (GPM) | TDH (ft) | RPM | Installed (Scheduled Replacement) |
|---|---|---|---|---|---|---|
| **Pump Station No. 1** | | | | | | |
| Pump #1 | Fairbank Morse Pump | 7.5 | 400 | 29 | 1170 | 1990[1] |
| Pump #2 | Fairbank Morse Pump | 7.5 | 400 | 29 | 1170 | 1990[1] |
| Diesel Generator | John Deere | (35) | N/A | N/A | N/A | 2019 |
| **Pump Station No. 2** | | | | | | |
| Pump #1 | Fairbank Morse Pump | 15 | 700 | 44 | 1170 | 1990[1] |
| Pump #2 | Fairbank Morse Pump | 15 | 700 | 44 | 1170 | 1990[1] |
| Diesel Generator | John Deere | (40) | N/A | N/A | N/A | 2020 |
| **Pump Station No. 3** | | | | | | |
| Pump #1 | Fairbank Morse Pump | 40 | 900 | 86 | 1800 | 1990[1] |
| Pump #2 | Fairbank Morse Pump | 40 | 900 | 86 | 1800 | 1990[1] |
| Diesel Generator | John Deere | (110) | N/A | N/A | N/A | 1970[1] (2021) |
| **Lake Pump Station** | | | | | | |
| Pump #1 | Flygt | 45 | 2000 | 41 | 1170 | 2013 |
| Pump #2 | Flygt | 45 | 2000 | 41 | 1170 | 2013 |
| Pump #3 | Flygt | 150 | 2800 | 120 | 1185 | 2013 |
| Diesel Generator | Allis Chalmers | (275) | N/A | N/A | N/A | 1970[1] (2022) |

[1]Estimation of year installed – lift stations acquired from County of San Bernardino

**Table 4-2: BBARWA Collection System Force Main and Gravity Pipelines**

| Diameter (inches) | Length (feet) | Length (miles) |
|---|---|---|
| **Force Main** | **54,334** | **10.29** |
| 6 | 219 | 0.04 |
| 10 | 7,018 | 1.33 |
| 12 | 17,347 | 3.29 |
| 16 | 29,750 | 5.63 |
| **Gravity** | **25,241** | **4.78** |
| 8 | 1,999 | 0.38 |
| 15 | 2,648 | 0.50 |
| 18 | 5,857 | 1.11 |
| 21 | 14,737 | 2.79 |

Routine preventative maintenance activities for the collection system include CCTV and hydrocleaning. Due to the small size of the collection system, BBARWA contracts out hydrocleaning and CCTV services every four (4) years for the entire gravity portion of the collection system. The entire system was last cleaned and inspected in 2016 and is scheduled to be serviced again in 2021 and 2024 (Table 4-3). The routine preventative maintenance activities for each pump station are performed weekly, monthly, and annually and are provided in detail Appendix C: Pump Station Maintenance Tasks.

BBARWA currently documents work orders and its maintenance activities for the collection system and the WWTP in Microsoft Excel. Within the next three (3) years, BBARWA plans to convert to a Computerized Maintenance Management System (CMMS) to schedule and log maintenance activities as well as track spare parts and equipment inventories.

**Frequent Maintenance Locations**

BBARWA does not have any locations in its collection system that require maintenance more frequently than other locations. Areas requiring frequent maintenance in sewer systems are typically located downstream of food service establishments (FSEs) due to grease build-up; where root intrusion is present; or in capacity-constrained areas where any small blockage could lead to an SSO. However, there are no FSEs that connect to BBARWA's collection system, and no areas of severe root intrusion that require more frequent maintenance.

### 4-2.c Rehabilitation and Replacement Plan

BBARWA maintains its collection system by implementing a Rehabilitation and Replacement (R&R) Plan that includes CCTV, slip-lining gravity lines and force mains, and rehabilitating manholes. A schedule of future R&R tasks is provided in Table 4-3. A brief summary of R&R history is provided in Section 9-2.b.

**Slip-Lining in Place**

BBARWA maintains its sewer mains primarily by slip-lining pipes in place to extend their useful life. CCTV inspections every four (4) years dictate whether mains require slip-lining, are beyond repair via slip-lining and are in need of replacement or are not in need of R&R until at least the next CCTV inspection. CCTV results from 2016 indicated that both the Trunk Line and sections of the North Shore Interceptor will need slip-lining in place to extend their useful life. Slip-lining is scheduled and budgeted in 2026 for the Trunk Line and 2027 for the North Shore Interceptor. Approximately 2,000 feet of the Lake Interceptor Force Main between Division Drive and the WWTP was slip-lined in 2007, and further R&R activities on the Lake Interceptor Force Main are not needed at this time.

**Manholes**

BBARWA has maintained a program to rehabilitate the manholes in its entire collection system. Rehabilitation activities include cleaning, grouting and sealing any leaks. BBARWA's 2010 Sewer Master Plan identified that infiltration and inflow (I/I) contributes notably to total sewer flows, making BBARWA more prone to wet-weather SSOs. To counter this, the manhole rehabilitation program includes replacing rehabilitated manhole lids with sealing lids to prevent infiltration. BBARWA has rehabilitated five (5) manholes and installed five (5) sealing manhole lids per year since 2007 and has five (5) more manholes scheduled each year until the entire collection system has been rehabilitated in 2026.

**Table 4-3: Scheduled O&M Tasks**

| Task | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|---|---|---|---|---|
| Length to CCTV (ft) | | | 25,421 | | | 25,241 | | | |
| Length to Hydroclean (ft) | | | 25,421 | | | 25,241 | | | |
| Slip-Line in Place (ft) | | | | | | | | Approx. 2,600 | Approx. 2,600 |
| Rehabilitate Manholes (#) | 5 | 3* | 5 | 5 | 5 | 5 | 5 | 3 | |

*3 manhole lids were raised in 2020, no sealing due to budget issues

### 4-2.d Staff Training

BBARWA holds internal training sessions on 33 different topics which include but are not limited to those associated with safety, Emergency Action Plan (EAP) execution, personal protective equipment (PPE), traffic control, stormwater pollution prevention, and first aid. Training occurs on an annual, biannual, or triannual basis depending on the training subject. A list of all formal training subjects, descriptions, and intervals is provided in Appendix D: Staff Training Program. BBARWA maintains a record of all formal training sessions and documents BBARWA staff attendance. In addition, all BBARWA staff members attend weekly "tailgate" meetings to discuss safety procedures for weather or task-specific situations such as winter driving, tool and ladder safety, and Safety Data Sheets. BBARWA staff will hold annual trainings on the SSMP and SSO response procedures following certification of the 2019 SSMP.

### 4-2.e Equipment Inventory

BBARWA has an up-to-date equipment and replacement parts inventory that is managed in Microsoft Excel. BBARWA maintains equipment that is used for emergency operation in the event of a collection system failure, as well as replacement parts for repairing facilities that are failing or on the verge of failure. Emergency operation equipment includes 4-inch and 6-inch portable sewer pumps and a backup standby generator at each pump station. Replacement parts inventory includes a reserve pump and motor assembly for Pump Stations Nos. 1, 2, and 3 (the Lake Pump Station has an additional redundant pump installed already), check and gate valves for pump stations, repair bands and clamps for repairing gravity and force mains, miscellaneous plastic sewer pipe, and sealing manhole lids. A comprehensive list of BBARWA's emergency spare parts and equipment inventory is provided in Appendix E: Spare Parts and Emergency Inventory.

# 5 ELEMENT 5 - DESIGN AND PERFORMANCE PROVISIONS

## 5-1 WASTE DISCHARGE REQUIREMENTS

***Order 2006-0003-DWQ Section D.13(v):***

*The District is required to have:*

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

*(a) Procedures and standards for inspecting and testing the installation of new sewers, pump stations, and other appurtenances and for rehabilitation and repair projects.*

## 5-2 SSMP PROGRAM IMPLEMENTATION

BBARWA has used Divisions C, D, and E of the County of San Bernardino Special Districts Department Standards for Sanitary Sewer (County Sewer Standards) on an as-needed basis to design sewer replacement projects, as well as standards from BBCCSD and the City. The County Sewer Standards are available on the County Special District website (http://www.specialdistricts.org/index.aspx?page=586).

### 5-2.a Standards for Design and Construction

The County Sewer Standards provide standards for proper design and construction of new and rehabilitated sewers and provide the legal authority to require those standards for all BBARWA sewer projects. The County Sewer Standards provide requirements for design and construction of sewer facilities that include but are not limited to the following:

- Minimum Pipe Size
- Minimum and Maximum Slope
- Design Flow Criteria
- Separation between Utilities
- Manhole Design Requirements
- Clean-Outs
- Force Mains and Lift Stations
- Peak Flow Rates
- Preparation of Plans
- Standard Location and Alignment
- Minimum Depth
- Sewer Laterals
- Construction Specifications
- Sewer Pipe Material

### 5-2.b Procedures and Standards for Inspection and Testing

Division D, Section 6 of the County Sewer Standards provide technical specifications for the cleaning and testing of completed sewer pipes and appurtenances. Testing procedures in Division D, Section 6, ensure that all new and rehabilitated sewers are free of leaks to reduce infiltration of water into the sewer system, and leakage of sewage into the ground. Technical Specifications in Section 6 include the following inspection and testing procedures:

- CCTV Inspection
- Water Exfiltration Testing
- Water Infiltration Testing
- Air Pressure Tests
- Water Pressure Tests for Force Mains
- Manhole Leakage Tests

# 6 ELEMENT 6 - OVERFLOW EMERGENCY RESPONSE PLAN

## 6-1 WASTE DISCHARGE REQUIREMENTS

***Order 2006-0003-DWQ Section D.13.(vi):***

*WDRs require that at a minimum, the Overflow Emergency Response Plan include:*

- *(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 effected 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 (Monitoring and Reporting Program). All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board SSS 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 wastewaters 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 the impact of the discharge.*

***Order No. WQ 2013-0058-EXEC:***

The Amended Monitoring and Reporting Program, WQ Order No. 2013-0058-EXEC, revised the SSO Categories from 2 to 3; and included notification and reporting requirements; specific water quality monitoring requirements for Category 1 SSOs of 50,000 gallons or larger; and record keeping requirements. Summary tables of the MRP requirements provided in WQ 2013-0058-EXEC are provided in Table 6-1 through Table 6-5 of this OERP. The full MRP is available in Appendix I: Sanitary Sewer System Waste Discharge Requirements.

## Table 6-1: SSO Spill Category 1

| **CATEGORY 1** | Discharges of untreated or partially untreated wastewater of ANY VOLUME resulting from a sanitary sewer overflow that:<br>• Reaches surface water,<br>• Reaches a drainage channel tributary to a surface water, or<br>• Reaches the municipal stormwater system and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. | | |
|---|---|---|---|
| **Notification Requirements** *(MRP Section B)* | **Reporting Requirements** *(MRP Section C)* | **Water Quality Monitoring Requirements** *(MRP Section D)* | **Record Keeping Requirements** *(MRP Section E)* |
| Within two (2) hours of becoming aware of any Category 1 SSO, of 1,000 gallons or more, notify the California Office of Emergency Services (Cal OES) at (800) 852-7550 and obtain a notification control number. | Submit draft report within three (3) business days of becoming aware of the SSO into CIWQS Online SSO Database.<br><br>Certify within 15 calendar days of the SSO end date.<br><br>Spills of 50,000 gallons or more: Submit SSO Technical Report within 45 days after end date of spill. | No monitoring required for Category 1 spills less than 50,000 gallons.<br><br>For a Category 1 SSO in which 50,000 gallons or greater are spilled to surface waters, conduct water quality sampling within 48 hours after initial SSO notification.<br><br>Upload water quality results to CIWQS Online SSO Database. | SSO records (maintain for a minimum of five (5) years:<br>□□complaint records,<br>□□steps/remedial actions undertaken,<br>□□documentation of calculations of discharge volume /volume recovered<br>□□electronic monitoring records (SCADA, alarm system, flow monitoring devices).<br><br>Make records available for review by the Water Boards during an inspection or through an information request. |

### Table 6-2: SSO Spill Category 2

| **CATEGORY 2** | Discharges of untreated or partially treated wastewater of 1,000 gallons or greater resulting from a sanitary sewer system failure or overflow that:<br>• Do not reach surface water,<br>• Do not reach a drainage channel,<br>• Reach the storm drain system, but the entire SSO is fully recovered and disposed of properly. | | |
|---|---|---|---|
| **Notification Requirements** *(MRP Section B)* | **Reporting Requirements** *(MRP Section C)* | **Water Quality Monitoring Requirements** *(MRP Section D)* | **Record Keeping Requirements** *(MRP Section E)* |
| N/A | Submit draft report within three (3) business days of becoming aware of the SSO.<br><br>Certify within 15 calendar days of the SSO end date. | N/A | SSO records (maintain for a minimum of five (5) years:<br>□□complaint records,<br>□□steps/remedial actions undertaken,<br>□□documentation of calculations of discharge volume /volume recovered.<br><br>Make available for review by the Water Boards during an inspection or through an information request. |

### Table 6-3: SSO Spill Category 3

| **CATEGORY 3** | All other discharges of untreated or partially treated wastewater resulting from a sanitary sewer system failure or overflow | | |
|---|---|---|---|
| **Notification Requirements** *(MRP Section B)* | **Reporting Requirements** *(MRP Section C)* | **Water Quality Monitoring Requirements** *(MRP Section D)* | **Record Keeping Requirements** *(MRP Section E)* |
| N/A | Submit certified report within 30 calendar days of the end of month in which the SSO occurred. | N/A | SSO records (maintain for a minimum of five (5) years:<br>□□complaint records,<br>□□steps/remedial actions undertaken,<br>□□documentation of calculations of discharge volume /volume recovered.<br><br>Make available for review by the Water Boards during an inspection or through an information request. |

### Table 6-4: No Spill Certification

| **NO SPILL CERTIFICATION** | No SSOs during the calendar month. | | |
|---|---|---|---|
| **Notification Requirements** *(MRP Section B)* | **Reporting Requirements** *(MRP Section C)* | **Water Quality Monitoring Requirements** *(MRP Section D)* | **Record Keeping Requirements** *(MRP Section E)* |
| N/A | Certify that no SSOs occurred within 30 calendar days of the end of month in which the SSO occurred. | N/A | Keep for a minimum of five (5) years.<br><br>Make available for review by the Water Boards during an inspection or through an information request. |

### Table 6-5: Private Lateral Sewage Discharge

| **PRIVATE LATERAL SEWAGE DISCHARGE** | Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately-owned sewer lateral connected to the City's sanitary sewer system or from other private sewer assets. | | |
|---|---|---|---|
| **Notification Requirements** *(MRP Section B)* | **Reporting Requirements** *(MRP Section C)* | **Water Quality Monitoring Requirements** *(MRP Section D)* | **Record Keeping Requirements** *(MRP Section E)* |
| N/A | May be voluntarily reported to the CIWQS Online SSO Database. | N/A | SSO records (maintain for a minimum of five (5) years:<br>□□complaint records,<br>□□steps/remedial actions undertaken,<br>□□documentation of calculations of discharge volume /volume recovered<br><br>Make available for review by the Water Boards during an inspection or through an information request. |

The amended MRP and accompanying changes to the CIWQS online SSO Database allow for multiple SSO appearance points to be associated with each SSO event caused by a single asset failure.

## 6-2 SSMP PROGRAM IMPLEMENTATION

BBARWA maintains a separate Emergency Action Plan (EAP) which provides procedures for responding to incidents at the WWTP or in the collection system (Appendix F: Emergency Action Plan). BBARWA continues to revise its EAP and completed its most recent update in October 2019. The EAP includes detailed procedures to respond to an SSO, including procedures for high-flow operations at the WWTP or in the collection system to prevent SSOs from occurring. This Element of the SSMP, in combination with the EAP, meet the Overflow Emergency Response Plan requirements of the SSS WDRs.

### 6-2.a Initial Notification Procedures

An SSO may be detected by BBARWA employees or by others. The public can report a spill 24 hours a day, seven days a week by calling BBARWA's office at (909) 584-4018 or via BBARWA's website which includes a "Report-a-Spill" webpage (www.bbarwa.org/report-a-spill/#). Online spill notifications from the public immediately notify the Plant Manager and Plant Supervisor by email. There are four (4) sanitary sewer agencies in the area, so it is possible that the notifier will contact the wrong agency regarding a spill. In this case, it is likely that the other agency would investigate the SSO and then contact BBARWA if it determines the SSO is from a BBARWA facility. For all SSO notifications, BBARWA shall record the name, phone number, and time of call. For SSO notifications received by member agencies, BBARWA shall record the name of the member agency employee, the time of the call, as well as the name, phone number, and time of the individual who first reported the SSO. If the call is made after hours, a voice message provides the on-duty operator's phone number to the caller, and directs the caller to contact the on-duty operator if the situation is an emergency.

Upon receiving notification of an SSO, BBARWA will notify the appropriate health and first responder agencies in accordance with the SSS WDRs and as provided in Section 6-2.c. The BBARWA employee first notified of the SSO shall immediately notify the Plant Manager or General Manager of the possibility of an SSO, and operators shall be dispatched to confirm the spill and take corrective action as outlined in the EAP and discussed later in this Element. If the Plant Manager or General Manager is unavailable, the next highest ranked available employee (established by lines of authority in Figure 2-1) shall be contacted and will take responsibility for the notification responsibilities.

Once an SSO event is confirmed, the BBARWA operator that confirmed the event shall contact the Plant Manager or General Manager by phone immediately or as soon as it is safe to do so. The operator is to inform the Plant Manager or General Manager whether the SSO has reached or will reach surface Waters of the United States (WOTUS) or a Municipal Separate Storm Sewer System (MS4), and provide an estimate of volume spilled using Appendix G: Spill Volume Worksheet. If the spill is estimated to be over 1,000 gallons and will reach WOTUS or an MS4, the Plant Manager or General Manager contacts the California Office of Emergency Services (Cal OES) and obtains a notification control number within two (2) hours of BBARWA first being notified of the SSO. The Sewage Spill Reporting section of the EAP provides notification procedures and up-to-date contact information for Cal OES and other agencies to be notified in the event of an SSO. Figure 6-1 illustrates a flowchart of how the appropriate agencies are notified of SSOs from when they are first detected.

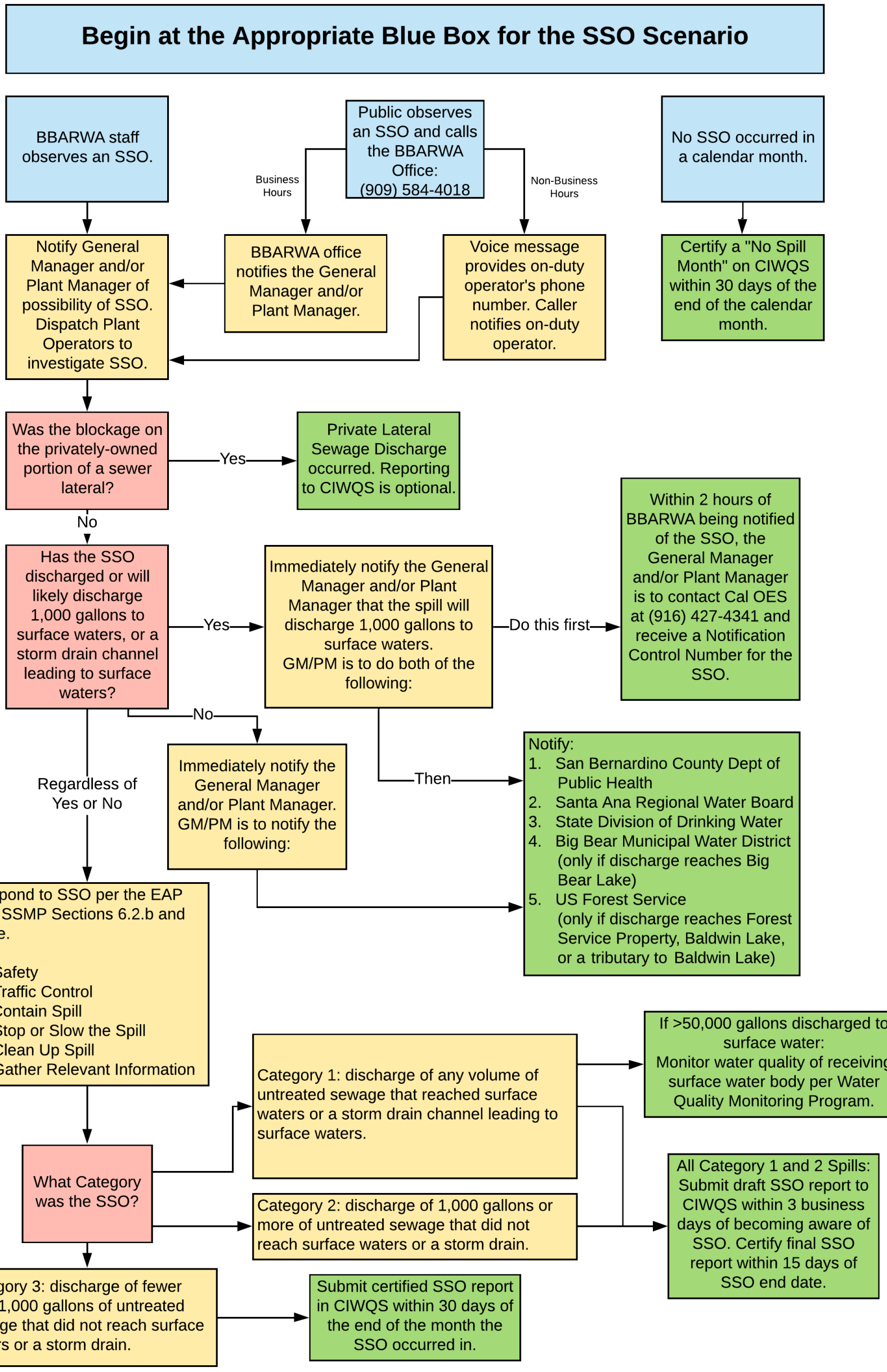



**Figure 6-1: SSO notification and response procedures.**

### 6-2.b SSO Response

The Spill Prevention and Contingency Plan section of BBARWA's EAP provides sewer overflow response procedures for SSOs due to lift station failure, gravity interceptor failure, force main failure, and high flows due to heavy rainfall. The EAP includes general SSO response procedures that are applicable to SSOs in any area of the collection system, as well as specific procedures for failures at Pump Station #2, the Lake Pump Station, the Lake Interceptor Force Main, and the manhole at the intersection of Teal Drive and Fairway Boulevard (Manhole 21) which experiences capacity issues in heavy rainfall. The EAP summarizes the following SSO response procedures: Containment; Correction; Documentation; Reporting; Emergency Response; and Post-Response.

In addition to the procedures outlined in the EAP, BBARWA operators that respond to the SSO are also to obtain the following information during the response as stated in Section 8.i.a of the MRP (Appendix I: Sanitary Sewer System Waste Discharge Requirements):

- SSO Location Name and Description
- Discharged from Drainage Channel to Surface Water?
- Volume Recovered from MS4
- Total Estimated SSO Volume that Reached Surface Water, a Drainage Channel, or not Recovered
- Number of Appearance Points
- SSO Start Date and Time
- Estimated Operator Arrival Time
- SSO End Time and Date
- SSO Failure Point
- Description of Corrective Action
- SSO Reached Surface Water or Drainage Channel?
- SSO Reached MS4?
- Total Estimated SSO Volume Discharged[1]
- Total Estimated Volume Recovered
- Description of All SSO Appearance Points in Collection System
- Date and Time BBARWA was Notified of SSO
- Description of SSO Destination
- SSO Causes
- SSO Associated with Storm Event?
- Spill Response Completion Time

### 6-2.c Notifying the Appropriate Regulatory Agencies

For all public SSOs, the General Manager is to notify the Santa Ana Regional Water Board, the San Bernardino Office of California State Health Services, and the Department of Environmental Health Services of San Bernardino County. Additionally, the Big Bear Municipal Water District is to be notified if an SSO discharges into Big Bear Lake, and the local U.S. Forest office is to be notified if an SSO discharges into Baldwin Lake, a tributary of Baldwin Lake, or U.S. Forest Service property. Table 6-3 provides contact information as of the approval date of this SSMP for the regulatory agencies to be notified of SSOs.

[1] Volume estimated by operators using Appendix G: Spill Volume Worksheet

**Table 6-6: Contact Information for SSO Notifications**

| | |
|---|---|
| State Office of Emergency Services<br>2800 Meadowview Road<br>Sacramento, CA 95832<br>(916) 427-4341<br>(800) 852-7550 (Emergencies Only) | California Regional Water Quality Control Board<br>Santa Ana Region<br>2010 Iowa Ave., Suite 100<br>Riverside, CA 92506<br>Phone (909) 782-4130 |
| Department of Environmental Health Services<br>385 N. Arrowhead Avenue<br>San Bernardino, CA 92415-0160<br>(909) 387-3041, prop 65 report<br>24-hour # (909) 387-3044 | California State Water Resources Control Board<br>Division of Drinking Water and Field Operations<br>464 W. 4th Street, Room 437<br>San Bernardino, CA 92401<br>(909) 383-4328 |
| Big Bear Municipal Water District<br>P.O. Box 2863<br>Big Bear Lake, CA 92315<br>(909) 866-5796 | U. S. Forest Service, Big Bear Ranger District<br>P.O. Box 290<br>Fawnskin, CA 92333<br>(909) 866-3437 |
| California Regional Water Quality Control Board[1]<br>Colorado River Basin, Region VII<br>73-720 Fred Waring Drive, Suite 100<br>Palm Desert, CA 92260<br>(760) 776-8967 | |
| *[1]Only required to be notified if SSO discharges North of Nelson Ridge, which is the southern border of the Colorado River Basin Regional Water Board* | |

BBARWA is responsible for preparing and submitting reports for Category 1 and Category 2 SSOs, and reporting all public SSOs to the California Integrated Water Quality System (CIWQS) website (http://ciwqs.waterboards.ca.gov/), where they are automatically added to the Statewide Sanitary Sewer Overflow Database. BBARWA's LRO is responsible for certifying reports submitted to CIWQS in accordance with the timelines detailed in the MRP. To comply with the MRP, the LRO will certify draft SSO reports on CIWQS for all Category 1 and Category 2 SSOs within three (3) business days after the end of an SSO and certify final reports on CIWQS within 15 days after the end of the SSO. The LRO will certify all Category 3 SSOs within 30 days after the end of the calendar month in which the SSO occurred and will also submit No-Spill Certifications within 30 days of the calendar month in which there were no SSOs.

BBARWA maintains SSO records for each SSO event for a minimum of five (5) years. SSO records include electronic monitoring records relied upon for documenting SSO events and/or estimating the SSO volume discharged.

### 6-2.d Training

BBARWA holds a mandatory EAP training seminar annually for all BBARWA employees to ensure that all operators and staff are prepared to properly respond to SSOs and other possible emergencies. The EAP training includes emergency support procedures, high-flow operations and spill prevention measures, sewage spill response, and sewage spill reporting. BBARWA also holds annual trainings for its operators on safety while working near water, traffic control procedures, and BBARWA's Storm Water Pollution Prevention Plan (SWPPP), which assist in SSO response activities and water quality monitoring. A list of BBARWA training activities is provided in Appendix D: Staff Training Program.

BBARWA has relied on its comprehensive EAP for training of SSO response procedures. Following the approval of this SSMP Update, BBARWA plans to hold a training seminar on the updated SSMP and complimentary Water Quality Monitoring Program (Appendix H: Water Quality Monitoring Program) to provide staff with additional spill response, notification, and monitoring procedures.

### 6-2.e SSO Emergency Response Procedures

The EAP provides procedures for responding to SSOs including bypass operations, emergency storage solutions, berm and containment procedures, and notification of regulatory agencies. In addition, BBARWA maintains separate documents for procedures on traffic control and SSO clean-up.

**Traffic Control**

BBARWA maintains a Traffic Control Safety Plan (TCSP) based on the California Temporary Traffic Control Handbook and California Manual of Uniform Traffic Control Devices. BBARWA operators receive initial TCSP training and use those procedures when controlling traffic around an SSO discharge site. Traffic control procedures protect the public by restricting access to contaminated and unsafe areas.

**SSO Clean-Up**

For SSO cleanup on roads or hard surfaces, operators use potable water and push brooms to clean the area. Wash water is diverted to a vactor truck or a nearby manhole if available. Granular pool grade chlorine is applied to the wash water to disinfect the surface. SSOs on dirt surfaces are cleaned by using rakes and shovels to manually remove all debris and contaminated material from the site and disposed of in waste facilities.

### 6-2.f Prevention of Discharge Wastewaters to Surface Waters and Impact on Environment

The EAP and this SSMP include procedures to prevent wastewater discharges to WOTUS, and to minimize the severity of SSOs when they occur. In the event that 50,000 gallons of untreated sewage reach WOTUS, BBARWA will implement monitoring procedures in accordance with its Water Quality Monitoring Program (WQMP) to determine impacts to the surface water. The MRP requires that the WQMP include at a minimum the following:

1. Contain protocols for water quality monitoring.
2. Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.).
3. 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 enrollee becoming aware of the SSO, require water quality sampling for, at a minimum, the following constituents:
    a. Ammonia
    b. Appropriate Bacterial indicator(s) per the applicable Basin Plan water quality objective or Regional Board direction which may include total and fecal coliform, enterococcus, and e-coli.

BBARWA's WQMP complies with the requirements set forth in the MRP and is provided in Appendix H: Water Quality Monitoring Program. The WQMP outlines procedures for taking water quality samples including where samples need to be taken on WOTUS affected by SSOs, and what samples need to be taken to evaluate the SSOs impact on the waterway. The WQMP also identifies key WOTUS within the watershed that could possibly receive SSOs and identifies their beneficial uses and key bacteriological indicators used for water quality monitoring as provided in the Santa Ana Regional Water Board Basin Plan (Basin Plan). According to the Basin Plan, E. coli is the appropriate bacteriological indicator for all waters in the Big Bear Valley that are impacted by an SSO. BBARWA may also voluntarily choose to implement the WQMP for SSOs that are less than 50,000 gallons if they wish to monitor the effects of an SSO for their own records, or at the request of a health agency.

# 7 ELEMENT 7 - FATS, OILS, AND GREASE CONTROL PROGRAM

## 7-1 WASTE DISCHARGE REQUIREMENTS

***Order 2006-0003-DWQ Section D.13(vii):***

*Each Enrollee shall evaluate its service area to determine whether a FOG (Fats, Oils, and Grease) control program is needed. If the 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 program and schedule for a public education outreach program that promotes proper disposal of FOG;*
- *(b) A plan and a 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, Best Management Practices (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.*

## 7-2 SSMP PROGRAM IMPLEMENTATION

BBARWA does not have any direct connections to commercial businesses or FSEs. CSA 53B, BBCCSD, and the City each maintain a FOG outreach program for their service areas which educate FSEs and residential ratepayers on the adverse effects from dumping FOG down drains. BBARWA does not require a FOG Program to comply with the SSS WDRs, as member agencies implement these programs.

FOG occasionally builds up in Pump Station Nos. 1, 2, and 3, but does not cause significant operations issues and is removed approximately two (2) times per year by vactor trucks. FOG was once observed at Maple Lane and Big Bear Boulevard in the Trunk Line but has not been observed again since operators cleaned the line. BBARWA has not had a FOG-related SSO since the approval of its original SSMP in 2009. Table 9-1 provides a comprehensive list of SSOs since the SSMP was first approved in 2009.

Though BBARWA does not have its own comprehensive FOG Program, requirements set forth in the SSS WDRs are consistent with BBARWA's efforts to avoid FOG buildup through public outreach and maintaining legal authority to prohibit FOG discharges.

### 7-2.a Public Outreach

BBCCSD, CSA 53B, and the City maintain public outreach programs to reduce FOG discharge and BBARWA provides information on their website FAQs page (https://bbarwa.org/faqs/) about items that are prohibited from entering the sanitary sewer system.

### 7-2.b Prohibition of Illicit Discharge

BBARWA Code Title 7, Section 7.12.020, Sub-Section B, Item 7 prohibits discharges of FOG into the regional collection system in any concentration that causes adverse effects to the collection and treatment system. BBARWA possesses the legal authority to enforce the prohibition of FOG discharges through the enforcement clauses identified in Legal Authority Table 3-1.

# 8 ELEMENT 8 - SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

## 8-1 WASTE DISCHARGE REQUIREMENTS

***Order 2006-0003-DWQ Section D.13(viii):***

*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 the 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.*

## 8-2 SSMP PROGRAM IMPLEMENTATION

BBARWA's 2010 Sewer Master Plan identified segments of capacity-constrained pipe, evaluated lift station condition and capacity, evaluated WWTP condition and capacity, and provided a 20-year Capital Improvement Plan (CIP) for both the WWTP and the regional sewer collection system to guide BBARWA's future capital improvement efforts. This Element discusses the portion of the CIP related to the regional sewer collection system.

### 8-2.a Evaluation

The 2010 Sewer Master Plan evaluated the capacity of the collection system using a Microsoft Excel spreadsheet model. The model was calibrated with historical flow data from 1990 to 2010 and uses projected increases in population to project future flows. The capacity evaluation considered three (3) separate components of sewer flows, which were scaled independently of each other:

- Wastewater from full-time residential homes
- Wastewater from tourism, commercial activities, and part time residential homes
- I/I

Analysis of the capacity of the collection system was based on projected Future (2030) Maximum Hour Flow with historical Maximum Hour I/I.

### 8-2.b Design Criteria

The depth to diameter ratio (d/D) is a widely accepted criteria for evaluating the capacity of gravity sewer mains. The 2010 Sewer Master Plan considers all gravity sewer pipes twelve (12) inches in diameter and smaller over capacity if their d/D is greater than 50%, and all gravity pipes larger than twelve (12) inches over capacity if their d/D is greater than 75%. This d/D criteria was used as the basis for identifying over capacity gravity pipes under the Future Maximum Hour Flow with historical Maximum Hour with I/I flow condition.

### 8-2.c Capacity Enhancement Measures and Schedule for Completion

Due to the relatively small size of BBARWA's collection system, only two (2) major capacity issues were identified in the 2010 Sewer Master Plan.

- Capacity at the Lake Pump Station
- Capacity in the Trunk Line

As a result of BBARWA's CIP, the Lake Pump Station was upgraded in 2013 with two (2) new pumps to meet average day demand, and a third pump with capacity for the Maximum Hour with I/I flow condition.

The Trunk Line has experienced two (2) SSOs since 2010: December 2010 and February 2019. Both events were located at Manhole (MH) 21 on the Trunk Line at the intersection of Teal Drive and Fairway Boulevard.

The 2010 Sewer Master Plan identified a wet weather capacity constraint in this area and recommended installing 5,600 feet of 15-inch and 18-inch sewer main parallel to the Trunk Line to alleviate the capacity problem. Following the 2010 SSO, BBARWA staff cleaned the line and removed accumulated grease in 2012, which was thought to have contributed to the 2010 SSO. With that blockage removed, BBARWA staff decided to defer the installation of the parallel pipelines recommended by the 2010 Sewer Master Plan until further evaluation could be performed to verify whether a Trunk Line upgrade was still necessary. No capacity problems were observed on the Trunk Line between 2011 and 2018; however, another SSO was observed at MH 21 in February 2019 during a severe storm that resulted in extreme wet weather flows.

At the time of the 2019 SSO, BBARWA had already engaged Water Systems Consulting, Inc. (WSC) to perform a Trunk Line Capacity Analysis to evaluate capacity constraints in the Trunk Line and identify an appropriate resolution to any constraints (parallel line installation, upsize existing pipe, reduce I/I, etc.). Data from the 2019 SSO event was incorporated into the analysis. WSC developed a hydraulic model of the Trunk Line to evaluate the capacity under various scenarios and data from the 2019 SSO was used to determine the Peak Instantaneous Wet Weather Flow (PIWWF) used for the hydraulic analysis. The hydraulic model analysis of the Trunk Line showed that under PIWWF, capacity constraints in the Trunk Line resulted in an SSO at MH 21, which aligned with the observations in the field. To alleviate the surcharges, it is proposed that during wet weather events, a portable pump in BBARWA's emergency supply inventory be used to pump 600 GPM (approximately 15% of PIWWF through the Trunk Line) out of the Trunk Line and into the Lake Interceptor Force Main near MH 21. The Lake Interceptor Force Main is parallel to the Trunk Line in Fairway Boulevard, so this solution can be achieved by constructing a new connection to the force main which only requires construction of a vault, piping, and appurtenances within Fairway Boulevard. In addition, BBARWA will install a new lid on MH 21 equipped with a level sensor and satellite communication device to monitor levels and alert BBARWA staff when the manhole begins to surcharge so they can mobilize the portable pump and prevent an SSO from occurring. This solution provides BBARWA with an early warning system and a physical solution to divert flows into a different line with sufficient capacity and is much more cost effective than installing over a mile of parallel Trunk Line piping. This project was constructed in November of 2020.

# 9 ELEMENT 9 - MONITORING, MEASUREMENT AND PROGRAM MODIFICATIONS

## 9-1 WASTE DISCHARGE REQUIREMENTS

***Order 2006-0003-DWQ Section D.13(ix):***

*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.*

## 9-2 SSMP PROGRAM IMPLEMENTATION

### 9-2.a Relevant Data

BBARWA maintains records of all sewer-related activities including, but not limited to, the following:

- Collection System Maps
- CCTV Records
- Hydrocleaning Records
- Pump Station Maintenance Logs
- Capital Improvements
- SSOs
- Staff Training Logs
- Flow and Water Quality Data

**Sanitary Sewer Overflows**

A file is maintained for each SSO that occurs in BBARWA's collection system which includes the following: time, location, and duration of the spill; the notifier's information and chain of communication from initial notification to notification of regulatory agencies; Cal OES Control Number (if applicable); time when BBARWA response personnel arrived at the spill; correction, containment, and/or clean-up methods used; total volume spilled and recovered; discharge point of non-recovered sewage; water quality monitoring data (if applicable), and any draft and final reports submitted to CIWQS. BBARWA maintains this information in its office, and it is also available on the SSO database in CIWQS. SSO data is used to evaluate the effectiveness of BBARWA's R&R efforts, maintenance efforts, and capacity assurance plan. Table 9-1 provides a summary of SSOs in the BBARWA collection system since the SSMP's approval in 2009.

**Table 9-1: Summary of SSO History**

| Date | Location | Volume (gal) | Recovered (gal) | Category | Cause |
|---|---|---|---|---|---|
| **2/19/2007** | North Shore Interceptor Force Main | 11,250 | 0 | Cat 1 | Force main broke underneath a driveway |
| **12/22/2010** | Manhole 21 – Fairway Blvd and Teal Dr | 81,400[2] | 0 | Cat 1 | Storm event – pipe hydraulic capacity was exceeded |
| **8/1/2013** | Pump Station #2 | 8,400 | 5,200 | Cat 2 | Utility work crew drilled through line |
| **2/12/2017** | Lake Pump Station Storage Ponds | 5,100 | 0 | Cat 2 | Blockage in emergency ponds due to piled snow and asphalt grindings causing ponds to overflow |
| **2/14/2019[1]** | Pump Station #2 | 5,300 | 0 | Cat 1 | Flood at pump station caused pump motor to safety shutdown |
| **2/14/2019[1]** | Manhole 21 – Fairway Blvd and Teal Dr | 24,300 | 0 | Cat 1 | Storm event – pipe hydraulic capacity exceeded |

**[1]Entered in CIWQS as one (1) SSO event**
**[2]Originally entered in CIWQS as 171,500 gallons, later revised to 81,400 gallons**

## Collection System Maps

BBARWA maintains maps of its collection system in AutoCAD form and paper copies located in the Operations and Administration Buildings to assist in operations and SSO response. BBARWA is moving to a GIS-based mapping system in the future, which will assist in hydraulic model development and identifying SSO-prone locations.

## CCTV Records

BBARWA has the entire gravity portion of the collection system CCTV'd every four (4) years and maintains possession of the videos in digital format. When GIS maps of the collection system become available, BBARWA will be able to associate CCTV videos with segments of pipe in the GIS map for easier review of inspections.

## Hydrocleaning Records

BBARWA maintains records of hydrocleaning activities digitally in Microsoft Excel. BBARWA typically has the entire gravity portion of the collection system hydrocleaned by a contractor every four (4) years, but still maintains their own records of the cleaning. Hydrocleaning records can be correlated with SSO frequency and volume and CCTV records to determine the effectiveness of hydrocleaning lines.

**Pump Station Maintenance Logs**

Pump station maintenance activities are performed on a weekly, monthly, and/or annual basis. BBARWA holds a list of maintenance activities to be performed on those intervals (Appendix C: Pump Station Maintenance Tasks). BBARWA records each maintenance activity performed to ensure intervals are never missed, and to document reasons why a failure occurred, or a premature replacement may be required.

**Capital Improvements**

BBARWA keeps record of all capital improvement projects that are planned and have been executed, including slip-lining in place, manhole rehabilitation and lid replacement, pipeline installation and replacement projects, and pump station replacements and improvements. This information can be used in correlation with I/I data and SSO frequency and volume to determine the effectiveness of capital improvement projects.

**Staff Training**

BBARWA maintains attendance records of all formal trainings to ensure employees are trained according to the training list provided in Appendix D: Staff Training Program.

**WWTP Flow Volumes and Water Quality Data**

BBARWA keeps records of flows through its Division Drive metering station, and plant influent flows and water quality data in an effort to determine sources of I/I from its member agencies and its own collection system. BBARWA also maintains records of the water quality of its effluent being discharged to Lucerne Valley in accordance with Order No. R7-2016-0026.

### 9-2.b SSMP Monitoring

BBARWA assigns key performance indicators to SSMP Elements to monitor their implementation and effectiveness. Table 9-2 shows these indicators for each Element as well as when SSMP Elements are to be reviewed.

**Table 9-2: Sewer Management Key Performance Indicators and Review Timelines**

| Management Element | Key Performance Indicators | Review Period/Triggers |
|---|---|---|
| **Operation and Maintenance** | ➢ Length of pipe/segments hydrocleaned<br>➢ Length of pipe/segments CCTV inspected<br>➢ Percentage of on-schedule lift station maintenance<br>➢ Manhole and sewer line rehabilitations<br>➢ SSOs due to maintenance-related lift station or line failure<br>➢ I/I in collection system<br>➢ Trainings attended per year<br>➢ Number of CWEA certified collection system operators | ➢ Biannual review with audit<br>➢ Review after maintenance related SSO |
| **Sanitary Sewer Overflows** | ➢ Number, duration, and volume of SSOs<br>➢ SSO response time<br>➢ Volume of SSOs contained vs. volume released to surface waters or an MS4<br>➢ Percentage of on-time external agency notifications<br>➢ Percentage of on-time CIWQS spill report submissions | ➢ Biannual review with audit<br>➢ Review after each SSO |
| **FOG Control** | ➢ Length of pipe/segments of FOG hotspots requiring frequent cleaning<br>➢ SSOs due to FOG blockages | ➢ Biannual review with audit<br>➢ Review after FOG related SSO |
| **provements and Capacity Assurance** | ➢ SSOs due to deficient hydraulic capacity<br>➢ Length of pipe replaced<br>➢ CIP projects completed | ➢ Biannual review with audit<br>➢ Review after capacity related SSO |

### 9-2.c Success of Preventative Maintenance Program

The success of a preventative maintenance program is most easily identified by a reduction in SSO frequency beginning around the time when maintenance efforts increased. There is no direct correlation between SSO frequency reduction and maintenance changes, however the lack of maintenance-related SSOs in Table 9-1 since 2007 suggests that BBARWA's preventative maintenance program is effective in preventing SSOs.

Table 9-1 suggests that wet weather events are typically the cause of SSOs in BBARWA's collection system due to hydraulic deficiency and I/I. BBARWA is making an effort to reduce I/I in its collection system through slip-lining pipes and rehabilitating manholes to prevent infiltration, and replacing manhole lids with sealing lids to prevent inflow. Two (2) similar SSOs occurred in 2010 and 2019 during heavy rainfall events. From December 19-22, 2010, the Big Bear Valley received 4.91-inches of rainfall, which resulted in an SSO of 81,400 gallons. BBARWA rehabilitated approximately 40 manholes and replaced them with Pamrex sealing lids from 2010 to February 2019. The Big Bear Valley received 3.43-inches of rain on February 14, 2019 which resulted in an SSO of only 24,300 gallons. The reduced spill volume during similar rainfall events could indicate reduced I/I in the collection system due to manhole rehabilitation efforts.

### 9-2.d Update Program Elements

At a minimum, the SSMP will be reviewed in accordance with Table 9-2, updated every two (2) years, and re-approved every five (5) years by the Governing Board. The SSMP is also a living document and therefore will be continuously updated by each Element Manager (listed in Table 2-2) as necessary. Changes to the SSMP will be made to an electronic and/or hard copy of the most recently approved SSMP, and will also be documented in Appendix B: Sewer System Management Plan Change Log.

### 9-2.e Identify SSO Trends

BBARWA maintains hard copy files for each SSO that occurs, as well as their SSO history in an electronic Microsoft Excel database (dating back to 2009). A summary of SSOs in the BBARWA collection system is provided in Table 9-1, including their volumes and cause. Table 9-1 identifies hydraulic deficiency during wet weather events and I/I as the primary causes of SSOs, and Sections 8-2.c, 9-2.b, and 9-2.c document BBARWA's efforts to reduce I/I and assure adequate hydraulic capacity through collection system rehabilitation and a capacity analysis.

# 10 ELEMENT 10 - SSMP PROGRAM AUDITS

## 10-1 WASTE DISCHARGE REQUIREMENTS

***Order 2006-0003-DWQ Section D.13.(x):***

*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.*

***Order 2006-003-DWQ Section D.14:***

*Both the SSMP and the Enrollee's program to implement the SSMP must be certified by the Enrollee to be in compliance with the requirements set forth above and must be presented to the Enrollee's governing board for approval at a public meeting. The Enrollee shall certify that the SSMP, and subparts thereof, are in compliance with the general SSS WDRs within the time frames identified in the time schedule provided in subsection D.15, below.*

*In order to complete this certification, the Enrollee's authorized representative must complete the certification portion in the Online SSO Database Questionnaire by checking the appropriate milestone box, printing and signing the automated form, and sending the form to:*

*State Water Resources Control Board*
*Division of Water Quality*
*Attn: SSO Program Manager*
*P.O. Box 100*[1]
*Sacramento, CA 95812*

*The SSMP must be updated every five (5) years and must include any significant program changes. Re-certification by the governing board of the Enrollee is required in accordance with D.14 when significant updates to the SSMP are made. To complete the re-certification process, the Enrollee shall enter the data in the Online SSO Database and mail the form to the State Water Board, as described above.*

***Order 2006-003-DWQ Section J.1.(i):***

> *All reports required by this Order and other information required by the State or Regional Water Board shall be signed and certified by a person designated, for a municipality, state, federal or other public agency, as either a principal executive officer or ranking elected official, or by a duly authorized representative of that person, as described in paragraph (ii) of this provision. (For purposes of electronic reporting, an electronic signature and accompanying certification, which is in compliance with the Online SSO database procedures, meet this certification requirement.)*

[1] *Revised in MRP to 1001 I Street, 15th Floor, Sacramento, CA 95814*

## 10-2 SSMP PROGRAM IMPLEMENTATION

BBARWA first certified their SSMP in 2009 in accordance with deadlines set forth in the Statewide General WDRs and is therefore required to conduct an audit every two (2) years starting in 2011. Audits are required on odd numbered years, including those that align with the required five-year SSMP Update. BBARWA most recently completed an audit in 2019. The findings from BBARWA's 2019 Audit have been incorporated into the 2019 SSMP Update.

BBARWA conducted internal audits between 2009 and 2014, which lead to revisions of Element 4 (Operation and Maintenance Program) and Element 6 (Overflow Emergency Response Plan) in a 2014 SSMP Update which was approved by the Governing Board on September 24, 2014. BBARWA retained a consultant to audit Elements 4 and 8 in 2014; the audit did not recommend changes to either Element. Internal audits continued between 2014 and 2018, which helped develop the comprehensive EAP that supplements Element 6 of the SSMP. Though formal audits have not been conducted every two (2) years, BBARWA has implemented its SSMP and efficiently managed, operated, and maintained its collection system.

Following the completion of this 2019 SSMP Update, BBARWA is scheduled to complete its next SSMP audit in 2021. Appendix A: SSMP Supporting Document History includes a list of previous and anticipated SSMP audits.

**Audit Execution**

SSMP Audits are guided by the BBARWA Element Managers for each SSMP Element as identified in Table 2-2. To conduct audits, Element Mangers review the SSMP and any applicable supporting documents for compliance with the SSS WDRs, as well as review performance indicators in Table 9-2 to determine the success of the SSMP, EAP, Legal Authority documents, Operation and Maintenance Program, and Capital Improvement Program.

# 11 ELEMENT 11 – COMMUNICATION PROGRAM

## 11-1 WASTE DISCHARGE REQUIREMENTS

***Order 2006-0003-DWQ Section D.13(xi):***

*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.*

## 11-2 SSMP PROGRAM IMPLEMENTATION

### 11-2.a Public Outreach

BBARWA communicates regularly with the public regarding implementation and performance of its SSMP via the following methods:

- BBARWA website (www.bbarwa.org) – BBARWA's website makes the following content easily accessible to all interested parties:
  - Contact Information – Contact information to report emergencies during business hours and after hours. Contact information for BBARWA personnel is also available.
  - Collection System Information – General information describing BBARWA's collection system, including a map of the regional sewer system.
  - FAQs – Includes a description of what is and is not allowed to be flushed down a toilet.
  - JPA agreements
  - BBARWA's SSMP – SSMP supporting documents including the Emergency Action Plan, County Sewer Standards, and Title 7 are available to the public through a Public Records Request.
- Governing Board Meetings
  - BBARWA's Governing Board Meetings occur on the 4th Wednesday of each month. The public has the opportunity to review agenda items posted on BBARWA's website prior to meetings and participate in BBARWA discussions.

### 11-2.b Tributary System Outreach

The BBCCSD, the City, and CSA 53B collection systems are all tributaries of BBARWA's regional collection system. BBARWA's Governing Board is composed of two (2) members representing BBCCSD, two (2) members representing the City, and one (1) member representing CSA 53B to ensure communication between the agencies and adequate representation of BBARWA's member agencies. BBARWA maintains a primary point of contact with each member agency for coordination on inter-agency matters and emergencies (Table 11-1).

**Table 11-1: Member Agency Points of Contact**

| Agency | Contact Information | |
|---|---|---|
| **Big Bear City Community Services District Sewer Department** | Nathan Zamorano<br>nzamorano@bbccsd.org<br>(909) 584-4007 | |
| **City of Big Bear Lake Public Works – Sanitation** | Jason Watterson<br>(909) 633-2565 | Main Office<br>(909) 866-7521 |
| **County Service Area 53B** | John Green<br>(909) 744-4206 | |

# APPENDIX A: SSMP SUPPORTING DOCUMENT HISTORY

A record of required SSMP Updates, Audits, and supporting documents is provided below along with when these documents were last updated.

| Document | Description of Change/Revision | Date | Change Authorized By |
|---|---|---|---|
| **Title 7** | Adopted as the new BBARWA Sewer Code by Ordinance 69 | 1999 | Adopted by Governing Board through Ordinance 69 |
| **Internal SSMP Audits** | Audits led to changes in SSMP Elements 4 and 6 during 2014 SSMP Re-approval | Between 2009 and 2014 | N/A |
| **2014 SSMP Audit of Element 4 and Element 8** | No changes recommended by audit | September 11, 2014 | Audit Executed by BBARWA General Manager (Steve Schindler) |
| **Emergency Action Plan** | EAP Update | 2014 | General Manager |
| **Emergency Action Plan** | EAP Update | October 2018 | General Manager |
| **Emergency Action Plan** | EAP Update | October 2, 2019 | General Manager |
| **Traffic Control Safety Plan** | TCSP Update | November 16, 2018 | General Manager |
| **San Bernardino County Special District Sewer Standards** | Reviewed by BBARWA Staff to ensure they are sufficient and up to date | June 2019 | General Manager |
| **Capital Improvement Program** | List of CIP projects updated annually | 2019 | CIP updated by plant operators and Administrative staff |
| **2019 SSMP Audit** | Changes to each SSMP element, development of a WQMP. See SSMP Change Log for additional details | May 7, 2020 | General Manager |
| **2021 SSMP Audit** | Minor changes to Elements 2, 4, and 8. See SSMP Change Log for additional details | February 17, 2021 | General Manager |
| | | | |

# APPENDIX B: SEWER SYSTEM MANAGEMENT PLAN CHANGE LOG

BBARWA's Certified 2009 SSMP has undergone the following revisions:

| SSMP Element | Description of Change/Revision | Date | Change Authorized By |
|---|---|---|---|
| **Complete 2009 SSMP** | Original approval date | August 26, 2009 | Approved by Board of Directors |
| **Element 4: Operation and Maintenance Program** | Untracked revisions | Between 2009 and 2014 | General Manager (Steve Schindler) |
| **Element 6: Overflow Emergency Response Plan** | Added language to summarize Facilities Emergency Action Plan | Between 2009 and 2014 | General Manager (Steve Schindler) |
| **Complete 2014 SSMP Update** | SSMP re-approved | September 24, 2014 | Approved by Board of Directors |
| **Introduction** | Revised language, moved pump station and pipe information to Element 4 | May 7, 2020 | General Manager |
| **Element 1: Goals** | Moved introduction language to Background section, no revisions made to actual goals | May 7, 2020 | General Manager |
| **Element 2: Organization** | Added org chart, roles and responsibilities, contact info, defined roles for reporting SSOs | May 7, 2020 | General Manager |
| **Element: 3 Legal Authority** | Revised language to reflect BBARWA's existing legal authority through Title 7, added discussion of use of SB County Special District Sewer Standards | May 7, 2020 | General Manager |
| **Element 4: Operation and Maintenance Program** | Revised language to describe BBARWA's existing and ongoing maintenance efforts | May 7, 2020 | Plant Manager |
| **Element 5: Design and Performance Provisions** | Revised language to describe BBARWA's authority to use SB County Special District Sewer Standards | May 7, 2020 | General Manager |
| **Element 6: Overflow Emergency Response Plan** | Revised language to incorporate the existing EAP, added language on SSO responder responsibilities and procedures, and notification procedures | May 7, 2020 | Plant Manager |
| **Element 7: FOG Program** | Established that BBARWA does not require a FOG Program due to so few FOG occurrences and the presence of FOG Programs on BBARWA's tributary systems | May 7, 2020 | Plant Manager |

| SSMP Element | Description of Change/Revision | Date | Change Authorized By |
|---|---|---|---|
| **Element 8: System Evaluation and Capacity Assurance Plan** | Added language on the 2010 Master Plan and recommended CIP projects, and the proposed Trunk Line bypass project | May 7, 2020 | General Manager |
| **Element 9: Monitoring, Measurement, and Program Modifications** | Added table of previous SSOs and analysis of SSO causes, added KPIs to evaluate the effectiveness of the SSMP | May 7, 2020 | General Manager |
| **Element 10: Audits** | Revised SSMP Audit Program and added language on history of audits | May 7, 2020 | General Manager |
| **Element 11: Communication** | Documented BBARWA's existing communication efforts with the public and provided points of contact for all member agencies | May 7, 2020 | General Manager |
| **SSMP Appendices** | Added appendices to have supporting documents attached to SSMP | May 7, 2020 | General Manager |
| **SSMP Change Log** | Updated to reflect changes in 2019 Update | May 7, 2020 | General Manager |
| **Water Quality Monitoring Program** | Comprehensive WQMP Developed | May 7, 2020 | General Manager |
| **SSMP 2021 Audit** | 2-yr SSMP Audit | February 17, 2021 | General Manager |
| **Element 2: Organization** | Updated to reflect current roles and responsibilities | February 17, 2021 | General Manager |
| **Element 4: Operation and Maintenance Program** | Updated Table 4-1: Scheduled O&M Tasks to reflect changes to schedule dates | February 17, 2021 | Plant Manager |
| **Element 8: System Evaluation and Capacity Assurance Plan** | Added completion dates for SSO Prevention Project at Teal Dr and Fairway Blvd | February 17, 2021 | General Manager |
| **Water Quality Monitoring Program** | 2-yr review of WQMP during SSMP Audit | February 17, 2021 | General Manager |
| | | | |
| | | | |

# APPENDIX C: PUMP STATION MAINTENANCE TASKS

## All Pump Stations Periodic Maintenance Tasks

| Location | Maintenance Task | Equipment Name | Frequency |
|---|---|---|---|
| **LPS** | Monthly inspection | Fire Extinguisher | Monthly |
| **LPS** | Change oil & filters Fuel 3341 Oil NAPA 1133 | Generator | Annual |
| **LPS** | Check all cable connections and wiring | Generator | Annual |
| **LPS** | Check fan belt tension & condition | Generator | Annual |
| **LPS** | Check turbo charger piping for loose nuts | Generator | Annual |
| **LPS** | Check air filters (C12233-9 P-40) | Generator | Annual |
| **LPS** | Clean crankcase breather | Generator | Annual |
| **LPS** | Replace 6-volt battery | Chatter box | Annual |
| **LPS** | Grease fan drive pulley hub bearing | Generator | Annual |
| **LPS** | Grease governor throttle stop control swivel | Generator | Annual |
| **LPS** | Grease rear bearing | Generator | Annual |
| **LPS** | Grease water pump tightener idler pulley | Generator | Annual |
| **LPS** | Inspect windings, contacts and lugs | Generator | Annual |
| **LPS** | Inspect belts (4390516 & 4338768) | Generator | Annual |
| **LPS** | Inspect fuel lines & coolant hoses & block heater | Generator | Annual |
| **LPS** | Replace fuel filters | Generator | Annual |
| **LPS** | Tighten engine mounting bolts | Generator | Annual |
| **LPS** | Tighten exhaust intake manifold | Generator | Annual |
| **LPS** | Load test | Generator Batteries | Monthly |
| **LPS** | Inspect & replace as needed | Lighting | Monthly |
| **LPS** | Amp, volt check and meager, log data in RASCAL | Pump 1 | Annual |
| **LPS** | Annual inspection (Mark Burnett 951-751-0546) | Motor Control Centers | Monthly |
| **LPS** | Check temps and contacts in MCC-log data in RASCAL | Pump 1 | Annual |
| **LPS** | Inspect for proper operation | Radiator Ventilation | Monthly |
| **LPS** | Check temps and contacts in MCC-log data in RASCAL | Pump 2 | Annual |
| **LPS** | Amp, volt check and meager, log data in RASCAL | Pump 2 | Annual |
| **LPS** | Amp, volt check and meager, log data in RASCAL | Pump 3 | Annual |
| **Sta 1** | Monthly inspection | Fire Extinguisher | Monthly |
| **Sta 1** | Change oil & filters (NAPA 1411) | Generator | Annual |
| **Sta 1** | Check all cable connections and wiring | Generator | Annual |
| **Sta 1** | Check fan belt tension & condition | Generator | Annual |
| **Sta 1** | Check air filter (Fram CA-151PL) | Generator | Annual |
| **Sta 1** | Clean crankcase breather | Generator | Annual |

| Location | Maintenance Task | Equipment Name | Frequency |
|---|---|---|---|
| **Sta 1** | Inspect windings, contacts and lugs | Generator | Annual |
| **Sta 1** | Inspect belts (Gates 9450) | Generator | Annual |
| **Sta 1** | Inspect fuel lines & coolant hoses & block heater | Generator | Annual |
| **Sta 1** | Replace fuel filters (Napa 3351) | Generator | Annual |
| **Sta 1** | Tighten engine mounting bolts | Generator | Annual |
| **Sta 1** | Tighten exhaust intake manifold | Generator | Annual |
| **Sta 1** | Load test | Generator Batteries | Monthly |
| **Sta 1** | Inspect & replace as needed | Lighting | Monthly |
| **Sta 1** | Amp, volt check and meager, log data in RASCAL | Pump 2 | Annual |
| **Sta 1** | Annual inspection (Mark Burnett 951-751-0546) | Motor Control Centers | Annual |
| **Sta 1** | Amp, volt check and meager, log data in RASCAL | Pump 1 | Annual |
| **Sta 1** | Check temps and contacts in MCC-log data in RASCAL | Pump 1 | Annual |
| **Sta 1** | Check temps and contacts in MCC-log data in RASCAL | Pump 2 | Annual |
| **Sta 1** | Inspect for proper operation | Radiator Ventilation | Monthly |
| **Sta 1** | Monthly inspection (JHA 0036/0037) | Fall Protection | Monthly |
| **Sta 1** | Replace 6-volt battery | Chatter Box | Annual |
| **Sta 2** | Replace 6-volt battery | Chatter Box | Annual |
| **Sta 2** | Monthly inspection | Fire Extinguisher | Monthly |
| **Sta 2** | Change oil & filters (Napa 1411) | Generator | Annual |
| **Sta 2** | Check all cable connections and wiring | Generator | Annual |
| **Sta 2** | Check fan belt tension & condition | Generator | Annual |
| **Sta 2** | Check air filter (Fram CA-151PL) | Generator | Annual |
| **Sta 2** | Clean crankcase breather | Generator | Annual |
| **LPS** | Inventory spare parts | Generator | Annual |
| **Sta 2** | Inspect windings, contacts and lugs | Generator | Annual |
| **Sta 2** | Inspect belts 9450 | Generator | Annual |
| **Sta 2** | Inspect fuel lines & coolant hoses & block heater | Generator | Annual |
| **Sta 2** | Replace fuel filters (Napa 3351) | Generator | Annual |
| **Sta 2** | Tighten engine mounting bolts | Generator | Annual |
| **Sta 2** | Tighten exhaust intake manifold | Generator | Annual |
| **Sta 2** | Load test | Generator Batteries | Monthly |
| **Sta 2** | Inspect & replace as needed | Lighting | Monthly |
| **Sta 2** | Amp, volt check and meager, log data in RASCAL | Pump 2 | Annual |
| **Sta 2** | Amp, volt check and meager, log data in RASCAL | Pump 1 | Annual |

| Location | Maintenance Task | Equipment Name | Frequency |
|---|---|---|---|
| **Sta 2** | Check temps and contacts in MCC-log data in RASCAL | Pump 1 | Annual |
| **Sta 2** | Check temps and contacts in MCC-log data in RASCAL | Pump 2 | Annual |
| **Sta 2** | Inspect for proper operation | Radiator Ventilation | Monthly |
| **Sta 2** | Monthly inspection (JHA 0036/0037) | Fall Protection | Monthly |
| **Sta 3** | Replace 6-volt battery | Chatter Box | Annual |
| **Sta 3** | Monthly inspection | Fire Extinguisher | Monthly |
| **Sta 3** | Change oil & filters 1758 | Generator | Annual |
| **Sta 3** | Check all cable connections and wiring | Generator | Annual |
| **Sta 3** | Check fan belt tension & condition | Generator | Annual |
| **Sta 3** | Check air filter (Napa 2652) | Generator | Annual |
| **Sta 3** | Clean crankcase breather | Generator | Annual |
| **Sta 3** | Inspect windings, contacts and lugs | Generator | Annual |
| **Sta 3** | Inspect belts | Generator | Annual |
| **Sta 3** | Inspect fuel lines & coolant hoses & block heater | Generator | Annual |
| **Sta 3** | Replace fuel filters Car Quest 86370 (2) | Generator | Annual |
| **Sta 3** | Tighten engine mounting bolts | Generator | Annual |
| **Sta 3** | Tighten exhaust intake manifold | Generator | Annual |
| **Sta 3** | Load test | Generator Batteries | Monthly |
| **Sta 3** | Inspect & replace as needed | Lighting | Monthly |
| **Sta 3** | Amp, volt check and meager, log data in RASCAL | Pump 2 | Annual |
| **Sta 3** | Annual inspection (Mark Burnett 951-751-0546) | Motor Control Centers | Annual |
| **Sta 3** | Amp, volt check and meager, log data in RASCAL | Pump 1 | Annual |
| **Sta 3** | Check temps and contacts in MCC-log data in RASCAL | Pump 1 | Annual |
| **Sta 3** | Check temps and contacts in MCC-log data in RASCAL | Pump 2 | Annual |
| **Sta 3** | Inspect for proper operation | Radiator Ventilation | Monthly |
| **Sta 3** | Monthly inspection (JHA 0036/0037) | Fall Protection | Monthly |
| **Sta 3** | Inventory spare parts | Generator | Annual |
| **LPS** | Check temps and contacts in MCC-log data in RASCAL | Pump 3 | Annual |
| **LPS** | Check temps and contacts in MCC-log data in RASCAL | Pump 4 | Annual |
| **LPS** | Amp, volt check and meager, log data in RASCAL | Pump 4 | Annual |
| **LPS** | Check for excess slack in wetwell | Pump wiring | Monthly |
| **LPS** | Check for expiration date and signs of tampering | Eyewash bottles | Monthly |

| Location | Maintenance Task | Equipment Name | Frequency |
|---|---|---|---|
| **Sta 1** | Check for expiration date and signs of tampering | Eyewash bottles | Monthly |
| **Sta 2** | Check for expiration date and signs of tampering | Eyewash bottles | Monthly |
| **Sta 3** | Check for expiration date and signs of tampering | Eyewash bottles | Monthly |
| **LPS** | Test by opening main breaker | Transfer switch | Monthly |
| **Sta 1** | Test by opening main breaker | Transfer switch | Monthly |
| **Sta 2** | Test by opening main breaker | Transfer switch | Monthly |
| **Sta 3** | Test by opening main breaker | Transfer switch | Monthly |
| **LPS** | Test by opening main breaker | Transfer switch | Monthly |

## North Shore Stations Weekly Maintenance

| Location | Maintenance Task | Description of task | Frequency |
|---|---|---|---|
| **Generators** | Fuel Levels | Check and Log | Weekly |
| **Generators** | Oil Levels | Check and Log | Weekly |
| **Generators** | Anti-freeze Levels | Check and Log | Weekly |
| **Generators** | Block Heater Operation | Check | Weekly |
| **Generators** | Battery Terminals | Check | Weekly |
| **Generators** | Hours: Pre-Run | Log | Weekly |
| **Generators** | Hours: Post Run | Log | Weekly |
| **Generators** | Water Temp. | Check and Log | Weekly |
| **Generators** | Oil Pressure | Check and Log | Weekly |
| **Generators** | Charging Amps | Check and Log | Weekly |
| **Generators** | Volts A | Check and Log | Weekly |
| **Generators** | Volts B | Check and Log | Weekly |
| **Generators** | Volts C | Check and Log | Weekly |
| **Generators** | Amps A | Check and Log | Weekly |
| **Generators** | Amps B | Check and Log | Weekly |
| **Generators** | Amps C | Check and Log | Weekly |
| **Generators** | Hz | Check and Log | Weekly |
| **Generators** | Leaks & Vibration | Check | Weekly |
| **Pumps** | Discharge Pressure 1 | Check and Log | Weekly |
| **Pumps** | Discharge Pressure 2 | Check and Log | Weekly |
| **Pumps** | Backflush 1 | Check and Log | Weekly |
| **Pumps** | Backflush 2 | Check and Log | Weekly |
| **Pumps** | Check Valve Operation | Check | Weekly |
| **Pumps** | Leaks & Vibration | Check | Weekly |
| **Wet Well** | Low Wet Well | Pull Pressure Transducer | Weekly |
| **Wet Well** | High Wet Well Float | Pull Float and Confirm alarm | Weekly |
| **Wet Well** | Pump Start Float | Pull Float and Confirm Pump Start | Weekly |
| **Wet Well** | Drywell Flood | Pull Float and Confirm Pump Start | Weekly |
| **Station** | Smoke Alarm | Test for operation | Weekly |
| **Station** | Ground Fault Monitor | Check for alarms | Weekly |

## Lake Pump Station Weekly Maintenance

| Location | Maintenance Task | Description of task | Frequency |
|---|---|---|---|
| **Generator** | Fuel Level | Check and Log | Weekly |
| **Generator** | Oil Level | Check and Log | Weekly |
| **Generator** | Anti-Freeze | Check and Log | Weekly |
| **Generator** | Block Heater | Check | Weekly |
| **Generator** | Battery Level | Check and Log | Weekly |
| **Generator** | Battery Terminal | Check | Weekly |
| **Generator** | Hours: Pre-Run | Log | Weekly |
| **Generator** | Hours: Post Run | Log | Weekly |
| **Generator** | Water Temp | Check and Log | Weekly |
| **Generator** | Oil Pressure | Check and Log | Weekly |
| **Generator** | Charging Amps | Check and Log | Weekly |
| **Generator** | Volts A | Check and Log | Weekly |
| **Generator** | Volts B | Check and Log | Weekly |
| **Generator** | Volts C | Check and Log | Weekly |
| **Generator** | Amps A | Check and Log | Weekly |
| **Generator** | Amps B | Check and Log | Weekly |
| **Generator** | Amps C | Check and Log | Weekly |
| **Generator** | Hz | Check and Log | Weekly |
| **Generator** | Leaks & Vibrations | Check and Log | Weekly |
| **Pumps** | Check Valves Closing Properly (Pump 1) | Check | Weekly |
| **Pumps** | Check Valves Closing Properly (Pump 2) | Check | Weekly |
| **Pumps** | Check Valves Closing Properly (Pump 3) | Check | Weekly |
| **Wet Well** | Low Wet Well | Pull Pressure Transducer | Weekly |
| **Wet Well** | High Wet Well Float | Pull Float and Confirm alarm | Weekly |
| **VFD** | Log Hours | Log | Weekly |
| **Pump 2** | Log Hours | Log | Weekly |
| **Pump 3** | Log Hours | Log | Weekly |
| **Station** | Carbon Scrubber Fan | Check | Weekly |

# APPENDIX D: STAFF TRAINING PROGRAM

| Name of Training | Frequency of Training and Type of Employees | Description of training and material covered |
|---|---|---|
| **National Incident Management System (NIMS)** | Initial Only | Training to provide guidance on working together with other governmental and non-governmental agencies to prevent, protect against, mitigate, respond to and recover from incidents. |
| **Hearing Conservation Plan** | Initial[1] All Employees | The purpose of this program is to establish procedures for hearing conservation. This program applies to all employees with noise exposure to or in excess of 85 dBA (decibels, A-weighting), as an 8-hour time-weighted average (TWA). Material covered: purpose, responsibilities, determination of sound levels, audiometric testing, hearing protection, testing frequency, training, recordkeeping, and employee notifications. |
| **Hazard Communication Plan** | Initial[1] All Employees | This program covers all work operations where employees may be exposed to hazardous chemicals under normal working conditions or during an emergency. Material covered includes plan administration, labeling SDS's, employee training, non-routine tasks involving hazardous chemicals, notifications for multi-employer worksites, hazardous chemicals transported in pipes, recordkeeping, and a list of Prop 65 chemicals. |
| **Bloodborne Pathogen Exposure Control Plan** | Initial & Annually All Employees | This Plan is provided to eliminate or minimize occupational exposure to bloodborne pathogens in accordance with OSHA standard 29 CFR 1910.1030, "Occupational Exposure to Bloodborne Pathogens" and Section 5193, Title 8, CCR. Material covered includes purpose, responsibility, definitions, exposure determination, methods of compliance, exposure control plan, engineering and work control practices, PPE, housekeeping, Hep B vaccination, post exposure evaluation and follow up, communication of hazards to employees, training and recordkeeping. |
| **Emergency Action Plan** | Initial[1] All Employees | This program describes procedures during an emergency. Material covered includes facility description and site plans, contact information, emergency protocols, evacuation plan, earthquake plan, emergency support procedures, fire prevention plan, active shooter plan, pandemic outbreak contingency plan, spill prevention and contingency plan, high flow operations and spill prevention, and sewage spill reporting. |
| **Injury & Illness Prevention Plan (IIPP)** | Initial & Every 3 Years All Employees | Procedures for injury and illness prevention. Material covered includes compliance, responsibility, communication, safety rules and regulations, hazard assessment, incident/accident/exposure investigation, health and safety training, record keeping, and role of the safety committee. |

| Name of Training | Frequency of Training and Type of Employees | Description of training and material covered |
|---|---|---|
| **Ergonomics** | Initial[1] | Employers have the responsibility of providing safe workplaces for employees. Occupational Safety and Health Administration, or OSHA, has created ergonomics program guidelines for various industries. Ergonomics is defined as fitting a job to a person. It is concerned with posture and movement of the body and environmental factors present when a task is being performed. |
| **Confined Space Program** | Initial[1] Operations | The purpose of the Confined Space Entry Program is to identify all confined spaces within the Agency, and ensure all authorized employees will enter, perform work in, and exit confined spaces safely. Material covered includes purpose, definitions, responsibilities, classification and identification, entry permits, duties of personnel, confined space entry procedures, atmospheric monitoring, ventilation, instruction and training requirements, rescue and emergency services, annual review and records retention. |
| **Lockout/Tagout Program** | Initial[1] Operations | The Lockout/Tagout Program was developed in accordance with the Cal/OSHA Control of Hazardous Energy Source and Electrical Hazards Lockout and Tagout. This program follows the requirements outlined in the California Code of Regulations, Title 8, Sections 3314, 4413 and 5157. Material covered includes purpose, general information, responsibilities, preparation for LOTO procedure, electrical LOTO, removal of LOTO devices by person other than authorized employee, informing outside contractors, periodic inspections, training, and accident concerning LOTO. |
| **Personal Protective Equipment Program with Assessment** | Initial[1] Operators | The information, methods, and procedures in this program are based on the Occupational Safety and Health Administration (OSHA) requirements for personal protective equipment (PPE) as set forth in the Code of Federal Regulations (CFR) at 29 CFR 1910.132 (General requirements); 29 CFR 1910.133 (Eye and face protection); 29 CFR 1910.135 (Head protection); 29 CFR 1910.136 (Foot protection); 29 CFR 1910.137 (Electrical protective equipment); and 29 CFR 1910.138 (Hand protection). Material covered includes the purpose, role of PPE, hazard assessment, and employee training on eye, face, hand, arm, foot, leg, head, and hearing protection. |
| **Heat Illness Prevention Program** | Initial[1] Operators | The Heat Illness Prevention Program has been developed to comply with the California Code of Regulations Title 8, Section 3395, Heat Illness Prevention. The Heat Illness Prevention standard is applicable to any outdoor workplace, whenever environmental or personal risk factors for heat illness are present. Material covered includes responsibilities, personal risk factors, environmental risk factors, identifying heat illness, prevention procedures, responding to emergencies, and training. |

| Name of Training | Frequency of Training and Type of Employees | Description of training and material covered |
|---|---|---|
| **Sewer System Management Plan & Water Quality Management Plan** | Initial[1] Operators | This training program reviews the Sewer System Management and Water Quality Management Plans. |
| **Fall Protection** | Initial[1] Operators | Understanding how to prevent injuries in a fall hazard situation, identifying safety equipment required in fall hazard situations, and recognizing the different types of fall prevention systems. |
| **Traffic Control Program** | Initial[1] Operators (Flaggers Only) | The purpose of the Traffic Control Safety Plan is to communicate and establish safe work standards and practices for employees and contractors in accordance to the California Temporary Traffic Control Handbook and the California Manual of Uniform Traffic Control Devices (MUTCD). Material covered includes purpose, scope, responsibilities, fundamental principles, safety apparel, work areas, and local encroachment permits. |
| **RCRA Hazardous Waste Generator** | Initial Operators | Provides training as a handler of hazardous waste for large or small quantity generators of hazardous waste in the state of California according to the California Department of Toxic Substances regulations found in Title 22 CCR 66262.34 and Title 22 CCR 66265.16. |
| **Fire Extinguisher Training** | Every 2 Years All Employees | How to use a fire extinguisher. |
| **Stormwater Pollution Prevention Plan (SWPPP)** | Annually Operators | This site-specific Storm Water Pollution Prevention Plan (SWPPP) and associated Monitoring Implementation Plan (MIP, Section 2.0) have been prepared to comply with the requirements of the State (California) Water Resources Control Board NPDES General Permit No. CAS000001 for Discharges of Storm Water Associated with Industrial Activities (General Permit) adopted on April 1, 2014. Material covered includes performance standards, planning and organization, site map and facility description, list of industrial material, description and assessment of industrial activities and potential pollutant sources, best management practices, identification of monitoring team, discharge locations, visual observation procedures, and the annual comprehensive facility compliance evaluation. |
| **Working on or Near Water Safety Program** | Annually Operators | The purpose of this program is to provide general safety guidelines for those employees who perform their job duties over or near water. Those employees shall follow the minimum operation requirements designed to prevent injury or fatality from falling into the water (as required by OSHA 1926.106). Material covered includes purpose, responsibilities, life-saving equipment, pre-task plan, procedures, and training. |

| Name of Training | Frequency of Training and Type of Employees | Description of training and material covered |
|---|---|---|
| **Hot Work Permit Program** | Annually Operators | This program applies to all employees (permanent, temporary, and contractors) who complete hot work or work in areas where hot work is taking place. Material covered includes purpose, responsibilities, authorized personnel, fire watch personnel, other personnel, designated areas, non-designated area procedure, outside contractors, PPE, permit system, training, periodic review, and record retention. |
| **Powered Industrial Truck Program** | Annually Operators | This standard practice instruction is intended to address comprehensively the issues of employee training, authorization, safety requirements, fire protection, new purchase designs, maintenance, and general operation of fork trucks and other specialized industrial trucks used within our facility. |
| **Forklift Certification & Industrial Truck Operator Evaluation** | Every 3 Years Operators | In conjunction with the Powered Industrial Truck Program. |
| **Electrical & ARC Flash Safety Program** | Every 3 Years Operators | Electricity is a serious workplace hazard, capable of causing both personal injury and property damage. It is the policy of the Big Bear Area Regional Wastewater Agency (Agency) to protect all persons from potential electrical hazards. This will be accomplished through compliance with the work practices described in this program along with the effective application of engineering controls, administrative controls, and the use of personal protective equipment (PPE). This program is based on principles and procedures contained in the 2018 edition of the National Fire Protection Association (NFPA) 70E standard. Material covered includes purpose, responsibilities, definitions, training, working on or near energized electrical conductor or circuit parts, PPE, alerting techniques, standard operating procedures, and arc flash hazard analysis. |
| **Lab Chemical Hygiene Plan** | Every 3 Years Operators | The objective of the Lab Chemical Hygiene Plan is to set forth procedures, equipment, personal equipment and work practice that are capable of protecting employees from the health hazards presented by hazardous chemicals used in the laboratory and to meet the requirement of Cal OSHA GISO 5191 "Occupational Exposure to Hazardous Chemicals in Laboratories". Material covered includes chemical hygiene procedures, specific safety procedures, control measures and equipment, employee information and training, exposure assessments, and medical consultations and examinations. |

| Name of Training | Frequency of Training and Type of Employees | Description of training and material covered |
|---|---|---|
| **Multi-Employer Worksite Plan** | Every 3 Years All Employees | A multi-employer worksite is any worksite, permanent or temporary, where more than one employer (and his or her employees) work, usually but not necessarily at the same time. They can be temporary worksites at which construction activities take place or permanent worksites where contractors perform activities at that worksite, including, but not necessarily limited to, construction, environmental or janitorial services, repairs, or deliveries. Material covered includes purpose, responsibilities, OSHA regulations, and types of citable employers. |
| **Drug Free Workplace** | Odd Years All Employees | Drug abuse can have dangerous and costly effects in the workplace. This course highlights these impacts and provides useful information about the different types of drugs that are commonly abused and how to evaluate each element and subsidiary component of a safety and health program. |
| **Hazardous Waste Operations & Emergency Response (HAZWOPER)** | Annually Operators | A hazardous materials incident is defined as the release, or suspected release, of a hazardous material into the environment. Even with the best prevention methods in place, hazardous materials incidents are bound to happen. Understanding the nature of the hazardous materials you work with, and how to respond to an incident or potential incident will help you quickly manage a dangerous situation and minimize damage done to persons, the environment, and facilities. Being able to recognize and quickly request the appropriate aid is the main responsibility of first responders at the awareness level. This is the 8-hour refresher course. |
| **Crystalline Silica** | Before Assignment Operators | Hazards of silica in construction. |
| **DOT Hazmat Spill Prevention and Control Training** | Initial and Every 3 Years Operators | The training covers hazardous material requirements for general handling, storage, and disposal of hazardous materials. It covers Safety Data Sheets (SDS) and how to recognize the information in an SDS. Response procedures necessary to handle hazardous materials spills, covers personal protective equipment (PPE) and why you use it. Identifies the procedures for cleaning up hazardous material spills. |
| **Workplace Violence** | Every 3 Years All Employees | Workplace violence has emerged as an important safety and health issue in today's workplace. Its most extreme form, homicide, is the second-leading cause of fatal occupational injury in the United States. |

| Name of Training | Frequency of Training and Type of Employees | Description of training and material covered |
|---|---|---|
| **Respiratory Protection Plan** | Initial & Annually Operators | The Agency recognizes that respirators have limitations and their successful use is dependent on an effective Respiratory Protection Program. The Respiratory Protection Program is designed to identify, evaluate, and control exposure to respiratory hazards as well as select and provide use, care, and maintenance of the equipment. Material covered includes respirator selection, medical evaluations, fit testing, use of respirators, maintenance and care of respirators, breathing air quality and use, training and information, and program evaluation. |
| **First Aid/CPR** | Odd Years All Employees | Required training in the procedures for first aid and CPR. |
| **Alcohol Free Workplace** | Even Years All Employees | The Alcohol Free Workplace program is one way the Agency can begin to mitigate the impact of alcohol abuse in the workplace. The purpose of the Alcohol Free Workplace program is not to interfere in anyone's personal life, but to improve safety in the workplace. When alcohol enters the workplace, risk and liability both rise, particularly in high-risk work environments. |
| **[1] This is only required during the initial training for new employees; however, additional training on these topics can occur when applicable federal or state regulations change, when operations at the Agency change that require a revision to the program, or when an accident investigation or safety audit warrant a plan revision.** | | |

# APPENDIX E: SPARE PARTS AND EMERGENCY INVENTORY

| Part Name | Part Description (Spare, In-service) | Quantity | Part Group (Lift Station, Force Main/Sewer Lines, Manhole, etc.) |
|---|---|---|---|
| **Emergency Mobile Generator** | Standby generator for all lift stations | 1 | Lift stations |
| **Godwin Pumps 4 inch** | Portable sewer pumps | 2 | Bypass pumps for emergency operations |
| **Godwin Pump 6 inch** | Portable sewer pumps | 1 | Bypass pumps for emergency operations |
| **7.5 HP** | Station 1 pump and motor assembly | 1 | Lift stations |
| **15 HP** | Station 2 pump and motor assembly | 1 | Lift stations |
| **40 HP** | Station 3 pump and motor assembly | 1 | Lift stations |
| **Pamrex Manholes** | Spare manhole lids on hand | 5 | Manhole |
| **Repair Clamps** | Repair clamps for pipe breakage | | Sewer Lines and Force Main |
| | 2" | 2 | |
| | 3" | 1 | |
| | 4" | 1 | |
| | 6" | 2 | |
| | 8" | 1 | |
| | 10" | 2 | |
| | 12" | 9 | |
| **Repair Bands** | | | Sewer Lines and Force Main |
| | 6" | 2 | |
| | 8" | 1 | |
| | 9" | 3 | |
| | 12" | 2 | |
| | 15" | 2 | |
| | 18" | 5 | |
| **Misc. Pipe for Line Repair** | Plastic sewer pipe | | Sewer Lines and Force Main |
| | 8" | | |
| | 6" | | |
| | 4" | | |
| **Station 1 Check Valve** | Mueller 4x6 | | Lift Stations |
| **Station 2 Check Valve** | Mueller 4x8 | | Lift stations |
| **Station 3 Check Valve** | Mueller 4x8 | | Lift Stations |
| **Station 1 Gate Valve** | Mueller 6 inch | | Lift Stations |
| **Station 2 Gate Valve** | Mueller 8 inch | | Lift Stations |
| **Station 3 Gate Valve** | Mueller 10 inch | | Lift Stations |

# APPENDIX F: EMERGENCY ACTION PLAN

# Emergency Action Plan


January 18, 2020

# Table of Contents

# Agency Master Phone List

## *Primary Employee Emergency Contacts*

David Lawrence – General Manager
Daytime: (909) 584-4018
Cellular: [redacted]

John Shimmin – Plant Manager & Health and Safety Coordinator
Daytime: (909) 584-4520
Cellular: [redacted]

Troy Bemisdarfer – Plant Supervisor
Daytime: (909) 584-4525
Cellular: [redacted]

Duty Operator (7-day rotating schedule)
Cellular: (909) 261-6645

## *Alternate Employee Emergency Contacts*

Brent Berg – Plant Operator II
Cellular: [redacted]

Nikki Crumpler – Senior Lab Analyst
Cellular: [redacted]

Chris Santillan – Plant Operator II
Cellular: [redacted]

Tyler Westplat – Operator in Training
Cellular: [redacted]

Jennifer McCullar – Finance Manager
Cellular: [redacted]

Kimberly Booth – Operations Administrative/ Laboratory Assistant
Cellular: [redacted]

Ryan Connelly – Plant Operator II
Cellular: [redacted]

Sam Essex – Plant Operator II
Cellular: [redacted]

Justin Ploense – Plant Operator II
Cellular: [redacted]

Ralph Curiel – Operator in Training
Cellular: [redacted]

Sonja Kawa – HR/Accounting Tech
Cellular: [redacted]

Bridgette Burton – Mgmt. Analyst/ Board Secretary
Cellular: [redacted]

## *Outside Agency Contacts*

### Regulatory Agencies

| | |
|---|---|
| California Regional Water Quality Control Board<br>Colorado River Basin - Region VII | (760) 776-8940 |
| California Regional Water Quality Control Board<br>Santa Ana Region | (909) 782-4130 |
| Department of Environmental Health Services | (888) 818-8988 |
| State Department of Health<br>Division of Drinking Water and Field Operations | (909) 383-4328 |
| State Office of Emergency Services<br>Emergencies Only | (800) 852-7550 |
| U.S. Forestry Service<br>Big Bear Ranger Station | (909) 866-3437 |

### Public Safety

| | |
|---|---|
| San Bernardino County Sheriff | (909) 866-0100 |
| Big Bear Fire Authority | (909) 866-7566 |

### Local Utilities

| | |
|---|---|
| **Big Bear City Community Services District** | (909) 585-2565 |
| Emergency After-Hours | (909) 585-2567 |
| Sewer Department | |
| Nathan Zamorano | (909) 584-4007<br>Cell: (909) 936-4428 |
| Water Department | |
| Jerry Griffiths | (909) 584-4008<br>Cell: (909) 936-3372 |
| **City of Big Bear Lake Department of Water and Power** | |
| Business and Emergency | (909) 866-5050 |
| Water Department | |
| Steve Wilson | (909) 866-5050 x 211 |

| | |
|---|---|
| **City of Big Bear Lake** | |
| Public Works Main Office: | (909) 866-7521 |
| | |
| Sewer Department | |
| Jason Watterson | (909) 633-2565 |
| | |
| Streets Department | |
| Jared Cheek | (909) 633-2297 |
| | |
| **San Bernardino County Water and Sanitation** | |
| 24-Hour Emergency | (760) 955-9885 or<br>(800) 554-0565 |
| | |
| **Big Bear Municipal Water District** | |
| Business | (909) 866-5796 |
| After-Hours Emergency | (909) 838-2967 |
| | |
| General Manager | |
| Mike Stephenson | (909) 289-5157 |
| | |
| West Ramp | (909) 866-2917 |
| East Ramp | (909) 866-5200 |
| | |
| **Bear Valley Electric** | (909) 866-4678 |
| | |
| **Southwest Gas** | (909) 366-4868 |
| Emergency | (877) 860-6020 |
| | |
| **Verizon** | (800) 483-2000 |

## *Contractor and Vendor Contacts*

### Local Contractors

| | |
|---|---|
| Ludecke Electrical Service | (909) 866-1900 |
| Roman's Construction | (909) 866-4270 |
| Ken Willis Construction, Inc. | (909) 641-3644 |
| Bear Valley Paving | (909) 866-4746 |
| Mile High Equipment | (909) 866-6642 |

### Non-B Hazardous Pumpers

| | |
|---|---|
| Connelly Pumping Services | (909) 584-9365 or<br>(909) 556-1120 or<br>(909) 709-5091 |
| Big Bear Disposal, Inc. | (909) 866-3942 |
| Roman's Construction | (909) 866-4270 or |
| Ken Willis Construction, Inc. | (909) 641-3644 |

### Hazardous Waste Haulers (EPA Number CA 100006264508245)

| | |
|---|---|
| Asbury Environmental | (800) 322-8882 |
| HazMat Trans (Mike Hammer) | (909) 889-5607 |

### Generator Repair/Rental

Generators:

| | |
|---|---|
| Quinn Company - Generator Division | (951) 683-5960 |

Generator Repair/Trouble:

| | |
|---|---|
| Johnson Power Systems, Generator Division | (909) 683-5960 |
| Harbor Diesel and Equipment, Inc. | (562) 591-5665 |
| Valley Power Systems | (661) 979-7956 |
| Energy Link | (661) 765-4444<br>Cell: (626) 826-4320 |

Electrical Motor Repair:

| | |
|---|---|
| Sulzer | (909) 825-7971 x 118 |

Pump Sales and Repairs:

| | |
|---|---|
| John Lisee | (562) 927-2623 |
| Cortech Engineering | (714) 779-0911 |
| Energy Link | (661) 765-4444<br>Cell: (626) 826-4320 |

Storage Tanks:

| | |
|---|---|
| Rain for Rent | (800)-742-7246 |

| | |
|---|---|
| Vehicle / Equipment Rental: | |
| Twin Bear Equipment Rentals | (909) 585-2888 |
| | |
| Electrician: | |
| Skyview Electric (Ryan Abeln) | (909) 585-3631 |
| Gierlich-Mitchell, Inc. | (714) 236-6070 |
| Mark Burnett Electronics | (909) 316-5473 |
| | |
| Specialty Pipe and Manhole Repair: | |
| Sancon | (714) 891-2323 |
| | |
| Mechanical Repair: | |
| Bear Valley Paving (JP) | (909) 866-4746 |
| | |
| Welding/Fabrication: | |
| Bear Valley Paving (JP) | (909) 866-4746 |
| | |
| Hydro and TV: | |
| Houston & Harris PCS, Inc. | (909) 686-4241 |

# Introduction

An Emergency Action Plan (EAP) covers designated actions that the Big Bear Area Regional Wastewater Agency (Agency) and employees must take to ensure employee safety from emergencies. Cal-OSHA regulations require employers to establish, implement, and maintain an EAP. The program must be in writing and include the following elements:

- the preferred means of reporting fires and other emergencies;
- a system to alert and notify employees of an emergency;
- evacuation types, procedures, and emergency escape routes;
- procedures for employees who remain to operate critical plant operations before they evacuate;
- a procedure to account for all employees after an emergency evacuation is completed;
- rescue and medical duties for those employees who are able to perform them; and
- names or regular job titles of persons or departments who can be contacted for further information or explanation of duties under the plan.

# Responsibilities of the Health and Safety Coordinator

The health and safety coordinator is responsible for implementing essential elements including planning, evaluating, and implementing the EAP. The following duties must be performed to maintain an effective EAP:

- Review and update the EAP annually or as needed.
- Train employees on the EAP, location of emergency exits, fire extinguishers, manual pull stations, first aid kits, and AEDs.
- Ensure evacuation routes are posted and walkways remain clear at all times.
- Exercise the EAP annually by either:
    - conducting a tabletop exercise; or
    - scheduling an evacuation or fire drill.

Any questions regarding the information included in this plan shall be directed to the health and safety coordinator.

# Responsibilities of Agency Personnel

When responding to unusual circumstances, use good judgment and common sense. It is important to remain calm and be certain actions taken during an emergency are safe, both to employees and visitors.

All employees are required to be familiar with the procedures contained in this plan. Employees with emergency response duties must rely upon each other to perform necessary procedures for continuity of operation, as well as account for the location and safety of all personnel. Employees are encouraged to review this plan as often as they feel necessary to fully understand the emergency procedures.

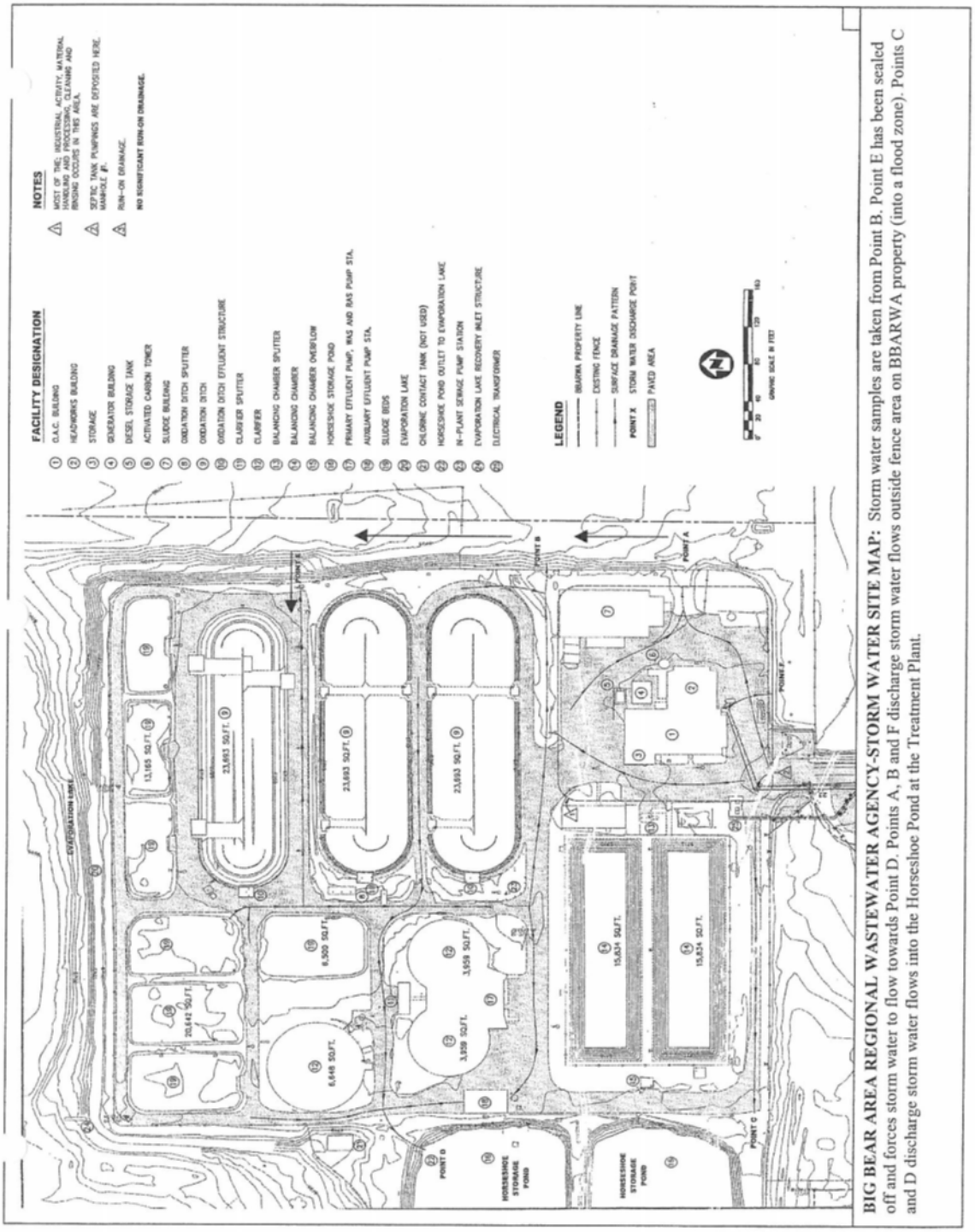
All employees are trained in CPR and the use of an AED; however, employees shall not practice outside their scope of training and are not expected or required to assist in any emergency or medical situation. The Agency relies upon the Big Bear Fire Authority and partnering agencies to provide rescue and medical assistance.

## Facility Overview

The Big Bear Area Regional Wastewater Agency (Agency) is located at 121 Palomino Drive, Big Bear City. The Agency is a Joint Powers Authority between the Big Bear City Community Services District (BBCCSD), the County of San Bernardino Special Districts (CSA 53-B), and the City of Big Bear Lake (City). The wastewater treatment and water reuse facility is owned and operated by the Agency. Additionally, the Agency owns and operates a portion of the collection system; Pump Stations 1 – 3 and the Big Bear Lake Pump Station.

The treatment system consists of preliminary treatment, secondary treatment, and sludge dewatering. The treated wastewater is discharged into storage ponds in the Lucerne Valley for use in irrigation of fodder, fiber, and seed crops.

# Facility Site Map




**BIG BEAR AREA REGIONAL WASTEWATER AGENCY-STORM WATER SITE MAP:** Storm water samples are taken from Point B. Point E has been sealed off and forces storm water to flow towards Point D. Points A, B and F discharge storm water flows outside fence area on BBARWA property (into a flood zone). Points C and D discharge storm water flows into the Horseshoe Pond at the Treatment Plant.

# Emergency Protocols – Alert and Notification

## *Reporting Emergencies*

In the event of an emergency, Agency employees shall either dial 911 or contact their direct supervisor immediately. Employees are periodically confronted with situations that could be classified as incidents or emergencies. The series of activities triggered by the discovery of such incidents can be divided into three phases:

1. discovery,
2. assessment, and
3. response.

When discovering an unusual incident, the priority of the observing personnel must be to determine if the situation is life-threatening.

**You should call 9-1-1:**

- in the event of a medical emergency;
- to report all fire incidents, **even if the fire is extinguished**;
- to report criminal or suspicious behavior; or
- if you are in doubt about the seriousness of a situation, such as any possible situation that you believe may be serious and that may result in injury, death, loss of property, apprehension of a suspected criminal, or prevention of a crime that is about to occur.

**Provide the following information to dispatch upon calling:**

- where you are; and
- the address or location of the event.

If the situation is not life-threatening (i.e. sewage spill), the observing personnel shall notify their immediate supervisor of the situation. The immediate supervisor shall assess the situation and notify the plant manager. The plant manager, or designee, will determine if the situation constitutes an emergency or reportable incident. The plant manager, or designee, will direct the appropriate response. Following evaluation of the incident, the plant manager, or designee, will report the findings with the general manager prior to declaring a reportable incident. If deemed appropriate, at any time during this process, the emergency response plan can and will be activated.

## *Alert and Notification of Employees*

The Agency has a variety of ways to alert employees to recognize emergencies and provide direction. These include:

- audible alarms,
- visual alarms/signals, or
- verbal notification.

# Emergency Protocols – Evacuation

## *Evacuation Procedures and Routes*

Many incidents could require the evacuation of all or part of the Agency facilities. All employees must evacuate the facilities when notified to do so. The type of evacuation or protective measure may be specified as part of the notification.

## *Evacuation Types*

- **Evacuation:** Evacuation is a partial or total facility evacuation due to conditions making it no longer safe to remain inside a building or specific area in a building. This level of evacuation requires occupants to move out and away from the facility being evacuated.
- **Controlled Evacuation:** Controlled evacuation is a partial or total facility evacuation due to safety conditions or an armed intruder making it no longer safe to remain inside the facility or specific area of the facility. This level of evacuation requires occupants to move out and away from the facility once notified.
- **Shelter-in-Place:** Shelter-in-place means selecting a small interior room, with no or few windows, and taking refuge there; it does not mean sealing off your entire office. Shelter-in-place is used in emergency situations where hazardous materials have been released into the atmosphere or in emergencies related to civil unrest or violent demonstrations.
- **Lockdown:** Lockdown is the temporary sheltering technique utilized to limit exposure to an armed intruder of similar incidents. When alerted, occupants of a building within the area of concern will lock all doors and windows, not allowing entry or exit to anyone until the clear has been sounded. If you are in a ground floor office or common area, take precautions and move away from glass windows and doors and seek shelter in a locked room or office.

## *Prior to Exiting*

After being notified to evacuate, stop all work activities, and evacuate immediately. Securely close departmental and office doors behind you. Laboratory personnel, if feasible, should attempt to close the laboratory door as they exit to assist with the containment of chemical reactions and fumes.

## *Evacuation Routes/Exiting the Building*

Each building has evacuation maps located at their entrances with arrows indicating proper routes to be used during an evacuation. During an emergency evacuation, use the nearest door available. Each employee needs to be aware of at least two (2) exit routes in their main building in the event one is compromised. Employees need to know how to evacuate other employees or visitors with special needs that are unable to evacuate on their own.

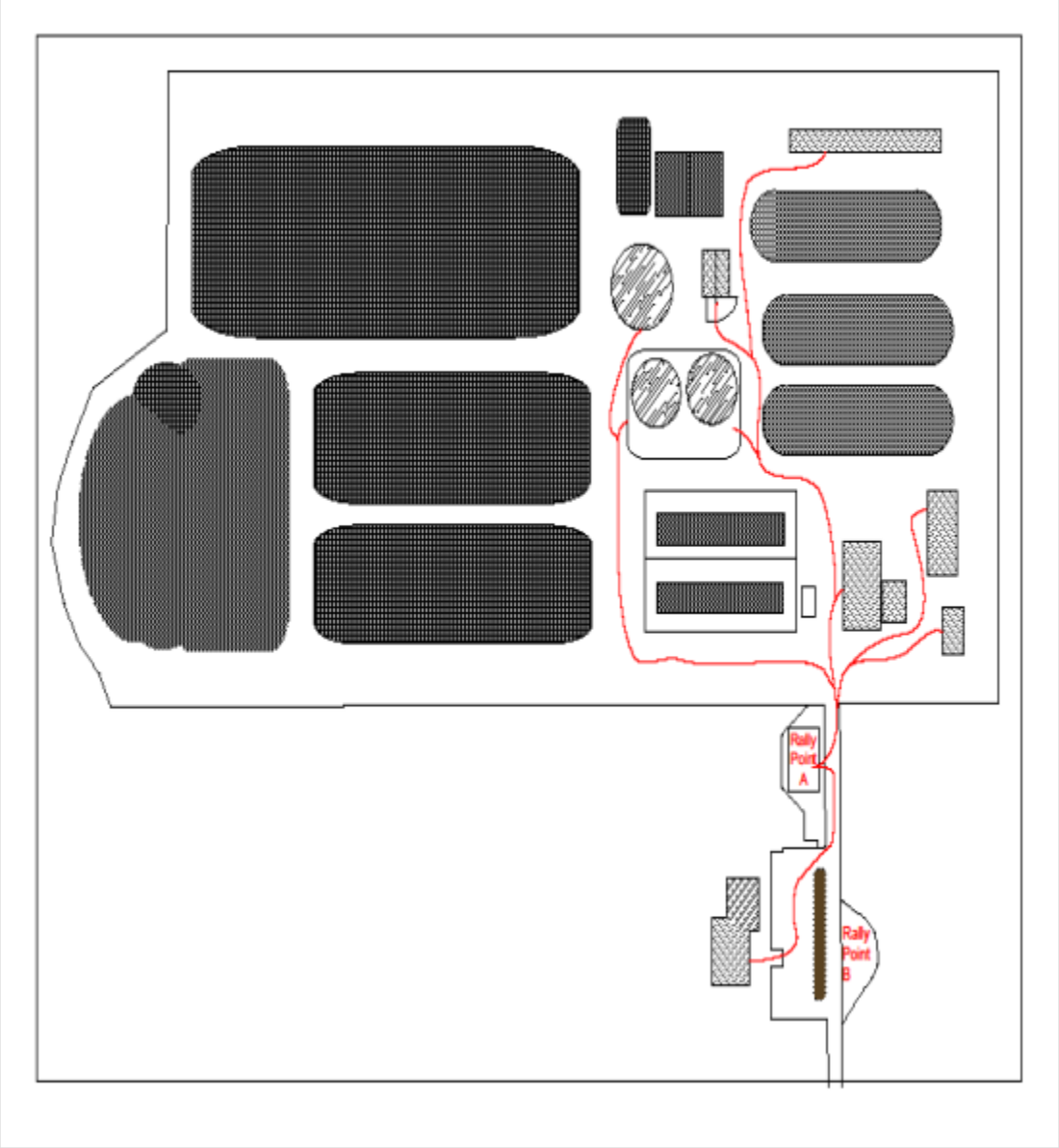
The health and safety coordinator is responsible for contacting outside vendors and contractors to ensure they have safely evacuated in accordance with the Multi-Employer Worksite Plan.

## *Rally Point*

After exiting the building, all employees and visitors should follow the evacuation route to Rally Point A. If Rally Point A is not a viable option, then employers and visitors should proceed to

Rally Point B. No one should leave the area until notified by first responders, the Incident Commander (IC), the general manager, plant manager, or supervisor. This is to avoid search and rescue efforts when time is crucial and better utilizes on other emergency response duties.

## *Evacuation Map*




## *Headcount Procedure*

The headcount will commence at the Rally Point. The administrative assistant is responsible for bringing the EAP Binder and Visitor Log to the Rally Point. If the administrative assistant is not able to retrieve the EAP Binder and Visitor Log, then any employee in the general area may retrieve it so long as they do not put themselves or others in danger by doing so. The administrative assistant, or another administrative staff member, will proceed with the headcount procedure, ensuring all employees and visitors are accounted for. Assigned staff will bring the

laminated employee information sheets to the Rally Point. The IC will initiate search and rescue teams to locate unaccounted for employees and visitors, in accordance with the procedures outlined in this plan.

# Assigned Job Responsibilities of the Agency Emergency Support Team

## *Incident Commander (IC)*

The first employee on the scene will assume the role of IC until relieved by the plant manager, their designee, or appropriate official. Once on scene, the plant manager, or their designee, shall assume the role of IC and shall have authority over all employees responding to the emergency. Instructions will be communicated to the general plant personnel verbally, by radio, or cellular phone. If a release, fire, or explosion does occur which could immediately threaten human health or the environment outside of the Agency facilities, the IC shall dial 911, declare an emergency, and notify the general manager. The IC will activate emergency personnel as needed, delegate responsibilities, and maintain the flow of communication to the general manager.

During an emergency, the IC shall take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous materials at the facility. These measures include, where applicable, stopping processes and operations, collecting, and containing releases wastes, and removing or isolating containers. The IC will proceed to establish a field command post.

During the emergency response, the IC will manage and direct all activities from the established field command post. Responding outside agencies will be requested and directed to check-in at the command post prior to being directed to the site of the incident. The IC will establish work teams (minimum of two employees), assure that communication protocol is established via radio, and all personnel are equipped with the proper PPE.

## *General Manager*

The general manager will be in direct contact with the IC and the Governing Board. He/she will coordinate the development of all public statements, provide technical assistance to the IC, coordinate internal and external remediation efforts when necessary, notify and coordinate with all appropriate local and regulatory agencies, and notify or coordinate with general counsel. If activated, he/she will report to the Big Bear Valley Mutual Aid Emergency Operations Center and provide coordination as needed.

If the plant manager is unavailable, the general manager will assume the role of IC.

## *Plant Supervisor*

The plant supervisor is responsible for providing technical assistance to the IC, conducting an initial environmental assessment of the situation, and aiding or performing duties of the IC or operators as needed.

### *Laboratory Staff*

Laboratory staff is responsible for identifying, evaluating, and assessing any suspected hazardous materials release, providing technical assistance to the IC, and recommending safe hazard techniques, and assisting the IC with PPE for personnel. Laboratory staff will maintain critical laboratory functions and assist in the preparation and submission of required reports.

### *Operators*

Operators are responsible for assessing any suspected hazardous materials release, safely applying control and clean-up procedures, and aiding the IC as needed. The assessment shall consider both direct and indirect effects of the release, fire, or explosion including the effects of any toxic, irritating or asphyxiating gases that are generated, or the effects of any hazardous surface runoff from water or chemical agents used to control fire and heat-induced explosions.

Operators will be assigned to work teams as needed and will be required to check-in with the IC every 15 minutes. Operators will fulfill daily operational functions and assist with the operation of the interceptor, disposal, and septage receiving systems.

### *Administrative Staff*

The administrative staff is responsible for fulfilling critical financial, telephone and postal functions, preparation and submission of required reports, accounting for the status of employees, assisting the IC as incident secretary, and transporting employee family members to the treatment plant if necessary. Administrative staff will ensure payment of employees and continuation of vendor compensation and uninterrupted supplies and services.

The incident secretary is responsible for checking personnel in and out of the incident area, keeping track of incident timesheets, and any other administrative support the emergency support team needs.

If the general manager is unavailable, administrative staff will assume the responsibilities of the general manager.

### *Governing Board*

The Governing Board includes all appointed Governing Board members who will provide leadership, support, and resources as necessary.

## Continuity of Operations

Depending on the severity of the emergency situation, it is likely the Agency will experience a significant increase in absenteeism. To aid in the continuity of operations, Agency staff has preliminarily identified critical and noncritical functions. By focusing on critical functions, the agency can continue providing uninterrupted wastewater collection, transport, treatment, and disposal service for member agencies and the community while protecting the health and safety of Agency employees.

| Critical | Less than Critical |
|---|---|
| Accounts Payable | Group Employee Meetings |
| Financial Checks and Balances | Safety Training |
| Check Signing and Distribution | Routine Maintenance |
| Payroll | Reclaimed Water |
| Daily Operations | Board Meetings |
| Alarm Response | Solids Handling |
| Laboratory Functions | Generator Operations |
| Interceptor and Disposal Site Operations | Board Room Rentals |
| Required Reports | Routine Reports and Paperwork |
| Septage Receiving Station | Account Receivables |
| Postal Efforts | |
| Account Transfers | |
| Telephone Operations | |
| Modified Budgets | |

# External Reporting Procedures

The general manager, or designee, is responsible for verbal and written notification to all federal, state, and local agencies of an emergency. Using the Agency Master Phone List and the Checklist for Reporting Discharge Violations, if necessary, the general manager shall:

1. Determine if the evacuation of local areas may be advisable, immediately notify local authorities, and be available to assist appropriate officials in the decision to evacuate local areas.
2. When notifying outside agencies the report shall include:
    a. name and telephone number of reporting employee;
    b. name and address of facility affected;
    c. name and type of incident (release, fire, etc.);
    d. name and quantity of material(s) involved, to the extent known;
    e. the extent of injuries and damage, if any; and
    f. possible hazards to human health or the environment.
3. Ensure that a written record of each required notification is made that includes the following:
    a. agency called;
    b. name of the person making and receiving the notification;
    c. date and time of the call;
    d. identifying incident or report number, if available; and
    e. any comments or instructions received from the outside agency.

All notification records must be maintained at the command post during the incident and included in the incident file upon the conclusion of the incident.

# Training

Employees will be trained on the information contained in this plan on an annual basis. Employees will be retrained when the plan changes due to a change in the layout or design of the

facility; when new equipment, hazardous materials, or processes are introduced that affect evacuation routes; or when new types of hazards are introduced that require special actions. The EAP will be included in the initial training requirements for new employees. Training will include:

- individual roles and responsibilities;
- threats, hazards, and protective actions;
- notification, warning, and communication procedures;
- emergency response procedures;
- evacuation, shelter, and accountability procedures;
- location and use of common emergency equipment; and
- emergency shut-down procedures.

Annually, the health and safety coordinator will coordinate an evacuation/fire drill (or tabletop exercise) and fire extinguisher training. After each exercise or drill, employees will evaluate the effectiveness, identify the strengths and weaknesses of the plan and work towards improvement.

# Earthquake Action Plan

## *Purpose*

The purpose of an Earthquake Action Plan is to ensure employees of the Agency are made aware of the required response in the event of an earthquake emergency or disaster that may occur at Agency facilities.

At any time, an earthquake incident or emergency can occur in or around the Big Bear Valley. An earthquake event requires action by Agency employees to prevent or minimize loss of life or damage to property and or natural resources. These actions shall be conducted in a professional and efficient manner utilizing the EAP, Big Bear Valley Mountain Mutual Aid Standard Operating Procedure (SOP), and an employee's best judgment.

Whenever such a condition of disaster occurs, the Agency's primary concern is the health and safety of the employees, the Governing Board, and their families. Therefore, the following procedures shall be utilized during these periods.

## *Procedures*

**During normal work hours:**

1. Take cover immediately under a desk, table, or chair. Drop and cover your head for protection from material that might fall from the ceiling, walls, or bookshelves. If you are outdoors, keep away from buildings, poles, or other structures that could collapse or overturn. Be alert for aftershocks.
2. After the shaking stops, carefully evacuate the building, assist special needs individuals in exiting the building and proceed to the Rally Point. DO NOT RETURN TO AN EVACUATED BUILDING until and unless told do to so by Agency management, the IC, or an authorized individual. Begin headcount procedures.
3. Non-duty employees may leave to check on family members. Family members may be transported to the treatment plant if needed. Administrative staff may assist with transportation needs.
4. The IC will activate the EAP, if needed, and will establish work teams. Work teams must check-in every 15 minutes with the IC. All employees must be equipped with proper PPE. The IC may assign a work team to:
    a. search and rescue unaccounted for employees and visitors,
    b. power down the treatment plant, which includes opening the main feeder breaker, disabling the generators, and closing the main gas valve;
    c. check the status and condition of the four (4) lift stations and the interceptor system; and
    d. conduct an initial assessment of the treatment plant structures and equipment which includes minimizing potential immediate hazards, conditions of structures and equipment, isolating each piece of equipment by opening the corresponding breaker, isolating natural gas lines, inspecting the hazardous waste storage area, and minimizing risks.

5. Work teams will report back to the IC with the status of their assignments. The IC will prioritize corrective actions such as restore plant electricity, secure facilities, respond to sewer leaks, and initiate repairs to equipment.

**Outside normal working hours:**

1. Any employee on site will take cover immediately under a desk, table, or chair. Drop and cover your head for protection from material that might fall from the ceiling, walls, or bookshelves. If you are outdoors, keep away from buildings, poles, or other structures that could collapse or overturn. Be alert for aftershocks.
2. After the shaking stops, carefully evacuate the building, assist special needs individuals in exiting the building and proceed to the Rally Point. DO NOT RETURN TO AN EVACUATED BUILDING until and unless told do to so by Agency management, the IC, or an authorized individual. If no employee is on-site during the earthquake, treat all buildings as evacuated buildings. Begin headcount procedures, if applicable.
3. The first employee on the scene will assume the role of IC until relieved by the plant manager, their designee, or another appropriate official. DO NOT ATTEMPT an initial assessment until your immediate supervisor, or designee arrives.
4. Non-duty employees are encouraged to immediately respond to the treatment plant after determining the status of their families. Family members may be transported to the treatment plant if needed. The timely response of non-duty employees will allow the duty operator to respond to his/her family or arrange for administrative staff to transport the family to the treatment plant.
5. The IC will activate the EAP, if needed, and will establish work teams. Work teams must check-in every 15 minutes with the IC. All employees must be equipped with proper PPE. The IC may assign a work team to:
    a. search and rescue unaccounted for employees and visitors,
    b. power down the treatment plant, which includes opening the main feeder breaker, disabling the generators, and closing the main gas valve;
    c. check the status and condition of the four (4) lift stations and the interceptor system; and
    d. conduct an initial assessment of the treatment plant structures and equipment which includes minimizing potential immediate hazards, conditions of structures and equipment, isolating each piece of equipment by opening the corresponding breaker, isolating natural gas lines, inspecting hazardous waste storage area, and minimizing risks.
6. Work teams will report back to the IC with the status of their assignments. The IC will prioritize corrective actions such as restore plant electricity, secure facilities, respond to sewer leaks, and initiate repairs to equipment.

All employees are authorized to respond to the treatment plant regardless of their ability to contact their immediate supervisor. All responding employees will be compensated in accordance with the Personnel Policies and Procedures Manual.

# Fire Prevention Plan

## *Purpose*

The purpose of the Fire Prevention Plan is to establish procedures for identifying fire hazards and preventing fires. All employees are expected to follow the procedures outlined in this plan.

## *Potential Ignition Sources and Material Storage Location*

Wastewater treatment and support operations at the treatment plant pose several potential fire hazards. Wastewater treatment operations use polymer and aromatic odorant which are flammable. Dry granular hypochlorite is considered an oxidizer and is incompatible with organic materials; however, is not combustible. Caustic impregnated carbon used in the Headworks carbon odor control unit may react exothermically if exposed to air under static conditions.

The Laboratory uses a variety of flammable chemicals; however, these are used in small quantities under laboratory hoods. They are stored in approved containers or the manufacturer's original containers. Due to the controlled use conditions, the laboratory use, and storage of these chemicals do not present a major hazard.

The Operation, Maintenance Shop, Sludge Dewatering, and Storage Buildings contain the following flammable and combustible materials:

- acetylene gas for oxyacetylene welding operations;
- organic-based paints and thinner;
- lubricating oil;
- used lubricating oils, paint thinner and used oily rags; and
- propane.

Additional information regarding spills can be found in the Spill Prevention and Contingency Plan portion of this document.

## *Fire Prevention and Control Procedures*

Controls are keys to fire prevention, early detection, and prompt notification. Controls at the treatment plant can be grouped into the following categories:

- procedures including general procedures, housekeeping, inspections, notification procedures, and fire suppression equipment maintenance; and
- fire drills and periodic training.

**Fire Extinguishers**

Fire extinguishers are located throughout the facility in open areas and within buildings. The number, size, and type of portable fire extinguishers needed to protect the facility are selected in accordance with provisions found in applicable local codes. Employees are trained in fire extinguisher use annually.

Portable fire extinguishers are classified for use on certain types of fires. The Agency has classes A, B, and C combined fire extinguishers located in all buildings and agency vehicles.

**General Procedures**
The following general procedures are used at the treatment plant to reduce the potential for fires and explosions:

- personnel are trained in basic fire protection principals such as the proper use of portable fire extinguishers and emergency notification;
- maintaining good housekeeping prevents unnecessary accumulations of flammable and combustible materials;
- above ground storage containers used to store flammable or combustible liquids/gas are labeled with proper easily identifiable labels;
- above ground tanks are protected against vehicular damage;
- storage of combustible materials near ignition sources is prohibited;
- open flame or flame-producing devices are prohibited near any potentially flammable atmosphere;
- flammable liquids are grounded during transfer;
- smoking is prohibited when using flammable liquids or gasses;
- personnel are trained in the proper handling of oxidizers such as hypochlorite; and
- personnel are trained in operating and shutdown procedures of the Headworks carbon odor control unit.

**Housekeeping**
The accumulation of flammable or combustible materials is controlled so that excess quantities do not contribute to a fire emergency. The plant maintenance supervisor is responsible for maintaining good housekeeping practices and limiting quantities of flammable or combustible materials in the work areas. Combustible materials are isolated from sources of ignition.

**Fire Extinguisher Inspection**
A member of the treatment plant staff verifies the proper placement of fire extinguishers each month. The inspection tag on each fire extinguisher is initialed to note that the extinguisher is in its proper place and is adequately charged. An outside firm is contracted to recharge and maintain the extinguishers annually.

## *Procedures*

**During normal work hours:**

1. The observing employee shall pull the fire alarm and dial 911. Employees may attempt to extinguish fires that are relatively small and confined to a limited location with a portable fire extinguisher.
2. Employees shall carefully evacuate the building, assisting special needs individuals in exiting the building and proceed to the Rally Point. DO NOT RETURN TO AN EVACUATED BUILDING until and unless told do to so by Agency management, the IC, or an authorized individual. Begin headcount procedures.
3. Non-duty employees may leave to check on family members. Family members may be transported to the treatment plant if needed. Administrative staff may assist with transportation needs.
4. The IC will activate the EAP, if needed, and will establish work teams. Work teams must check-in every 15 minutes with the IC. All employees must be equipped with proper PPE. The IC may assign a work team to:

a. search and rescue unaccounted for employees and visitors,
b. power down the treatment plant, which includes opening the main feeder breaker, disabling the generators, and closing the main gas valve;
c. check the status and condition of the four (4) lift stations and the interceptor system; and
d. conduct an initial assessment of the treatment plant structures and equipment which includes minimizing potential immediate hazards, conditions of structures and equipment, isolating each piece of equipment by opening the corresponding breaker, isolating natural gas lines, inspecting hazardous waste storage area, and minimizing risks.

5. Work teams will report back to the IC with the status of their assignments. The IC will prioritize corrective actions such as restore plant electricity, secure facilities, respond to sewer leaks, and initiate repairs to equipment.

**Outside normal working hours:**

1. The observing employee shall pull the fire alarm and dial 911. Employees may attempt to extinguish fires that are relatively small and confined to a limited location with a portable fire extinguisher.
2. Employees shall carefully evacuate the building, assisting special needs individuals in exiting the building and proceed to the Rally Point. DO NOT RETURN TO AN EVACUATED BUILDING until and unless told do to so by Agency management, the IC, or an authorized individual. If no employee is on-site during the outbreak of the fire, treat all buildings as evacuated buildings.
3. DO NOT ENTER ANY BUILDING until and unless told do to so by Agency management, the IC, or an authorized individual. Begin headcount procedures, if applicable.
4. The first employee on the scene will assume the role of IC until relieved by the plant manager, their designee, or another appropriate official. DO NOT ATTEMPT an initial assessment until your immediate supervisor, or designee arrives.
5. Non-duty employees are encouraged to immediately respond to the treatment plant after determining the status of their families. Family members may be transported to the treatment plant if needed. The timely response of non-duty employees will allow the duty operator to respond to his/her family or arrange for administrative staff to transport the family to the treatment plant.
6. The IC will activate the EAP, if needed, and will establish work teams. Work teams must check-in every 15 minutes with the IC. All employees must be equipped with proper PPE. The IC will assign a work team to:
    a. search and rescue unaccounted for employees and visitors,
    b. power down the treatment plant, which includes opening the main feeder breaker, disabling the generators, and closing the main gas valve;
    c. check the status and condition of the four (4) lift stations and the interceptor system; and
    d. conduct an initial assessment of the treatment plant structures and equipment which includes minimizing potential immediate hazards, conditions of structures and equipment, isolating each piece of equipment by opening the corresponding

breaker, isolating natural gas lines, inspecting hazardous waste storage area, and minimizing risks.

7. Work teams will report back to the IC with the status of their assignments. The IC will prioritize corrective actions such as restore plant electricity, secure facilities, respond to sewer leaks, and initiate repairs to equipment.

All employees are authorized to respond to the treatment plant regardless of their ability to contact their immediate supervisor. All responding employees will be compensated in accordance with the Personnel Policies and Procedures Manual.

# Active Shooter Plan

An active shooter is an individual actively engaged in killing or attempting to kill people in a confined and populated area; in most cases, active shooters use firearms(s) and there is no pattern or method to their selection of victims.

Active shooter situations are unpredictable and evolve quickly. Typically, the immediate deployment of law enforcement is required to stop the shooting and mitigate harm to victims. Because active shooter situations are often over within 10 to 15 minutes, before law enforcement arrives on the scene, individuals must be prepared both mentally and physically to deal with an active shooter situation.

**Good practices for coping with an active shooter situation:**

- Be aware of your environment and any possible dangers.
- Take note of the two nearest exits in any facility you visit (evacuation).
- If you are in an office, stay there and secure the door (shelter-in-place).
- If you are in a hallway, get into a room and secure the door.
- As a last resort, attempt to take the active shooter down. When the shooter is at close range and you cannot flee, your chance of survival is much greater if you try to incapacitate him/her.

**CALL 911 WHEN IT IS SAFE TO DO SO!**

**How to respond when an active shooter is in your vicinity:**
Quickly determine the most reasonable way to protect your own life. Remember that visitors are likely to follow the lead of employees and managers during an active shooter situation.

**Evacuate:**
If there is an accessible escape path, attempt to evacuate the premises. Be sure to:

- have an escape route and plan in mind;
- evacuate regardless of whether others agree to follow;
- leave your belongings behind;
- help others escape, if possible;
- prevent individuals from entering an area where the active shooter may be;
- keep your hands visible;
- follow the instructions of any police officers;
- do not attempt to move wounded people; and
- call 911 when you are safe.

**Hideout or Shelter-in-Place:**
If evacuation is not possible, find a place to hide where the active shooter is less likely to find you. Your hiding place should:

- be out of the active shooter's view;
- provide protection if shots are fired in your direction (i.e., an office with a closed and locked door);
- do not trap yourself or restrict your options for movement;

- to prevent an active shooter from entering your hiding place, lock the door; and
- blockade the door with heavy furniture.

**If the active shooter is nearby:**
- lock the door;
- silence your cell phone and/or pager;
- turn off any source of noise (i.e., radios, televisions);
- hide behind large items (i.e., cabinets, desks); and
- remain quiet.

If an active shooter is in the vicinity of Agency facilities, the general manager or plant manager may initiate a lockdown.

**If evacuation and hiding out or sheltering-in-place are not possible:**
- remain calm;
- dial 911, if possible, to alert police to the active shooter's location; and
- if you cannot speak, leave the line open and allow the dispatcher to listen.

**Information to provide to law enforcement or 911 operator:**
- location of the active shooter;
- number of shooters, if more than one;
- physical description of shooter/s;
- number and type of weapons held by the shooter/s, and
- the number of potential victims at the location.

**Take action against the active shooter:**
As a last resort, and only when your life is in imminent danger, attempt to disrupt and/or incapacitate the active shooter by:
- acting as aggressively as possible against him/her,
- throwing items and improvising weapons,
- yelling, and
- committing to your actions.

**How to respond when law enforcement arrives:**
Law enforcement's purpose is to stop the active shooter as soon as possible. Officers will proceed directly to the area in which the last shots were heard.

- officers may wear regular patrol uniforms or external bulletproof vests, Kevlar helmets, and other tactical equipment;
- officers may be armed with rifles, shotguns, and handguns;
- officers may use pepper spray or tear gas to control the situation;
- officers may shout commands and may push individuals to the ground for their safety;
- remain calm and follow officers' instructions;
- put down any items in your hands (i.e., bags, jackets);
- immediately raise hands and spread fingers;

- keep hands visible at all times;
- avoid making quick movements toward officers such as holding on to them for safety;
- avoid pointing, screaming, and/or yelling; and
- do not stop to ask officers for help or direction when evacuating, just proceed in the direction from which officers are entering the premises.

The first officers to arrive at the scene will not stop to help injured persons. Expect rescue teams comprised of additional officers and emergency medical personnel to follow the initial officers. These rescue teams will treat and remove any injured persons. They may also call upon able-bodied individuals to assist in removing the wounded from the premises.

Once you have reached a safe location or designated Rally Point (this may be different than the normal Rally Point), you will likely be held in that area by law enforcement until the situation is under control, and all witnesses have been identified and questioned. Do not leave until law enforcement authorities have instructed you to do so.

# Pandemic Outbreak Contingency Plan

## *Purpose*

Identify and establish procedures and methods to continue providing uninterrupted wastewater collection, transport, treatment, and disposal service for the Member Agencies and the community while protecting the health and safety of agency employees during a pandemic.

**Anticipated Challenges**

- continue providing services during the loss of 35-50% of staff,
- illnesses can last up to three weeks,
- depth of employee knowledge and sufficient cross-training,
- essential vendors and suppliers, and
- key personnel and back-ups.

**Proactive Planning**

Prior to the onset of a pandemic, the Agency will plan for the impacts of a pandemic, review the plan, practice/participate with tabletop exercises and establish work teams of employees responsible for specific duties/tasks to ensure the continuation of operations.

**Employee Safety**

To aid in protecting the health and safety of Agency employees, during a pandemic, several non-routine procedures will be in effect:

- isolation of Agency facilities;
- mandatory use of accumulated leave time;
- donning of PPE (gloves and masks) upon entering premises;
- prohibition of group meetings;
- avoiding close contact, within six feet of others;
- mandatory telecommuting;
- restricted use of community telephones and computers;
- accumulation limits on leave time waived;
- unlimited participation in "Mutual Aid" programs; and
- modification of pay rates and schedules.

## *Activation of the Plan*

The general manager may implement the plan upon the advice of a state or county health official, or local government official, when any of the preceding declares an emergency, or when the Agency experiences 20% or more unplanned absenteeism.

During an emergency, it is common for emotions to run high, an increased sense of fear, anxiety, confusion, and dread, ineffective decision making, feelings of hopelessness or helplessness, and for individuals to exhibit fight or flight syndromes. Therefore, it is important that employees process information in a rational and logical manner, stay informed, participate in communication efforts, and be part of the response.

## *Procedure*

1. The general manager will declare an emergency and activate the EAP.
2. Secure all exterior doors and gates to the Administration Building, Operations Building, and treatment plant gates.
3. Signs will be posted at the Administration Building, treatment plant gate, and workstations.
4. PPE will be distributed to employees.
5. The IC will establish work teams based on the Agency's needs to provide continuity of service.
6. Administrative Operating Directives will be distributed:
    a. availability/unavailability for work,
    b. leave time accrual waivers,
    c. pay and timesheet documentation, and
    d. mandatory PPE usage.

**After Action**

- return to normal operations,
- identify impacts to coworkers and their family, and
- adjustments, counseling, etc.

# Spill Prevention and Contingency Plan

## *Purpose*

The Big Bear Area Regional Wastewater Agency Spill Prevention and Contingency Plan is prepared for the purpose of identifying the Agency's plan for controlling accidental spills and for minimizing the effects of such events.

This plan identifies the possible sources of accidental loss or the discharge of untreated or partially treated wastewater or other materials used in the wastewater treatment process and evaluates the effectiveness of the present facilities and procedures.

## *Treatment Plant Facility*

Accidental spillage could occur at the following locations within the treatment plant:

### Headworks

Should an obstruction occur between the Headworks and the Oxidation Ditch splitter box, untreated wastewater will back up into the Headworks grit chamber and influent channels. High water alarms in the Headworks would alert plant personnel to the impending problem. During non-working hours, the alarm system would activate the auto-dialer to call the duty operator and alert him/her to the impending problem.

If this situation were not corrected, accidental discharge of raw sewage would occur from the overflow of the influent channels in the headworks. Overflow from the Headworks would discharge to the in-plant storm drainage system, which could discharge to Baldwin Lake through drainage point "A" (see Facility Drainage Site Map). To prevent the potential discharge to Baldwin Lake, treatment plant operators would open the total influent flow meter bypass valves and would isolate drainage from point "A" using available emergency dike material. Operators would then set up portable pumps to pump the sewage from the Headworks to Oxidation Ditches. The Agency maintains four emergency pumps on-site, with additional pumps available from the Big Bear City Community Services District, the City of Big Bear Lake, and the County. Contact information is listed on the Big Bear Area Regional Wastewater Agency Master Phone List.

To prevent accidental obstructions, grates over the Headworks influent channels must be checked and maintained to prevent loose items from falling into the channels. Grating or other items such as 55-gallon drums could plug the main influent line if they fell into one of the influent channels.

### Manhole #1

Should an obstruction occur in the trunk line between Manhole #1 (see Facility Drainage Site Map) and the Headworks, the untreated wastewater will back up into Manhole #1. If this situation is not corrected, an accidental release would occur, and spillage would flow to the Horseshoe Pond through the in-plant storm drain system at the west end of the plant. This release would blend with secondary effluent to be disposed of at the Lucerne Valley Disposal Site.

Upon the discovery of a discharge from Manhole #1, treatment plant operators will open the bypass valve which allows flow from the trunk line into the force main before the flow meter and divert the influent flow from Manhole #1 to Oxidation Ditch #2 by using a portable pump, as discussed in paragraph two (2) in the Headworks section above.

Manhole #1 is the unloading point for septic haulers. A spill could occur should a hauler improperly insert the discharge line into the manhole. Septic haulers are monitored to ensure that discharge lines are properly hooked-up. This section of the influent line tends to accumulate grit and rocks from the septic and the entire interceptor system. Hydro-cleaning of this section will be scheduled annually or more frequently as indicated by routine inspection, to prevent grit accumulation and obstructions in the influent line.

## Main Plant Flow Valves & Sluice Gates

Critical main plant flow valves that must remain either in an open or closed position to prevent discharge, will be locked or tagged. This will prevent accidental discharge due to vandalism or operator error. Operators are trained in the proper operation of valves and sluice gates, where the sequence of opening and closing valves or removing and installing sluice gates is critical.

## Oil and Anti-Freeze

Oil and anti-freeze are delivered to the treatment plant in 55-gallon drums and stored in the Oil Storage Room on the north side of the Operations Building. Waste oil is stored in the Sludge Building Garage storage area. The 55-gallon drums of oil, waste oil and anti-freeze are stored on secondary containment units. The drums are secured to prevent them from tipping over or falling off the secondary containment units during earthquake movement. In addition, the secondary containment units are bolted to the floor. Small spills could occur during the transfer of materials to small containers. A spill kit will be maintained at the treatment plant to contain and clean-up oil and antifreeze spills.

## Sludge Treatment Coagulant

Loss of coagulant inside the Sludge Building would drain into the floor drains, which lead to the in plant sewer. The polymer would, therefore, be passed through the treatment units without harm to the process equipment and/or biological mass within the plant. The polymer is delivered in plastic tote bins. The spill potential is minimal because there is no transfer from a bulk tank truck through hoses into the Sludge Building. If a polymer spill was to occur outside of the Sludge Building, the spill would be contained by available dike material and cleaned up.

## Other System Failures

Failure of any other treatment process unit or equipment would not result in an accidental discharge. All other treatment tanks are at ground level and designed with sufficient freeboard to prevent overflow onto the plant site. Flow-through the entire plant is by gravity. The natural gas generators have sufficient capacity to provide the power to pump up to 9.8 MGD through the Auxiliary Pump Building.

## Interceptor System

The Agency interceptor system consists of the North Shore Interceptor, Lake Interceptor, and the BBARWA Trunk Line. The North Shore Interceptor has three pump stations and approximately

5.5 miles of interceptor line along the north shore of Big Bear Lake from Manhole #1 to Manhole #75 at Division Street and Aeroplane Boulevard, serving CSA-53B. The Lake Interceptor consists of the Lake Pump Station (LPS) and 6.0 miles of force main from LPS to the Wastewater treatment plant, serving the City of Big Bear Lake. The BBARWA Trunk Line (formally the BBCCSD Trunk Line) runs 5.5 miles from Division Street and Aeroplane Boulevard to the Wastewater treatment plant and serves the BBCCSD and CSA-53B.

Each manhole will be inspected yearly to locate potential sources of stoppages or spills caused by the accumulation of debris. The gravity section of the interceptor system will be hydro-cleaned every three years at a minimum, and TV'd every six years. Cleaning and inspection schedules will be adjusted when visual or TV inspection identifies a problem area.

A failure of any part of the interceptor system could result in an accidental discharge. Potential sources of failure, mitigation, and preventative measures are as follows:

## Lift Station Failure

Failure of a lift station could result in an accidental discharge to the lift station site. If not corrected in a timely manner the discharge would flow to adjacent property.

Steps that would be taken to mitigate the effects of failure are outlined below.

- Plant staff and member agencies would respond with personnel and equipment to make repairs.
- Local haulers would be dispatched to pump and haul influent flows to another downstream station or manhole.
- The upstream station will be manually operated to control flows to the faulty station,
- A quantity of sand would be delivered by a local contractor and a berm created around the lift station to contain the spillage.
- A portable pump can be used to pump sewage from the wet well at Lift Station #2 to Air Release #1 that approximately 500 ft east of Station #2.

All stations are equipped with back-up power systems. These systems are tested weekly and start automatically in the event of a power failure. All lift station equipment is on a preventive maintenance schedule to reduce unexpected equipment downtime.

Each pump station is equipped with a high-water level, low water level, pump fail, A/C out, generator failure, dry well flood, smoke alarm failure, and building intrusion alarms. Pressure sensing transducers are utilized to monitor wet well water levels. Redundant float switches are utilized to indicate a high-water alarm and actuate a pump in case of transducer failure. Operators will also have the ability to control pumps from the office and from remote locations via the SCADA computer. This will reduce the response time to a potential problem to a matter of minutes as opposed to the current time of approximately one hour in traffic.

## Line Failure

Failure of an interceptor line could result in an accidental loss. Steps that will be taken to mitigate the effects of failure are outlined below.

- The section of the failed gravity line will be plugged at both the upstream and downstream sides; portable pumps and hoses will be used to transport the sewage around

the failed section.

- If the failed section of the line is in a portion of the force main, the upstream lift station will be taken out of service.
- Use sand or dike material to create a berm to contain any spilled sewage.
- Local haulers would be dispatched to pump and haul sewage to a downstream station or a manhole located in a downstream gravity section.
- Local contractors will be engaged to make repairs as soon as possible.

## Lake Interceptor Force Main Failure

Additional steps that can be taken to mitigate the effects of a failure of the Lake Interceptor Force Main are outlined below.

- Turn off pumps at the Lake Pump Station.
- Determine needs (Pond No. 1A holds approximately 0.6 million gallons with one-foot of freeboard and Pond No. 1 holds approximately 4.2 million gallons with one-foot of freeboard).
- Flow can be bypassed to the BBARWA Trunk Line by opening the bypass valve at Division Drive and Aeroplane Boulevard. Manholes should be monitored to assure that gravity lines are not surcharged during peak flows (contact Big Bear City Community Services District Sewer Department).
- For line failure between the Lake Pump Station and Division Drive, the bypass can be used to drain the line while pumps are turned off and flow is diverted to Ponds 1 and 1A.
- If a line failure occurs between the Division Drive flow meter and the treatment plant, then the by-pass can be used to divert flow to the BBARWA Trunk Line while pumping continues. The valve to the Lake Interceptor flow meter must be closed to isolate the downstream line.
- Drain Valves: 4-inch blow-off assemblies are installed at two locations at low points to facilitate draining the force main. The first blow-off assembly is at Paradise Way south of Elysian Boulevard (see Sheet 31 on Lake Interceptor Drawings) and discharges to Trunk Line Manhole #30. The second blow-off assembly is at Country Club Boulevard and Drake Avenue (see Sheet 33 on Lake Interceptor Drawings) and discharges to an 8-inch sewer manhole in the Big Bear City Community Services District (BBCCSD) system.

# High Flow Operations and Spill Prevention

## *Purpose*

During the winter months, or when flows exceed treatment plant capacity, follow these procedures to prevent accidental discharge of untreated wastewater.

## *Trunk Line & Interceptor System*

1. Monitor influent flows, when a steady flow from CSA 53B/BBCCSD exceeds 2.5 MGD (not peak flow). Contact a supervisor to assist with inspecting the trunk line and North Shore manholes.
   - Teal Drive and Fairway Boulevard is the best indicator of potential high flow issues. Problems can occur when the flow exceeds ¾ pipe. Measure the depth of flow; log and continue to monitor for increases in the flow.
2. If at any time a gravity line is surcharged more than what would be expected for the amount of flow, assume the line is plugged. Contact a hydro-vactor unit to clean the affected section of the gravity line.
3. If sewage is backed up in a manhole to a level that could potentially cause an overflow, the use of a portable pump should be installed to divert sewage past the flow restriction or problem area to a downstream manhole. Set up a pump at Manhole #21 and run 497 ft of hose to Manhole #19. If needed, set up an additional pump at Manhole #20 and run 387 ft of hose to Manhole #18. If portable pumps are unavailable, contact a pump truck to help convey the sewage to another location.
4. Maintain 4" and/or 6" discharge hose for the portable pumps, suction lines, fittings, gaskets, and adapter fittings. Ensure pumps are properly maintained and batteries are charged. Block heaters should be plugged in and conditioner added to fuel during winter months. Confirm pumps have adequate fuel and oil. Be sure to grab the necessary tools to assemble discharge lines.

## *High Flow at Treatment Plant*

1. Review Main Plant Flow (MPF) Valving (see Plant Flow Diagram) to ensure maximum flow through the plant with minimum restrictions.
   a. Open clarifier splitter box gates.
   b. Open gates to both balancing chambers.
   c. Open MPF-7 SP.
   d. Confirm MPF1 is closed.
   e. Clean the Junction Manhole (JMH) screen frequently.
2. Check the mechanical bar screen for debris and proper operation. Rake the manual bar screen frequently.
3. Place the grit channel in service to reduce head pressure. Placing the grit channel in service will change the total influent flow to an incorrect reading and requires manual calculations of flow.
4. As a last resort, bypass the total influent flow meter and City flow meter. This will require supervisor approval prior to bypassing.

5. To avoid damage to the Oxidation Ditch rotor equipment and/or the power plant, monitor the ditch submergence gauges and do not exceed 11" of submergence. If at any time the rotor submergence is 12" or more, turn off all of the rotors in the Oxidation Ditches until the submergence drops below 11" or less. **Note: Rotors have been known to turn off and on during high flows due to over-temperature trip and can restart automatically.**
6. Other options to reducing head on the plant include opening the ditch splitter gate to Ditch #1 and/or #3 to reduce the submergence on Ditch #2. Change the flow to ditches from series to parallel. **Note: A change to ditch gating may cause immediate clarifier washout.**
7. Place all three (3) clarifiers in service to increase capacity and minimize the washout of solids from the clarifiers. If blankets are close to washing out, confirm plant valving to prevent an effluent violation.
8. Increasing the return activated sludge (RAS) flow will add to the total hydraulic loading on the treatment plant and needs to be considered when adjusting.
9. Polymer can be added when the blankets can no longer be controlled by conventional means. Polymer dosage to the clarifiers shall be done by attaching a hose at primary by-pass and routing it to either Ditch #1 or #3 weirs. Start polymer at 100 SPM and lower as soon as possible, especially overnight. **Note: Exceeding the dosage of polymer can jam the clarifier sweeps and break the clarifier's shear pin. Flush out the polymer line when usage is complete.**
10. If the blanket levels reach 9' in Clarifiers #1 and #2 or 10' in Clarifier #3 and high flows are constant, wash out of solids can be avoided by turning off rotors**.** When the blankets are stable again turn on one rotor per ditch (Rotors #1, #4, and #7). Closely monitor the clarifiers and attempt to get all the rotors on as soon as possible. **Note: This should only be used as a last resort option.**
11. Monitor Horseshoe Pond storage to maintain maximum storage capacity. Maintain an adequate level in the pond to avoid having to bring unnecessary pumps online. When the Horseshoe Pond level has increased after peak flows, pump the pond level down low to be ready for next peak flow.
12. Monitor reservoir level, Overflow Structure, and Disposal Site Ponds in Lucerne Valley:
    a. Open the 14" B.F.V. on the east side of the Overflow Structure to avoid spilling from the Overflow Structure (see attached drawings).
    b. During normal operations flow is discharged through the 14" overflow line to the Disposal Site Ponds. Additional flow can be discharged to the Disposal Site Ponds through the 18" line by opening the south 14" B.F.V. valve at the Disposal Site Ponds.
    c. When running two or three auxiliary effluent pumps for an extended period of time, the reservoir level can back up above the level of the Overflow Structure because of a flow restriction at the 14" line from the reservoir to the Overflow Structure. To avoid this, open the valve to the 12" line to allow part of the flow to bypass the reservoir and flow directly to the overflow structure. This valve may be throttled partially open to avoid excess air and splashing in the overflow structure (see map*).*
13. All excess effluent flow is to be discharged to the disposal ponds, not to the fields. The maximum flow allowed on the fields is 4.8 MGD.

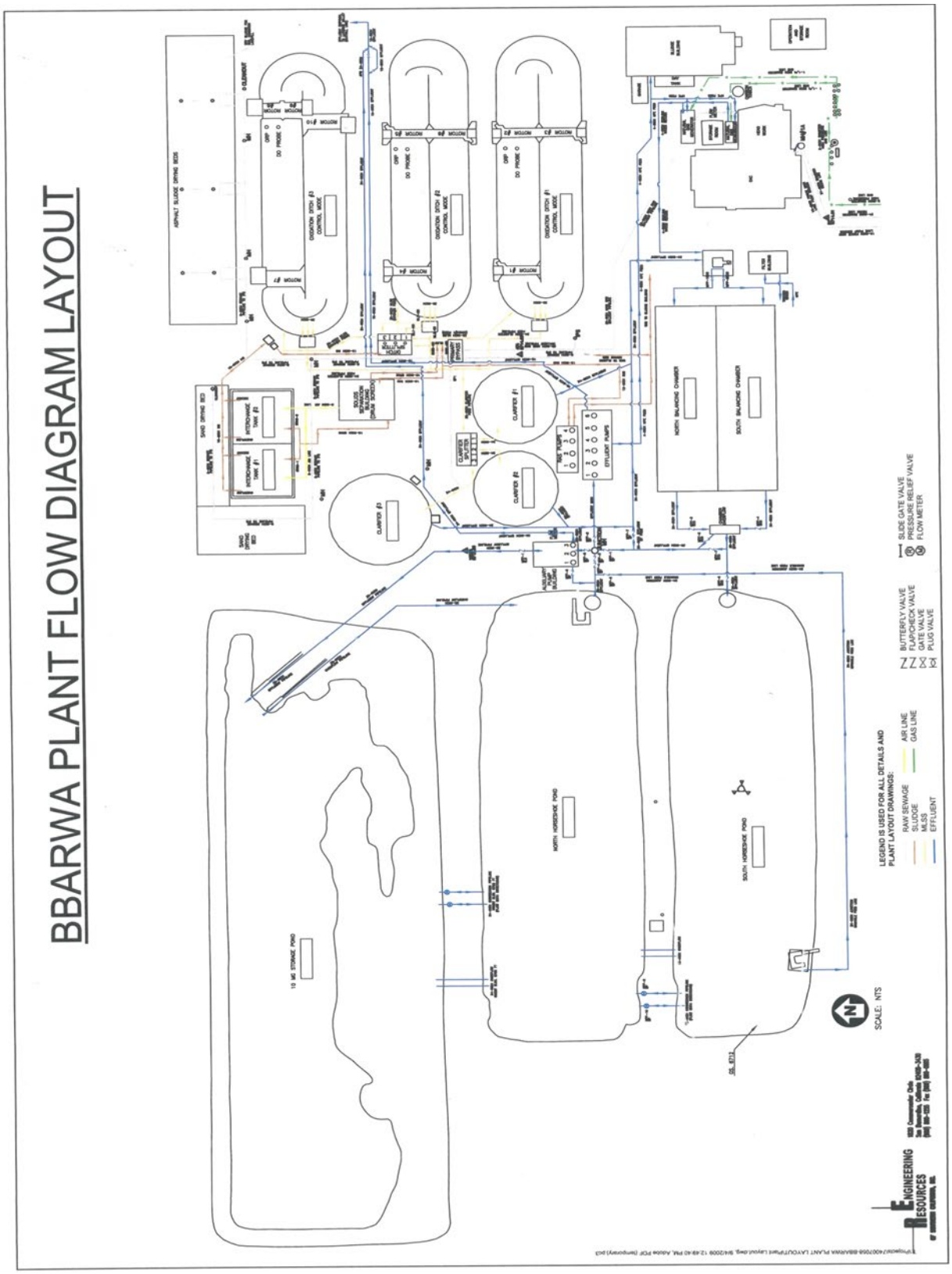
## *High Flow at Lake Pump Station*

1. There are 5 large storage ponds at LPS that can hold excess flow, however, the Agency's property line only includes Ponds 1 and 1A. If capacity at the treatment plant has been exceeded or if LPS pumps cannot keep up with excessive flows, the sewage will be stored in Ponds #1 and #1A. Pond capacities include:

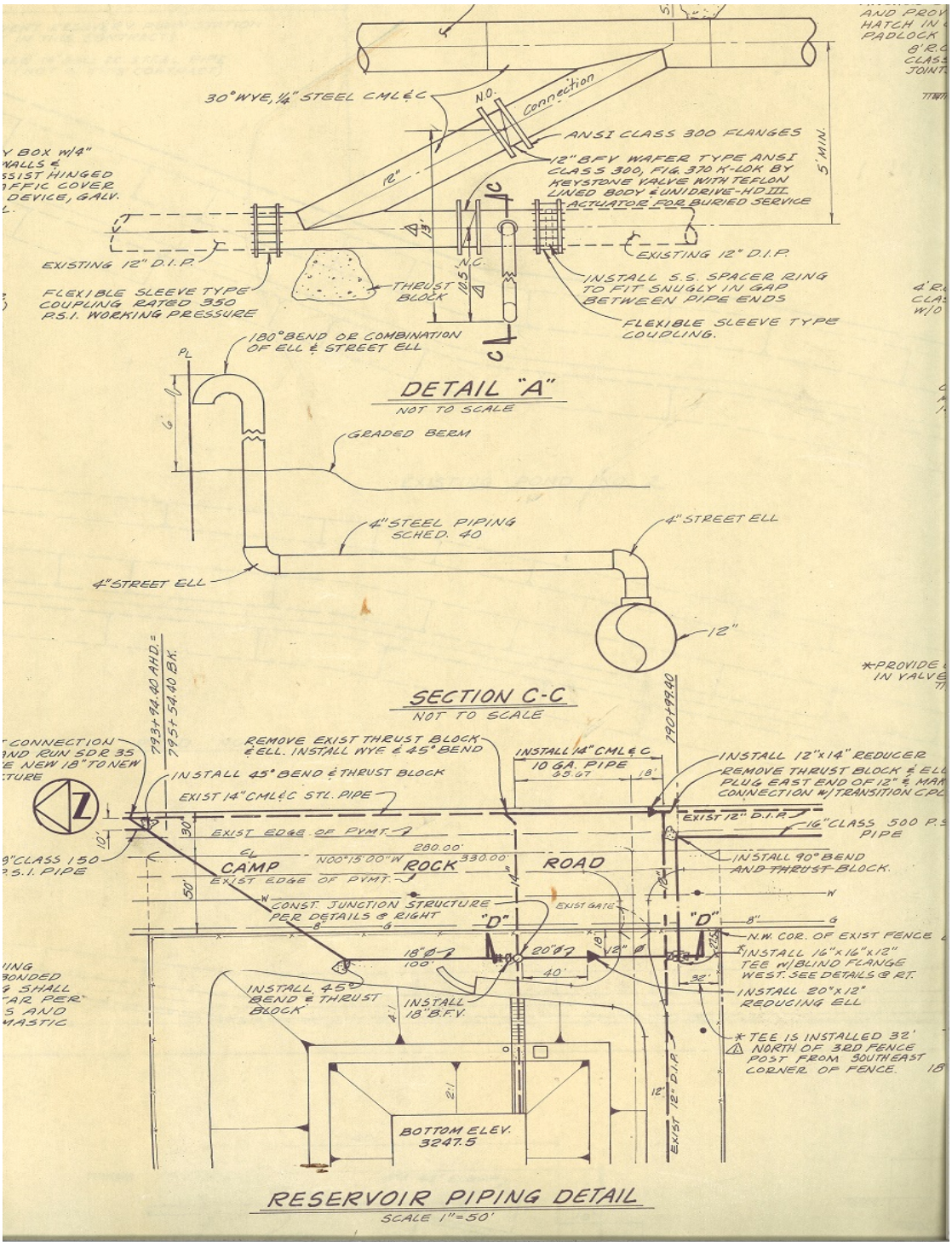
| Pond # | Capacity |
|---|---|
| 1 | 4.61 MG |
| 1A | 0.88 MG |
| 2 | 6.68 MG |
| 3 | 6.44 MG |
| 4 | 4.71 MG |
| 5 | 9.45 MG |
| Total | 32.77 MG |

2. Stormwater run-off from Garstin Road should not be allowed to flow into the ponds. Grading at the site needs to be maintained to maximize storage capacity and minimize drainage to the ponds.
3. Confirm the valve between Pond #1 and Pond #1A is open to maximize storage capacity.
4. If flows exceed the capacity of Ponds #1 and #1A, contact the City of Big Bear Lake Public Works to remove any equipment stored in remaining ponds prior to overflowing to them.

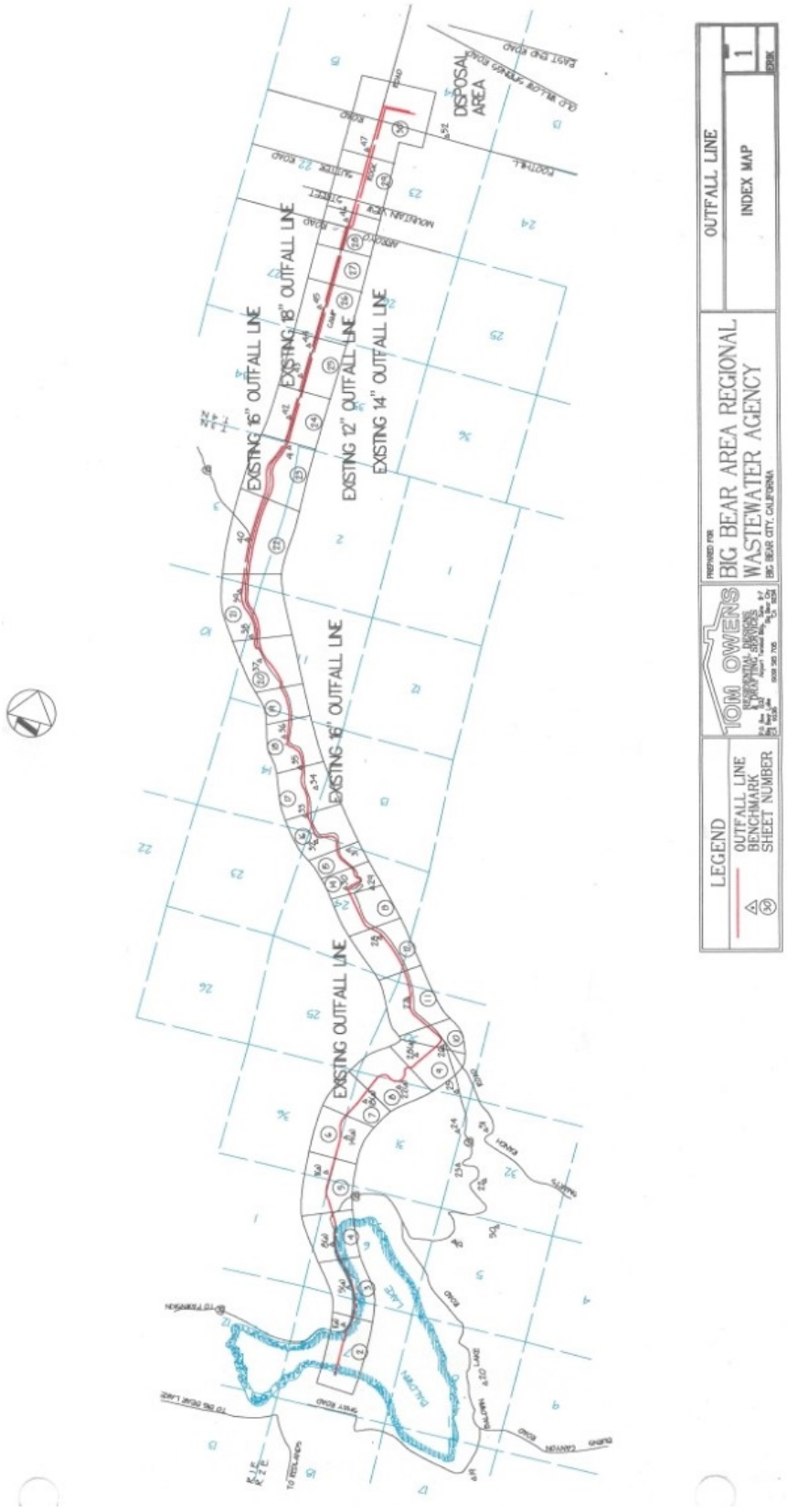
# BBARWA Plant Flow Diagram Layout



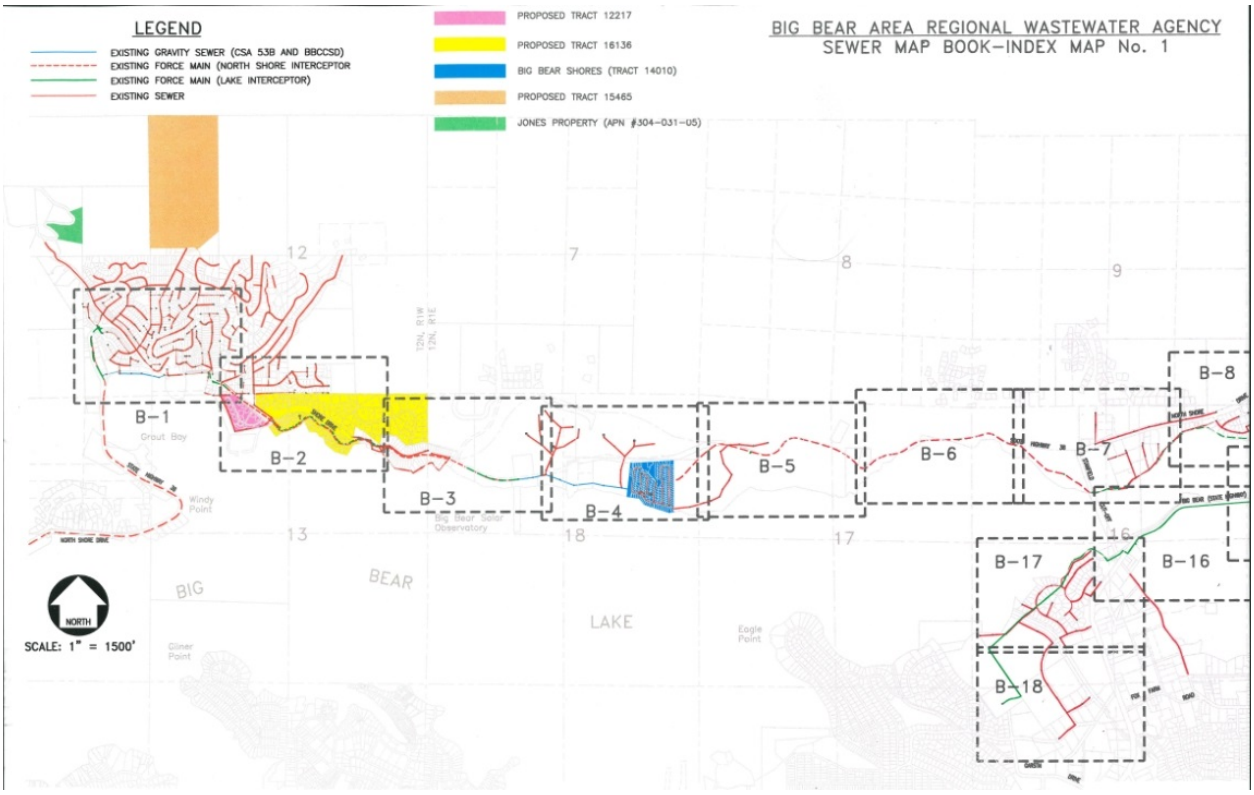
# BBARWA Reservoir Piping Detail



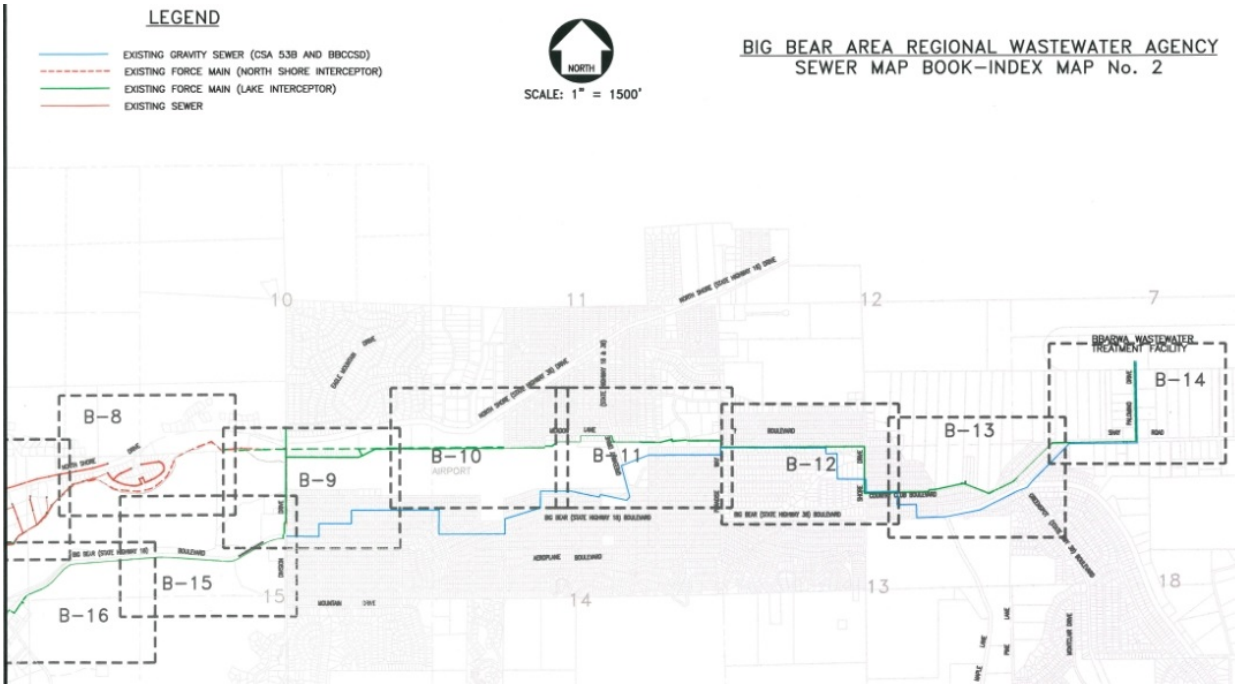
# BBARWA Outfall Line



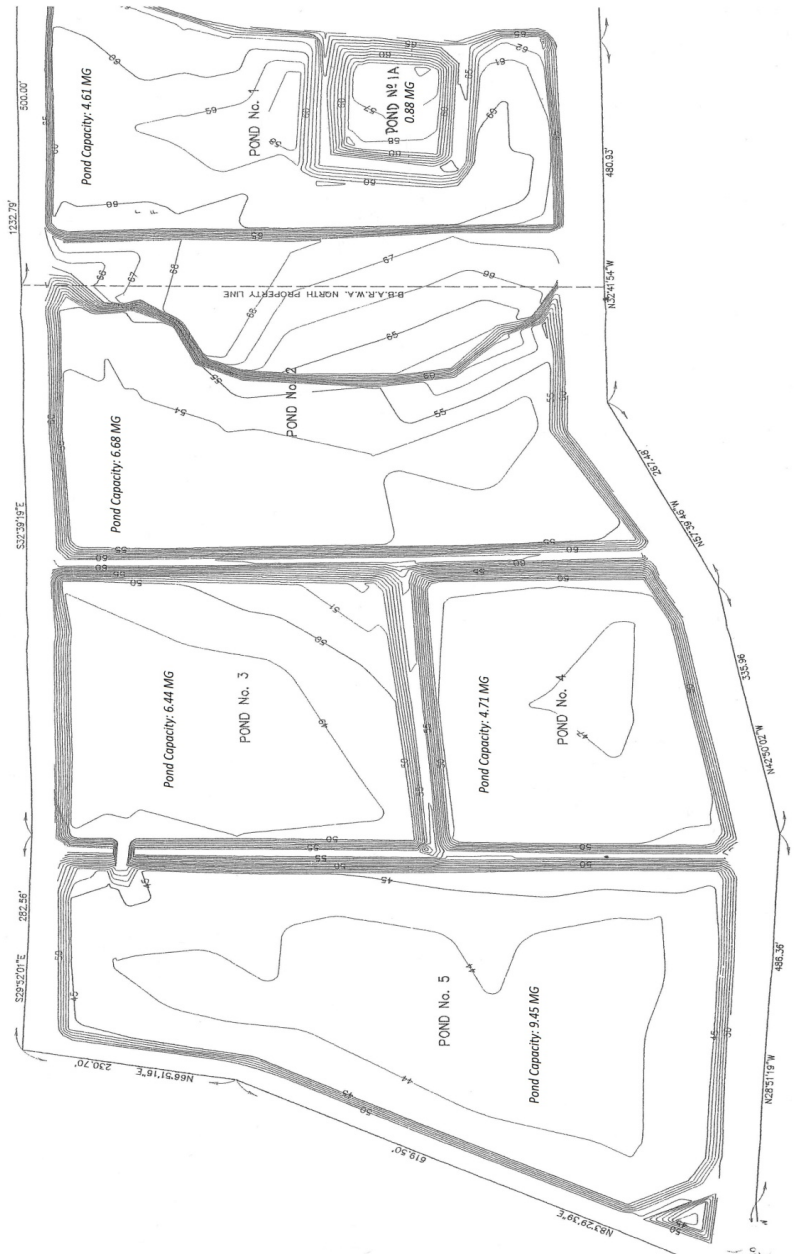
# BBARWA Sewer Trunk Line Plans




# BBARWA Sewer Lines



# BBARWA Capacity Diagram (LPS, Ponds 1-5, and China Gardens)



# Sewage Spill Reporting

A Sanitary Sewer Overflow (SSO) is an overflow, spill, release, discharge, or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs often contain high levels of suspended solids, pathogenic organisms, toxic pollutants, nutrients, oil, and grease. SSOs pollute surface and ground waters, threaten public health, and adversely affect aquatic life.

## *Sanitary Sewer Overflow (SSO)*

SSOs fall into one of three categories: Category 1, Category 2, and Category 3. The definitions for each category are listed below.

### 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 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 municipal separate storm sewer system is considered to have reached surface water unless the storm drain system discharges to a dedicated stormwater or groundwater infiltration basin (e.g., infiltration pit, percolation pond).

### Category 2

Discharges of untreated or partially treated wastewater of **1,000 gallons or greater** resulting from an enrollee's sanitary sewer system (SSS) failure or flow condition that **do not** reach surface water, a drainage channel, or a municipal separate storm sewer system unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.

### Category 3

All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.

## *Reporting SSO*

On adoption in 2006, and amendment effective September 9, 2013, the SSO WDRs required enrollees to begin reporting all SSOs to the SSO Database. The reporting deadline for the submittal of an SSO report depends on the classification of the spill. For Category 1 and 2 SSOs, the enrollee must submit an initial, draft report of the SSO as soon as possible but no later than 3 business days after becoming aware of the SSO. The final, certified report for Category 1 and 2 SSOs must be submitted within 15 calendar days of the SSO end date.

Notification to Cal OES is required within two hours of becoming aware of a Category 1 SSO greater than or equal to 1,000 gallons that results or may result in a discharge to surface waters. Specifically, the enrollee shall, as soon as possible, but not later than two (2) hours after (A) the enrollee has knowledge of the discharge, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures, notify the California Office of Emergency Services (Cal OES) and obtain a notification control number.

All SSO data is entered into the California Integrated Water Quality System (CIWQS) Online SSO

Database (http://ciwqs.waterboards.ca.gov/), certified by enrollee's Legally Responsible Official(s).

Report 1,000-gallon sewage releases to California Emergency Management Agency Warning Center – (800) 852-7550.

The following procedure is to be used when a discharge or threat of discharge occurs:

1. Verify discharge, damage, and course of action.
2. Immediately notify work crews to begin taking corrective action and begin clean-up procedures.
3. Notify the plant manager and general manager.
4. Make a complete report of the incident. Include date, time, names, addresses, damage, and cause (if known), the approximate area exposed, gallons discharged and affected downstream areas.

The following is the policy of the Agency for reporting discharge or a threat of discharge violations to the proper authorities. It is arranged in the proper sequence of events. All addresses, contact people, and phone numbers are listed at the end. Notification of a discharge violation must be reported immediately after the discovery of the violation. A written report of the incident is then sent to all agencies as per the required format.

1. Notify the California Office of Emergency Services (Cal OES) – (916) 845-8911.
2. Notify the Regional Water Quality Control Board of the region where the violation occurred. The Colorado River Basin is north of Nelson Ridge – (760) 346-7491 and the Santa Ana Region is south of Nelson Ridge – (909) 782-4130. Both Boards have a recorder on their phones so the call can be made at any time.
3. Notify the California State Health Services office in San Bernardino – (909) 383-4328 and advise them of the violation.
4. Notify the San Bernardino County Department of Environmental Health Services – (800) 442-2283.
5. Notify the following agencies when a discharge violation occurs at the following locations.

    a. Discharge into Big Bear Lake: notify Big Bear Municipal Water District – (909) 866-5796.
    b. Discharge into Baldwin Lake, into a creek (even if dry): notify the local office of the U.S. Forest Service – (909) 866-3437.
    c. Discharge on any Forest Service Property: notify the local office of the U.S. Forest Service – (909) 866-3437.

A follow-up letter will be sent to all concerned agencies covering the information in the Sewage Spill Report. The plant manager will ensure all notification and reports are completed in accordance with the required timelines.

# Sewage Spill Report

## BIG BEAR AREA REGIONAL WASTEWATER AGENCY

Address/Location of Spill: _____

Date: _____ Time BBARWA Notified: _____ am/pm

Verify discharge: [ ] On property [ ] Off property

a. [ ] Mainline [ ] Lateral [ ] Other _____

BBARWA responsible for discharge? [ ] Yes [ ] No

Describe:_____

_____

_____

Immediately notify work crews to stop discharge and begin cleanup. Assist any affected entity as much as possible to prevent further damage.

Time work crew was notified: Date: _____ Time: _____ am/pm

Address/Location of Spill:

Date: Time BBARWA Notified _____ am/pm

1. Verify discharge On property Off property
   Mainline Lateral Other _____
2. Is BBARWA responsible for the discharge? Yes No
   Describe:
3. Immediately notify work crews to stop the discharge and begin to clean up. Assist any affected entity as much as possible to prevent further damage.
   Time work crew was notified: Date: _____ Time: _____ am/pm
4. Notify plant supervisor, plant manager, general manager, and regulatory admin.
   4a. Begin notification of all organizations and individuals.
   4b. Document notification (Agency Master Phone List).

5. Name of owner where property damage occurred:

Address:_____ Phone Number: _____

Additional Notes: _____

_____

_____

6. Inventory: Take pictures and notes of all damage and inventory of all property. (Get occupant's signature on the list). Pictures should show the extent of the spill.

| **ITEM** | **DESCRIPTION** |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

7. Drinking water sources threatened (wells, water mains, lakes, streams, or creeks)?
Circle one Yes No
If yes, please explain: _____

_____

_____

_____

8. Volume that flowed into drinking water source:_____

_____

9. Volume to lake or stream: _____

10. Duration: How long did flow continue? _____

11. Volume estimate: _____

How many gallons flowed? _____ gallons, affected area: _____ sq. ft.

12. Mitigation: What actions were taken to lessen the

damage?_____

_____

_____

_____

_____

13. Control to prevent human contact and odors:_____

_____

_____

_____

_____

14. Prevention: Actions taken to prevent reoccurrence:

15. Clean-up: bury, disk, and disinfect, etc.: _____

16. Repairs: _____

17. Cost breakdown: labor/equipment/material: _____

LABOR

| **Name** | **Hours** | **$/Hour** | **Total $** |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | Total Labor | $ |

| **Unit** | | | |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | Total Equip. | $ |

| **Material** | | | |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | Total Material | $ |

# Notifications for Sewer Spills

(list of agencies to be notified)

California Office of Emergency Services
3650 Shriver Ave.
Mather, CA. 95655
(916) 845-8911

California Regional Water Quality Control Board
Colorado River Basin, Region VII
73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260
(760) 346-7491

California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348
Phone (909) 782-4130

State Water Resource Control Board
Division of Drinking Water and Field Operations
464 W. 4th Street, Room 437
San Bernardino, CA 92401
(909) 383-4328

Department of Environmental Health Services
385 N. Arrowhead Avenue
San Bernardino, CA 92415-0160
(800) 472-2376, prop 65 report 24 hour # (800) 442-2283

Big Bear Municipal Water District
P.O. Box 2863
Big Bear Lake, CA 92315
(909) 866-5796

U. S. Forest Service, Big Bear Ranger District
P.O. Box 290
Fawnskin, CA 92333
(909) 866-3437

## CHECKLIST FOR REPORTING DISCHARGE VIOLATION

1. RWQCB, Santa Ana Region

   Date: _____ Time Called: _____ Person Contacted: _____

2. RWQCB, Colorado River Basin

   Date: _____ Time Called: _____ Person Contacted: _____

3. State Office of Emergency Services

   Date: _____ Time Called: _____ Person Contacted: _____

4. Department of Environmental Health Services

   Date: _____ Time Called: _____ Person Contacted: _____

5. State Department of Health

   Date: _____ Time Called: _____ Person Contacted: _____

6. Big Bear Municipal Water District

   Date: _____ Time Called: _____ Person Contacted: _____

7. U. S. Forest Service

   Date: _____ Time Called: _____ Person Contacted: _____

8. BBARWA

   Plant Supervisor Date: _____ Time Called: _____

   Plant Manager Date: _____ Time Called: _____

   General Manager Date: _____ Time Called: _____

   Regulatory Admin Date: _____ Time Called: _____

# APPENDIX G: SPILL VOLUME WORKSHEET

Worksheets provided from *A Guide for Developing and Updating of Sewer System Management Plans, September 2015.*

## SPILL VOLUME WORKSHEET

The purpose of this worksheet is to capture the data and method(s) used in estimating the volume of an SSO. Since there are many variables and often unknown values involved, this calculation is just an estimate. Additionally, it is useful to use more than one method, if possible, to validate your estimate.

The following methods and tools are the approved methods in the SOP CS-103 *SSO Response*. Check all methods and tools that you used:

- ☐ Eyeball Estimate Method
- ☐ Measured Volume Method
- ☐ Duration and Flow Rate Method (Account for diurnal flow pattern for long duration)
- ☐ USD SSO Flow Rate Estimating Tool
- ☐ Other (explain) i.e.; estimated daily use per capita upstream or meter @ Pump Station.

_____

_____

_____

**<u>Eyeball Estimate Method</u>- Imagine a bucket(s) or barrel(s) of water tipped over.**

| Size of bucket(s) or barrel(s) | How many of this Size? | Multiplier | Total Volume Estimated |
|---|---|---|---|
| 1 gal. water jug | | X 1 | |
| 5 gal. bucket | | X 5 | |
| 32 gal. trash can | | X 32 | |
| 55 gal drum | | X 55 | |
| Total Volume Estimated Using Eyeball Method | | | |

**Measured Volume Method** (this may take several calculation as may have to break down the odd shaped spill to rectangles, circles, and polygons) It is important when guessing depth to measure, if possible in several locations and use an average depth. Use the SSO Volume Estimate by Area Work Sheet , if necessary, to sketch the shapes and show your work.

1. Draw a sketch of the spill SSO Volume Estimate by Area Work Sheet, or use a photo copy of USD block book to draw on and attach it.
2. Draw shapes and dimensions used on your sketch
3. Use correct formula for various shapes

| | |
|---|---|
| Rectangle | L x W x D |
| Circle | 3.14 x $R^2$ x D |
| Polygons see reference chart | Show formula used |

**Duration and Flow Rate Method worksheet:**

| | |
|---|---|
| Start Date and Time | 1. |
| End Date and time | 2. |
| Total time elapsed of SSO event (subtract line 1 from line 2. Show time in minutes) | 3. |
| Average flow rate GPM (account for diurnal pattern) | 4. |
| Total volume estimate using duration and flow rate method (Line 3 x Line 4) | 5. |

## Estimating Sewer Flow Rates from Overflowing Sewer Manholes[1]

**5 gpm**

**25 gpm**

**50 gpm**

**100 gpm**

**150 gpm**

**200 gpm**

**225 gpm**

**250 gpm**

**275 gpm**

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

## 2.6.7.2 SSO Volume by Area Estimation Work Sheet

Surface: ☐ Asphalt ☐ Concrete ☐ Dirt ☐ Landscape ☐ Inside Building Other _____

(Draw / Sketch outline of Spill 'Footprint' and attach photos)

*~~ Breakdown the 'Footprint' into Recognizable Shapes and Determine Dimensions of Each Shape ~~*

Area #1_____ % Wet _____

☐ Stain. Depth1_____ Depth2 _____ Depth3 _____ Depth4 _____ Depth5 _____ Depth6 _____

Area #2_____ % Wet _____

☐ Stain. Depth1_____ Depth2 _____ Depth3 _____ Depth4 _____ Depth5 _____ Depth6 _____

Area #3_____ % Wet _____

☐ Stain. Depth1_____ Depth2 _____ Depth3 _____ Depth4 _____ Depth5 _____ Depth6 _____

Area #4_____ % Wet _____

☐ Stain. Depth1_____ Depth2 _____ Depth3 _____ Depth4 _____ Depth5 _____ Depth6 _____

Area #5_____ % Wet _____

☐ Stain. Depth1_____ Depth2 _____ Depth3 _____ Depth4 _____ Depth5 _____ Depth6 _____

## SSO Volume by Area Estimation Work Sheet



Area #6_____ % Wet _____

☐ Stain. Depth1_____ Depth2 _____ Depth3 _____ Depth4 _____ Depth5 _____ Depth6 _____

Area #1 Square Feet: _____ x % Wet _____ = _____ Sq/Ft

Ave Depth: _____ ☐ Concrete 0.0026' ☐ Asphalt 0.0013'

Volume: _____ Cu/Ft

Area #2 Square Feet: _____ x % Wet _____ = _____ Sq/Ft

Ave Depth: _____ ☐ Concrete 0.0026' ☐ Asphalt 0.0013'

Volume: _____ Cu/Ft

Area #3 Square Feet: _____ x % Wet _____ = _____ Sq/Ft

Ave Depth: _____ ☐ Concrete 0.0026' ☐ Asphalt 0.0013'

Volume: _____ Cu/Ft

Area #4 Square Feet: _____ x % Wet _____ = _____ Sq/Ft

Ave Depth: _____ ☐ Concrete 0.0026' ☐ Asphalt 0.0013'

Volume: _____ Cu/Ft

Area #5 Square Feet: _____ x % Wet _____ = _____ Sq/Ft

Ave Depth: _____ ☐ Concrete 0.0026' ☐ Asphalt 0.0013'

Volume: _____ Cu/Ft

Area #6 Square Feet: _____ x % Wet _____ = _____ Sq/Ft

Ave Depth: _____ ☐ Concrete 0.0026' ☐ Asphalt 0.0013'

Volume: _____ Cu/Ft

Total Volume:

#1 _____, #2 _____, #3 _____, #4 _____, #5 _____, #6 _____ = _____ *cu ft

_____ *cu ft x 7.48 gallons = _____ **gallons Spilled.**

## CONVERSIONS

** To convert inches into feet: Divide the inches by 12.

Example: 27" / 12 = 2.25'

Or Use Chart A

Example: 1 ¾" = ?

1" (0.08') + ¾" (0.06') = 0.14'

** One Cubic Foot = 7.48 gallons of liquid.

**Chart A**

Conversion:

| Inches | to | 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' |

## GEOMETRY

For the purposes of this work sheet, the unit of measurement will be in feet for formula examples.

Area is two-dimensional - represented in square feet. (Length x Width)

Volume is three-dimensional - represented in cubic feet. (Length x Width x depth) or (Diameter Squared) $D^2$ x 0.785 x depth.

### A Note about Depth

Wet Stain on a Concrete Surface - For a stain on concrete, use 0.0026'. This number is 1/32" converted to feet. For a stain on asphalt use 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 by SPUD staff. A known amount of water (one gallon) 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. 1/32" was the most consistently accurate depth on concrete and 1/64" for asphalt. This process was repeated several times.

Sewage "Ponding" or Contained – Measure actual depth of standing sewage whenever possible. When depth varies, measure several (representative) points, determine the average and use that number in your formula to determine volume.

### Area/Volume Formulas

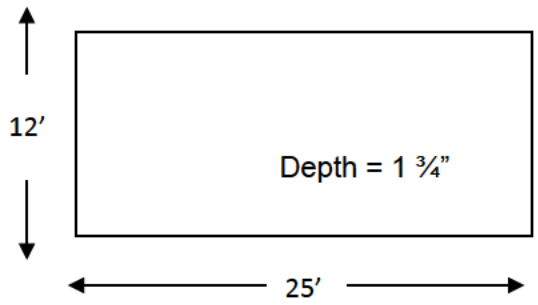
Area is two dimensional and is represented as Square Feet (Sq. Ft.)

Volume is three dimensional and is represented as Cubic Feet (Cu. Ft.)

One Cubic Foot = 7.48 gallons

## AREA/VOLUME OF A RECTANGLE OR SQUARE

Formula: **Length x Width x Depth** = Volume in Cubic Feet




Length (25’) x Width (12’) x Depth (0.14’)

25’ x 12’ x 0.14’ = 42 Cubic Feet.

Now the Volume in Cubic Feet is known.

There are 7.48 Gallons in one Cubic Foot

So, 42 Cubic Feet x 7.48 gallons/cubic feet = 314 Gallons

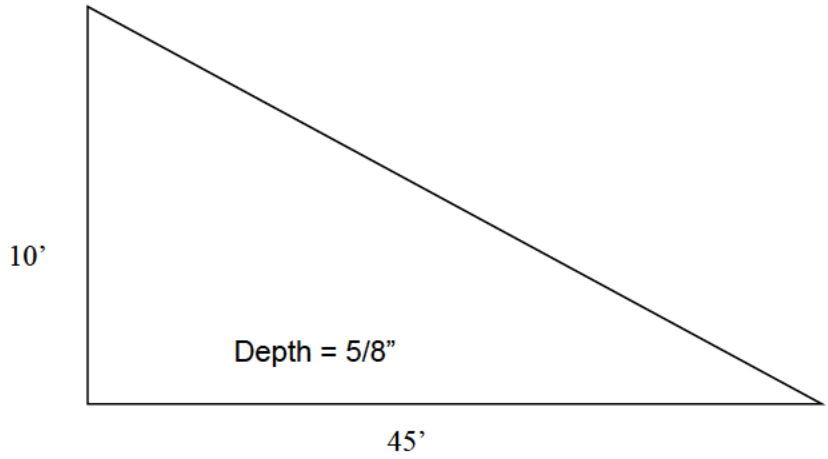
**Chart A**

Conversion:

| 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’ |

AREA/VOLUME OF A RIGHT TRIANGLE

Base x Height x 0.5 x Depth = Volume in Cubic Feet




Base (45’) x Height (10’) x 0.5 x Depth (.05’) x 7.48 gallons/cubic foot = 84 gallons

For Isosceles Triangles (two sides are equal lengths),
Break it down into two Right Triangles and compute area
as you would for the Right Triangle above.

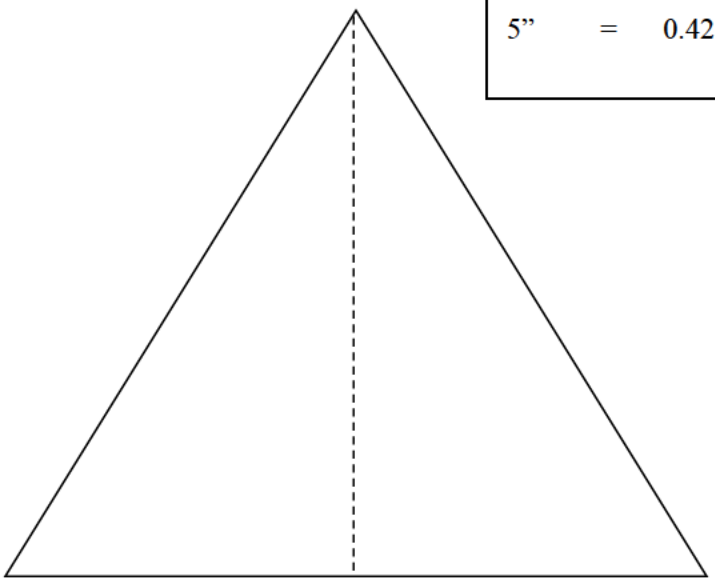


**Chart A**

Conversion:

| Inches | to | 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’ |

AREA/VOLUME OF A CIRCLE/CYLINDER

$D^2 \times 0.785 \times d$

Diameter Squared x 0.785 x Depth = Volume in cubic feet.

Diameter = Any straight line segment that passes through the center of a circle.

For our purposes, it is the measurement across the widest part of a circle.

D2 x 0.785 x depth = Volume in cubic feet

Example:

27' x 27' x 0.785 x 0.03 = 17.17 cubic feet

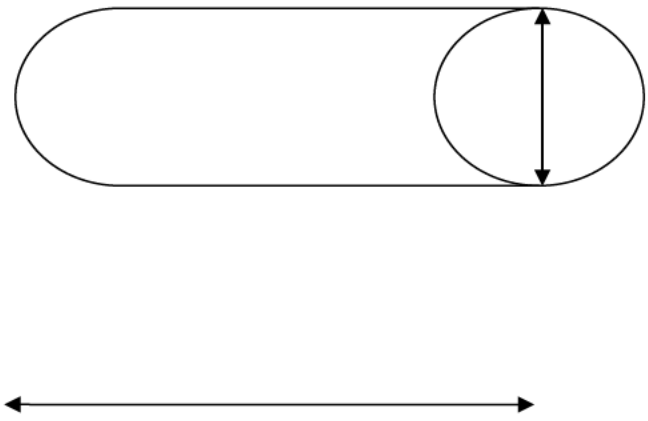
17.17 cubic feet x 7.48 gallons/cubic feet = 128 gallons

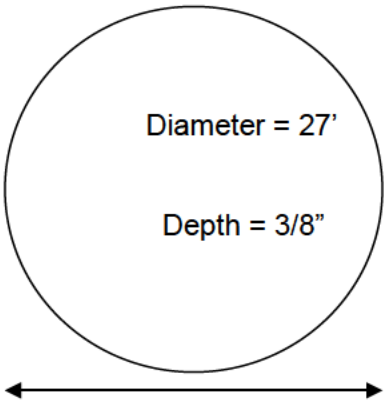
**Chart - A**

Conversion:

Inches to 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' |

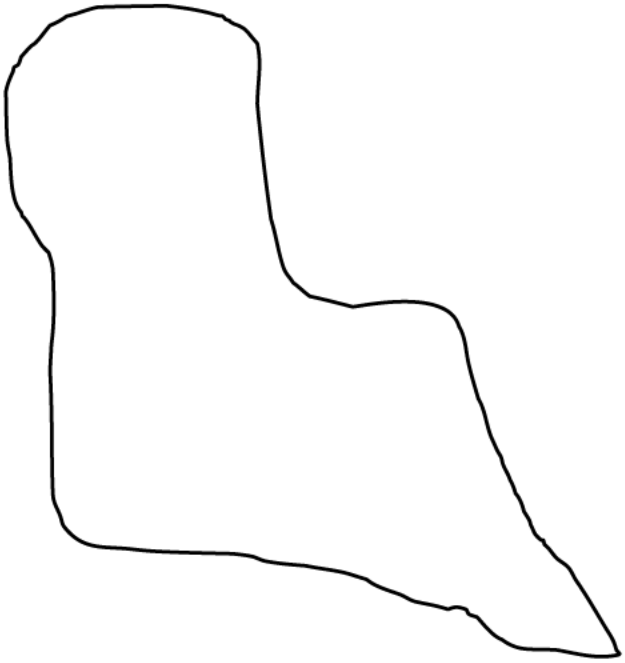




## SSO Volume by Area Estimation Work Sheet



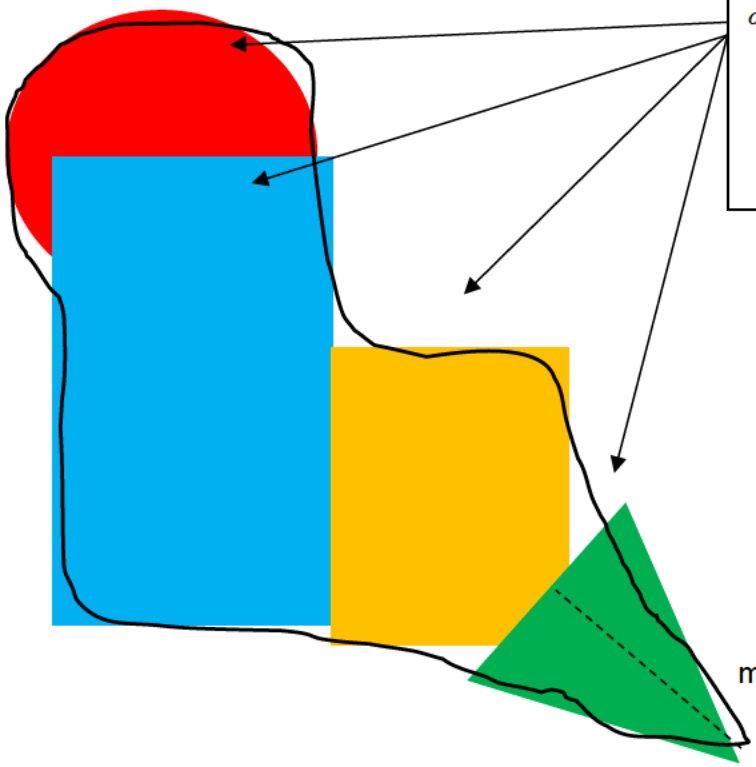
Find the geometric shapes within the shape. If this was the shape of your spill, break it down, as best you can, with the shapes we know.



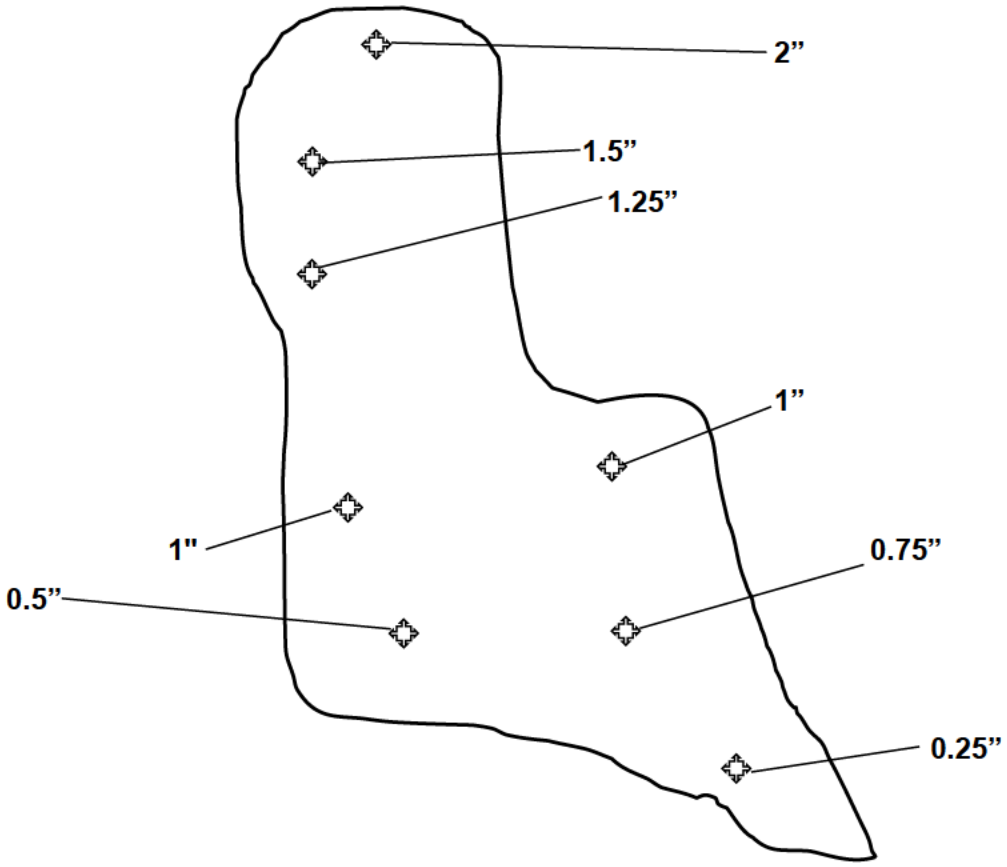
1. Determine the volumes of each shape.

*In this example, after the volume of the circle is determined, multiply it by 55% (+/-) so that the overlap area won't be counted twice.*

2. Add all the volumes to determine total spill volume.



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




2” + 1.5” + 1.25” + 1” + 1” + 0.75” + 0.5” + 0.25” = 8.25”

8.25” / 8 measurements = 1.03”

Average Depth = 1.03”

## SSO Volume by Area Estimation Work Sheet



**Step 1**

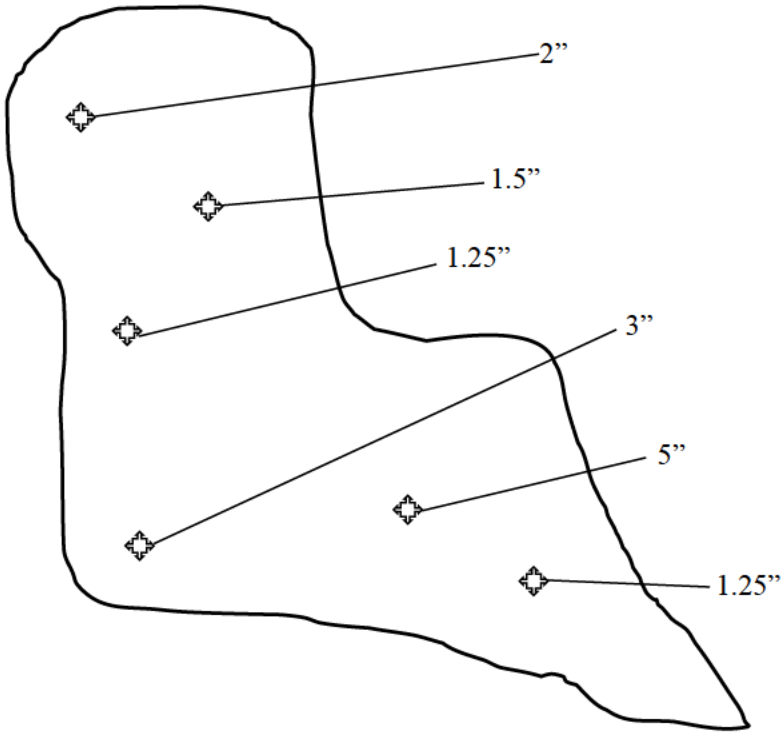
If the spill affects a dry, unimproved area such as a field or dirt parking lot, determine the Area of the wetted ground in the same manner as you would on a hard surface. Using a round-point shovel, dig down into the soil until you find dry soil. Do this in several locations within the wetted area and measure the depth of the wet soil. Average the measurement/thickness of the wet soil and determine the average depth of the wet soil.

**Step 2**

**Take a Test Sample**

**NOTE:** This can be used in a (Dry) dirt or grassy area that is not regularly irrigated like a field or a dirt parking lot.

Wet weather would make this method ineffective.




2” + 1.5” + 1.25” + 3” + 5” + 1.25” = 14.0”

14.0” / 6 measurements = 2.33”

Average Depth = 2.33” (0.194’)

**EXAMPLE:**

If the Area of the spill was determined to be 128 Sq/Ft and the average depth of the wet soil is 2.33 inches:

128 Sq/Ft x 0.194’ = 24.83 Cu/Ft

24.83 Cu/Ft x 7.48 Gals/Cu/Ft = 185.74 gallons

185.74 x 18% = 33 Gallons (water in soil)

# APPENDIX H: WATER QUALITY MONITORING PROGRAM

Big Bear Area Regional Wastewater Agency

# Water Quality Monitoring Program

Prepared for:

Prepared by:

WSC
WATER SYSTEMS CONSULTING, INC.

5/7/2020

# TABLE OF CONTENTS

# LIST OF TABLES



# LIST OF FIGURES



# LIST OF TERMS, ACRONYMS AND ABBREVIATIONS

| Acronym | Term |
|---|---|
| **BBARWA** | Big Bear Area Regional Wastewater Agency |
| **CIWQS** | California Integrated Water Quality System |
| **ELAP** | Environmental Laboratory Accreditation Program |
| **EPA** | Environmental Protection Agency |
| **MPN** | Most Probable Number |
| **MRP** | Monitoring and Reporting Program |
| **PPE** | Personal Protective Equipment |
| **Regional Water Board** | Regional Water Quality Control Board |
| **SSMP** | Sewer System Management Plan |
| **SSO** | Sanitary Sewer Overflow |
| **SSS WDRs** | Sanitary Sewer System Waste Discharge Requirements |
| **State Water Board** | State Water Resources Control Board |
| **SU** | Standard Unit |
| **WOTUS** | Waters of the United States |
| **WQMP** | Water Quality Monitoring Program |

# 1 PURPOSE OF PROGRAM

If untreated sewage reaches the Waters of the United States (WOTUS) of 50,000 gallons or greater, BBARWA will implement monitoring procedures in accordance with this Water Quality Monitoring Program (WQMP) to determine and properly address impacts to the impacted surface water. The Monitoring and Reporting Program (MRP) requires that the WQMP include at a minimum the following:

***Order No. WQ 2013-0058-EXEC:***

*To comply with subsection D.7(v) of the SSS WDRs, the enrollee shall develop and implement an SSO Water Quality Monitoring Program to assess impacts from SSOs to surface waters in which 50,000 gallons or greater are spilled to surface waters. The SSO Water Quality Monitoring Program, shall, at a minimum:*

1. *Contain protocols for water quality monitoring.*
2. *Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.).*
3. *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 enrollee becoming aware of the SSO, require water quality sampling for, at a minimum, the following constituents:*
    - i. *Ammonia*
    - ii. *Appropriate Bacterial indicator(s) per the applicable Basin Plan water quality objective or Regional Board direction which may include total and fecal coliform, enterococcus, and e-coli.*

BBARWA's WQMP complies with the requirements set forth in the MRP. The WQMP outlines procedures for taking water quality samples including where samples need to be taken on WOTUS affected by SSOs, and what samples need to be taken to evaluate the SSOs impact on the waterway. The WQMP also identifies key WOTUS within the watershed that could possibly receive SSOs, and identifies their beneficial uses and key bacteriological indicators used for water quality monitoring as provided in the Santa Ana Regional Water Board Basin Plan (Basin Plan). According to the Basin Plan, E. coli is the appropriate bacteriological indicator for all waters in the Bear Valley that are impacted by an SSO.

For all SSOs in which 50,000 gallons or more of sewage are discharged to surface water, BBARWA is to implement monitoring activities in accordance with the WQMP within 48 hours of the end of the SSO. Water quality monitoring may be implemented at BBARWA's discretion for SSOs that reach WOTUS and are less than 50,000 gallons, or as required by regulatory agencies.

# 2 RESPONSIBILITY

Each task related to the WQMP is assigned to staff personnel as identified by Table 2-1. Identifying roles of responsibility allows SSO impacts to WOTUS to be efficiently monitored and provides a clear point of contact for staff responding to the SSO.

**Table 2-1: WQMP Roles and Responsibilities**

| Roles and Responsibility | Responsible Person |
|---|---|
| **Provide and document regular WQMP training for all BBARWA staff responsible for responding to SSOs** | Plant Manager |
| **Two-year review of the WQMP** | Plant Manager |
| **Annual completion of the sampling kit checklist** | Laboratory Analyst |
| **Calibration of sampling equipment and maintenance of calibration records** | Laboratory Analyst |
| **Selection of sampling locations and field sampling coordination** | Plant Operators |
| **Conduct field sampling procedures** | Plant Operators |
| **Determination of spill travel time, if applicable.** | Plant Operators |
| **Review and evaluate lab results for termination of sampling and to determine the nature and impact of the release** | General Manager |
| **Preparation of SSO Technical Report and required supporting documents** | General Manager |
| **Review and Approval of Technical Report** | General Manager |
| **Certification and placement of Technical Report in the CIWQS spill reporting system** | General Manager |
| **Manage revisions to WQMP and all associated forms and documents** | Plant Manager |

# 3 AUTHORITY

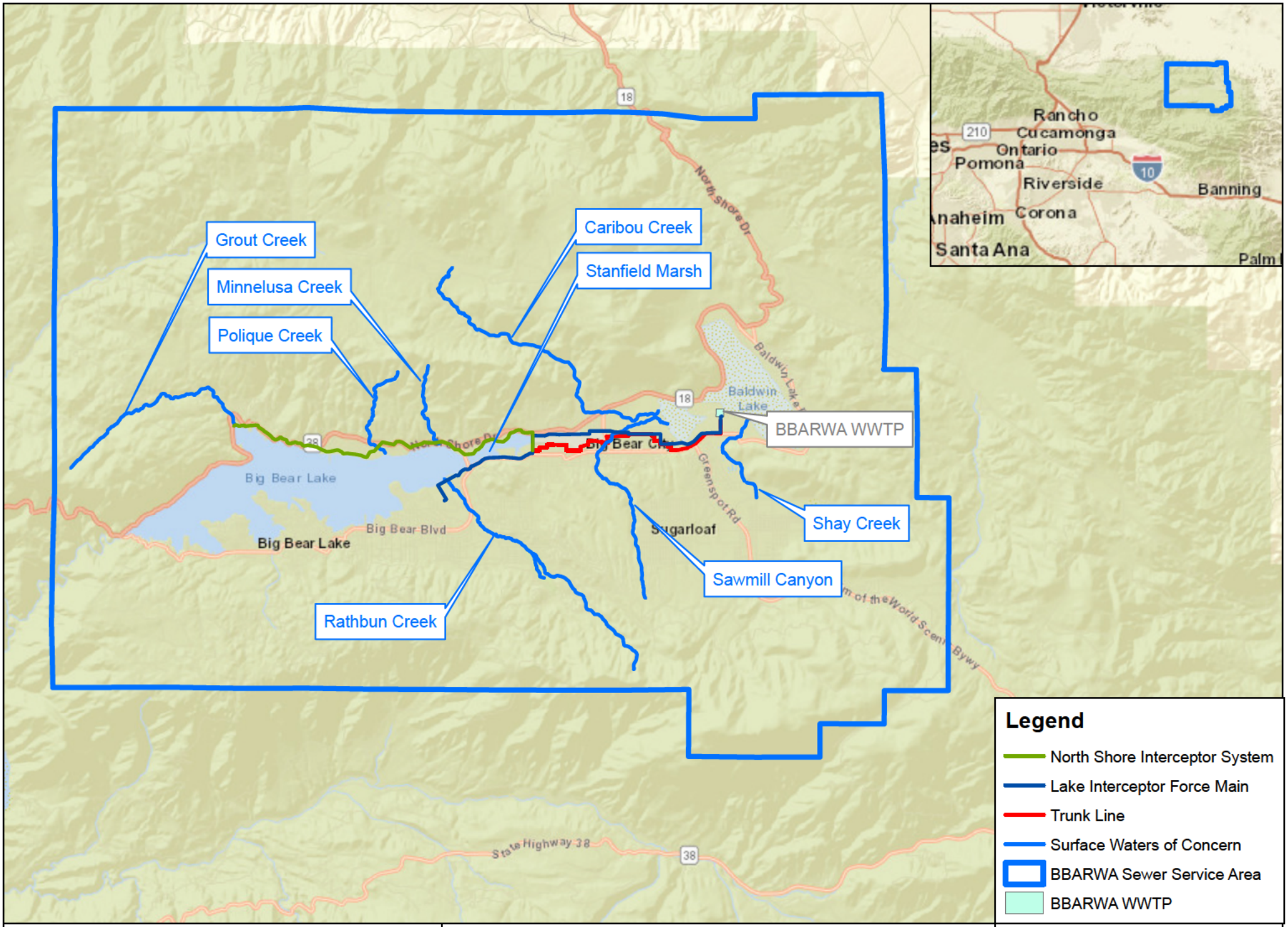
The authority for the water quality monitoring requirements of SSOs are contained in the following documents. Updates to any of these documents may require changes to the WQMP to remain current with regulations.

1. State Water Resources Control Board Waste (State Water Board) Discharge Requirements Order No. 2006-0003-DWQ, Section D.7(v).
2. State Water 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, 23rd 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.
6. Santa Ana Regional Water Quality Control Board Basin Plan

# 4 LOCAL SURFACE WATERS

Surface waters within BBARWA's service area have been mapped (Figure 4-1) to assist in determining where SSOs may discharge into surface waters. Areas of concern include rivers, lakes, dry creeks, pipeline crossings over or under waterways, and storm water related infrastructure. Primary surface waters of concern within and/or adjacent to BBARWA's service area include:

- Grout Creek
- Polique Creek
- Minnelusa Creek
- Rathbun Creek
- Big Bear Lake
- Stanfield Marsh
- Caribou Creek
- Sawmill Canyon
- Shay Creek
- Baldwin Lake




Big Bear Area Regional Wastewater Agency
Water Quality Monitoring Program
Figure 4-1: Local Surface Waters

WSC
Water Systems Consulting, Inc.

# 5 SAMPLING PARAMETERS

Sampling of parameters provided in Table 5-1 are required.

**Table 5-1: Water Quality Sampling Parameters**

| Parameter | Units |
|---|---|
| **Ammonia (un-ionized as Nitrogen (N))**[1] | mg/L - N |
| **E. coli**[2] | MPN/100 mL |
| **pH**[3] | SU |
| **Temperature**[3] | Celsius |
| **Dissolved Oxygen**[3] | mg/L |

[1]Required by MRP.
[2]Required by MRP via Regional Water Board Basin Plan – see Table 5-2 and Table 5-3.
[3]Field measurements for pH, temperature, and dissolved oxygen (DO) are not required by the MRP but are to be taken to provide more detailed water quality information.

The Basin Plan designates beneficial use categories and water quality objectives for all surface waters in the Region. Table 5-2 shows the beneficial use categories for surface waters in or near BBARWA's service area. The beneficial use category of the body of water receiving the SSO dictates the bacteriological indicator to be used in monitoring water quality following SSOs. Table 5-2 shows that all surface waters in or near BBARWA's service area are designated for Water Contact Recreation (REC-1), and Table 5-3[1] shows that surfaces waters designated as REC-1 are required to be monitored for E. coli following SSOs. Therefore, E. coli is the bacteriological indicator to sample for in all SSO water quality monitoring activities.

[1] Santa Ana Regional Water Board Basin Plan

### Table 5-2: Beneficial Uses of Surface Waters

| Name | Beneficial Uses (Existing Use unless otherwise noted)[1] |
|---|---|
| **Big Bear Lake Watershed** | |
| Big Bear Lake | MUN, AGR, GWR, REC-1, REC-2, COMM, WARM, COLD, WILD, RARE |
| Grout Creek | MUN, GWR, REC-1, REC-2, COLD, WILD, SPWN |
| Polique Creek | MUN[2], GWR[2], REC-1[2], REC-2[2], COLD[2], WILD[2] |
| Minnelusa Creek | MUN[2], GWR[2], REC-1[2], REC-2[2], COLD[2], WILD[2] |
| Rathbun Creek | MUN, GWR, REC-1, REC-2, COLD, WILD |
| **Baldwin Lake Watershed** | |
| Baldwin Lake[3] | REC-1[2], REC-2[2], WARM[2], COLD[2], BIOL[2], WILD[2], RARE[2] |
| Shay Creek | MUN, GWR, REC-1, REC-2, COLD, WILD, RARE, SPWN |
| Caribou Creek (and tributaries) | MUN[2], GWR[2], REC-1[2], REC-2[2], COLD[2], WILD[2] |
| Sawmill Canyon (and tributaries) | MUN[2], GWR[2], REC-1[2], REC-2[2], COLD[2], WILD[2] |
| **Other** | |
| Stanfield Marsh | MUN, REC-1, REC-2, COLD, WILD, RARE |

[1]MUN = Municipal and Domestic Supply, AGR = Agricultural Supply, GWR = Groundwater Recharge, REC-1 = Water Contact Recreation, REC-2 = Non-contact Water Recreation, COMM = Commercial and Sportfishing, WARM = Warm Freshwater Habitat, COLD = Cold Freshwater Habitat, BIOL = Preservation of Biological Habitats of Special Significance, WILD = Wildlife Habitat, RARE = Rare, Threatened or Endangered Species, SPWN = Spawning, Reproduction, and Development
[2]Intermittent Beneficial Use
[3]Exempt from MUN designation

### Table 5-3: Water Quality Objectives for Bacteriological Indicators

| Beneficial Use | E. coli (MPN/100 ml) |
|---|---|
| **Freshwater Contact Recreation (REC -1)** | 126[1] |
| **Freshwater Non-Contact Recreation (REC-2)** | N/A |

[1]geometric mean of at least five (5) samples in a running 30-day period

# 6 SAMPLING PROCEDURES

## 6.A SAMPLE COLLECTION GUIDELINES

The purpose of water quality sampling is to determine the nature and extent of the impact of the SSO. Samples will be collected by plant operators and care shall be taken to ensure all sampling procedures are properly followed.

Sampling shall occur within 48 hours of an SSO. A minimum of three (3) separate sample sets (upstream, source, and downstream) shall be taken. Standard operating procedures for water sampling are provided in Attachment A: Surface Water Sampling Standard Operating Procedures. Attachment C: Surface Water Sampling Worksheet is also to be completed for each sampling session.

Sampling effluent is subject to variability that can affect the reliability of data. Therefore, the samples must be:

- Representative of the material being examined
- Uncontaminated by the sampling technique or container
- Adequate size for all laboratory examinations
- Properly identified
- Properly preserved
- Delivered and analyzed within established holding times

## 6.B SAMPLE TYPES

A grab sample is an individual sample collected at a given time. Grab samples represent only the condition that exists at a location at the time the sample is collected.

In-situ measurements, such as temperature, dissolved oxygen, and pH, are data collected in the field and can be recorded directly in Attachment C: Surface Water Sampling Worksheet.

## 6.C SAMPLING LOCATIONS

Surface water sampling locations shall be selected based on the following general guidelines:

- 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.
- 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 a 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.
- A Sampler must always stand along a bank or downstream of the collection vessel in order to sample “into the current”. Care must be taken to avoid introducing re-suspended sediment into the sample.

## 6.D SAMPLES COLLECTED

The following samples shall be collected, in duplicate:

a. Upstream: These samples 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 distance may vary.
b. Source: Immediate vicinity where the SSO entered the surface water. If the SSO has stopped entering the surface water at the time of sampling, then this sample will be taken downstream of the actual SSO entry point. The approximate downstream distance will be calculated after first determining the stream velocity as provided below.
    i. Determine Stream Velocity – Take visual ft/sec measurement based on floating debris, to estimate the number of feet the debris has traveled in seconds. It may be useful to perform this measurement three to five times and use the average value as the estimated travel time. The velocity can be calculated by dividing the measured distance by the average time.
    ii. Calculate the Downstream Distance – Divide the time since the SSO occurred by the water velocity to get the approximate downstream distance from the SSO discharge point. Use this location as the "Source" sampling location.
c. Downstream: Theses 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 dependent on size and velocity of the surface water.

In total, a minimum of 16 samples shall be collected and 9 in-field readings shall be taken as shown in Table 6-1.

**Table 6-1: Summary of Samples and Field Measurements to be Obtained**

| Constituent | Upstream | Source | Downstream | Total |
|---|---|---|---|---|
| **Ammonia** | 2 | 2 | 2 | **6** |
| **E. coli** | 2 | 2 | 2 | **6** |
| **pH** | 1 | 1 | 1 | **3** |
| **Temperature** | 1 | 1 | 1 | **3** |
| **Dissolved Oxygen** | 1 | 1 | 1 | **3** |
| **Total** | **7** | **7** | **7** | **21** |

A summary of each sampling parameter and reading to be collected is provided in Table 6-2.

**Table 6-2: Sampling Parameter Guidelines**

| Constituent | Sample Container | Sample Type | Sample Volume Required | Hold Time | Preservative | Analytical Method |
|---|---|---|---|---|---|---|
| **Ammonia** | Plastic/Glass | Grab | 200 mL minimum | 28 days | Sulfuric Acid | Method EPA 350.1 or Standard Methods 4500-$NH_3$ D |
| **E. coli** | Plastic (sterile) | Grab | 100 mL minimum | 8 hours | Pre-sterilized bottle preserved with sodium thiosulfate | Multiple Tube Fermentation |
| **pH** | None (field measurement) | In-situ | N/A | N/A | None | Standard Methods 4500-H+ |
| **Temperature** | None (field measurement) | In-situ | N/A | N/A | None | Direct read thermometer |
| **Dissolved Oxygen** | None (field measurement) | In-situ | N/A | N/A | None | Direct read DO meter |

## 6.E SAMPLE LABELING AND CHAIN OF CUSTODY PROCEDURES

To ensure accuracy of data, all samples are properly documented with standardized sample identification and chain of custody procedures.

### 6.e.i Sample Labeling

1. Grab samples must be identified by a sample label. Sample labels shall be completed for each sample, using waterproof ink. Sample tag/labels shall include:
    a. Date: a six (6)-digit number indicating the year, month, day of collection
    b. Time: a four (4)-digit number indicating military time of collection
    c. Sample Location: sampling location description as Upstream, Source, Downstream, or Field Blank
    d. Sampler(s): each sampler is identified
    e. Parameter/preservative: the analysis to be conducted for the sample/sample preservation
2. Photos or video of each sample location shall be taken and properly labeled with date, time and view direction. Photos and videos shall include relevant landmarks to identify sampling locations and their surroundings. In addition, a location map illustrating all sampling points shall be generated.

### 6.e.ii Chain of Custody

1. Possession of samples is recorded from the time the samples are collected until they are analyzed via a Chain of Custody form. A Surface Water Sample Chain of Custody Record is provided in Attachment B: Chain of Custody Forms and is to be completed for each sample. A sample is considered under your custody if:
    a. It is in your possession
    b. It is in your view, after being in your possession
    c. It was in your possession and under your control to prevent tampering
    d. It is in a designated secure area
2. 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 properly.
3. Samples are always accompanied by the Chain of Custody Record. When transferring the possession of the samples, the individuals relinquishing and receiving will sign, date, and note the time on the record.

## 6.F SAFETY CONSIDERATIONS

Safety of all BBARWA staff engaged in any fieldwork is of primary importance. Water quality sampling should only be performed if it is safe to do so and access to the surface water is not restricted. All staff should exercise extreme caution during all sampling procedures. Staff should never place themselves in dangerous or risky situations. Safety is paramount to complying with WDR requirements. Any hazards that are known by field personnel should be communicated to other members of the field crew.

Scenarios where monitoring may not be possible due to hazardous conditions may include, but are not limited to:

- Heavy rain, snow, or storm events
- Flooding around low-level areas
- Fast-moving water
- Slippery and/or steep stream banks
- Restricted access
- Heavy vegetation or poison oak
- Near aggressive wildlife or domestic animals

A buddy system shall be used by staff to maximize safety as appropriate when sample collection is required. When sampling is not possible due to safety considerations or restricted access, document the conditions in writing and with photos to include in the Technical Report.

The following safety guidelines apply to all sampling procedures:

- Sampling shall be postponed due to any hazardous condition.
- All staff shall use proper Personal Protective Equipment (PPE) as appropriate for the incident (e.g. gloves, goggles, life jacket, waders, etc.).
- Field sampling crew should consist of at least two (2) members unless otherwise approved by a supervisor.
- Be aware of wildlife and animals.
- Take necessary precautions to protect open body wounds using appropriate PPE.
- Do not sample at night unless otherwise approved by a supervisor.
- Do not trespass on private property or restricted public lands without prior permission and a written approval from the property owner.
- Avoid confrontation with strangers and be courteous of public concerns.
- Do not enter a stream if water is flowing too fast.

## 6.G FOLLOW UP SAMPLING

Sampling will be repeated every 24 hours until one (1) of the following criteria has been met:

- Both the ammonia and bacteria levels downstream are approximately equal to or less than the upstream levels.
- The concentration of ammonia is at or below that of the upstream sample, and the concentration of total coliform levels are below the applicable water quality objective for the appropriate beneficial use.
- The County Environmental Health Department or the Regional Water Board determines that sampling is no longer required.

# 7 EQUIPMENT AND CALIBRATION

## 7.A SAMPLING EQUIPMENT USED

The following sampling equipment is used by BBARWA:

- Sampling pole with fixed container
- Sampling pole with removable container
- Sampling pail and rope
- Portable pH and temperature probe
- Portable dissolved oxygen meter
- Duty Operator cell phone camera
- Grab-n-Go sampling kit containing:
    - Ice pack
    - Cooler
    - Waterproof pen
    - Sample labels
    - 9 sterile 500 mL plastic sample bottles preserved with sulfuric acid for ammonia analysis
    - 9 sterile 100 mL plastic sample bottles for bacterial analysis
- Personal protective equipment (PPE) including nitrile gloves and eye protection

## 7.B DECONTAMINATION PROCEDURES

All sampling equipment shall be cleaned to remove contaminants to reduce the risk of sample cross contamination, transfer of contaminants to clean areas, and prevents the mixing of incompatible substances.

The following decontamination procedures may be used as necessary:

- Physical removal
- Non-phosphate detergent wash
- Tap water rinse
- Distilled/deionized water rinse
- 10% nitric acid rinse
- Distilled/deionized water rinse
- Solvent rinse (pesticide grade)
- Air dry

## 7.C CALIBRATION AND RECORDKEEPING

A log sheet for BBARWA's DO meter, pH meter, and thermometer is required to maintain up-to-date calibration and maintenance records. The log sheet shall contain the following:

- Date
- Calibration Results
- Calibration Comments
- Initials of the individual calibrating the instrument

The calibration procedure must be followed per the manufacturer's recommended standard calibration operating procedure. The results must be recorded on the appropriate log sheet each time a piece of field equipment is used, with the date, time and name/initials of the person performing the calibration.

Any malfunction, difficulty calibrating or holding calibration shall be recorded in the log sheet and the instrument shall not be used to collect data. Steps should be taken to correct the problem in a timely manner. All equipment maintenance should be recorded in the log sheet indicating what was done to correct the problem, with the date and initials of the staff person that corrected the problem.

# 8 LAB SELECTION

## 8.A ANALYTICAL LAB

Ammonia samples collected for monitoring will be analyzed at BBARWA's laboratory. Samples for E. coli will be analyzed at Clinical Laboratory of San Bernardino, Inc. (Clinical). Both BBARWA's laboratory and Clinical are accredited through California's Department of Public Health Environmental Laboratory Accreditation Program (ELAP).

## 8.B SAMPLE DELIVERY

All sampling hold times will be observed in accordance with Table 6-2. When samples are collected, arrangements shall be made with the receiving laboratory to coordinate delivery. Samples shall be transported to the laboratory by BBARWA staff and the Chain of Custody Record provided in Attachment B: Chain of Custody Forms shall be used.

## 8.C LAB CONTACT INFORMATION

**For Ammonia:**

| | |
|---|---|
| **Name (ELAP ID)** | Big Bear Area Regional Wastewater Agency (ID 1828) |
| **Contact Person** | Nikki Crumpler |
| **Address** | 122 Palomino Drive/P.O. Box 517<br>Big Bear City, CA 92314 |
| **Hours Samples are Accepted** | M-F 8:00 AM – 3:00 PM |
| **Phone (Laboratory Direct Line)** | (909) 584-4527 |
| **Alternate Phone** | (909) 584-4018 |

**For E. coli Analyses:**

| | |
|---|---|
| **Name (ELAP ID)** | Clinical Laboratory of San Bernardino, Inc. (ID 686) |
| **Address** | 21881 Barton Rd<br>Grand Terrace, CA 92313 |
| **Hours Samples are Accepted** | M-F 8:00 AM – 5:00 PM<br>WKD/HOL 8:30 AM – 11:30AM |
| **Phone** | (909) 825-7693 |

# 9 TECHNICAL REPORT

BBARWA is responsible for preparation and submittal of an SSO Technical Report when 50,000 gallons or more of sewage is discharged to surface water. The Report includes a description of all water quality sampling activities conducted, a location map of all water quality sampling points, the analytical results, and evaluation of the results. The report must be submitted to the CIWQS Online SSO Database within 45 calendar days of the SSO end date.

The report shall include the following information to meet MRP requirements.

1. Introduction
    a. Agency and system description
2. Causes and Circumstances of the SSO
    a. Complete and detailed explanation of how and when the SSO was discovered.
    b. Diagram showing the SSO failure point, appearance point(s), and final destination(s).
    c. Detailed description of the methodology employed, and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.
    d. Detailed description of the cause(s) of the SSO.
    e. Copies of original field crew records used to document the SSO.
    f. Historical maintenance records for the failure location.
3. Response to the SSO
    a. Chronological narrative description of all actions taken by BBARWA to terminate the spill.
    b. Explanation of how the SSMP Overflow Emergency Response Plan and Facilities EAP were implemented to respond to and mitigate the SSO.
    c. Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.
4. Water Quality Monitoring
    a. Description of all water quality sampling activities conducted including analytical results and evaluation of the results.
    b. Detailed location map illustrating all water quality sampling points.
5. Conclusions

# 10 RECORDKEEPING

All sampling related records shall be contained in an SSO Incident file designated with a specific locator record number. These records shall include at least the following documents:

- 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, if applicable
- Chain of Custody for all samples
- Sampling Map of all sample locations
- All photos or video related to sampling activities
- Final analytical results from the certified laboratory conducting the sample analysis along with BBARWA's evaluation of the results to determine the nature and impact of the SSO
- Failure analysis review of the WQMP including recommendations for changes and modifications
- Notification documentation for all public and private agencies involved with or requiring monitoring related to final sample results

BBARWA shall maintain all SSO event records including any records from service contractors. These records shall be maintained for a minimum period of five (5) years from the end date of the SSO.

# 11 TRAINING

BBARWA includes surface water sampling training as part of their new employee and annual training program. WQMP training information is outlined in Table 11-1.

**Table 11-1: Water Quality Monitoring Program Training Requirements**

| Training Parameter | Description |
|---|---|
| **Personnel Required to Attend** | All Operations Staff |
| **Trainer Qualifications** | Trainer shall demonstrate expertise in surface water sampling science, techniques, and documentation. |
| **Training Curriculum** | Shall include, at a minimum:<br>• Review of BBARWA's WQMP including forms and maps<br>• Sampling technique, including hands on practice<br>• Sampling equipment calibration, use, and decontamination procedures, including hands on practice<br>• Safety procedures<br>• Completion of the Sampling Equipment Calibration/Maintenance Log, Surface Water Sampling Worksheet, and Chain of Custody Form |
| **Training Documentation** | Employee training sign-in log |
| **Training Frequency** | • Annually for all operations staff<br>• New operations staff as part of initial training |

# 12 UPDATE OF THE WQMP

The Plant Manager shall initiate reviews of the WQMP on a two-year basis in coordination with SSMP Audits, or more frequently as deemed appropriate by the Plant Manager. Reviews should confirm that information is current, classification responsibilities are applicable, appropriate forms are included, and necessary procedures are in place to respond to SSO events requiring water quality monitoring. Consideration should be given to revising the WQMP based on BBARWA staff performance and testing laboratory performance after water quality monitoring occurs. Finally, compliance with the Regional Water Board Basin Plan should be confirmed with reviews. All changes shall be recorded and documented in the SSMP Supporting Document History (Appendix A of the SSMP), including the section being changed, a description of the changes, and the person(s) authorizing the changes.

# ATTACHMENT A: SURFACE WATER SAMPLING STANDARD OPERATING PROCEDURES

# SURFACE WATER SAMPLING STANDARD OPERATING PROCEDURES

## General Procedures:

1. Collect all samples against the direction of the water flow.
2. Collect downstream sample first.
3. Collect samples away from the bank, where water is visibly flowing and six inches below the surface.
4. Avoid sampling debris or scum layer from the surface.
5. Photograph evidence of dead fish.

## Preparation for Collecting Sample:

1. Get Field Sampling Kit
2. Get ice pack from freezer and place in cooler
3. Determine point that the SSO entered waterway. Photograph this location (include a reference point in the photo.)
4. Put on all necessary PPE.
5. Determine direction of water movement from point of discharge. Estimate and record water velocity by one of the following:
    a. Use a velocity probe to deterine the rate of flow in the surface water, or;
    b. Take visual ft/sec measurement based on floating debris by estimating the number of feet the debris has traveled in seconds. It may be useful to perform this measurement three to five times and use the average value as the estimated velocity. The velocity can be calculated by dividing the measured distance by the average time.
6. Determine if SSO flow to the surface water has stopped. If yes, the appropriate source sampling point will have moved downstream. To calculate the appropriate source sampling point, divide the time since the SSO occurred by the water velocity found in Step 5. Walk downstream the distance calculated, and use this location as the "source" sampling location.

1. Start with downstream sample and move upstream to the source sample and finally the upstream sample.
2. Remove the seal from the bacteria sample container (100 ml) immediately before collecting the sample. There will be a chemical in the sample container. Leave the chemical in the bottle and do not rinse.
3. Remove cap immediately before collecting each sample.
4. Avoid allowing the inside of the cap to touch anything.
5. Holding the bottle in one hand, face upstream and lower the bottle 6" below the water surface. Then sweet the bottle upstream and out of the water. Be careful not the disturb the bottom sediment. Pour water out if needed so that the bottle is filled to the line.
6. Replace the cap immediately.
7. Label sample with location, your name, and the date and time collected.
8. Place sample in cooler on the ice pack.
9. Repeat steps 2-8 using the ammonia-nitrogen sample container. Fill to just below the neck of the container. Use caution when handling the ammonia-nitrogen sample bottle, which contains sulfuric acid. Do not allow the acid to touch skin or leave the container.
10. Take a photo of this sample location (include a reference point in the photo).
11. Repeat Sampling Steps to collect source and upstream samples.

**Next Steps:**

1. Complete the Chain of Custody form.
2. Contact the lab and inform them that Ammonia-Nitrogen and fecal coliform samples require processing and coordinate delivery time.
3. Deliver cooler containing samples and completed chain of custody to the lab within 6 hours of collection time.
4. Post warning signs as directed by the County Environmental Health Department or the staff member responsible for signage. (Remove Warning Signs and lift restrictions when authorized by County Environmental Health).
5. Repeat sampling daily from time the spill is known until the results of two consecutive sets of samples indicate the return to the normal level or authorization is given by the County Environmental Health Department to stop sampling.

# ATTACHMENT B: CHAIN OF CUSTODY FORMS

# Clinical Lab of San Bernardino, Inc. Chain of Custody

WO _____

21881 Barton Road Grand Terrace CA 92313 909 825-7693 / 516-A N 8th St. Lompoc CA 93436 805 737-7300

| Client | | Destination Laboratory | Analysis Requested | Turn Around Time (TAT) |
|---|---|---|---|---|
| Address: | | [ ] Clinical Grand Terrace / ELAP 1088 | | |
| | | [ ] Clinical Lompoc / ELAP 1678 | | |
| Client Contact: | | [ ] Other: | | |
| Phone No.: | FAX No.: | | | |
| System No.: | | | | |
| Project: | | | | |
| Sampled By: | | | | |
| Comments: | | | | |

| Date | Time | Sample Identification | Container ID | Matrix | Sample Type | No. of Preserved Cont. | | | | | | | | | Total Containers | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Unpreserved | Na2S2O3 | NH4Cl | C6H8O6 | HNO3 | HCl | NaOH | Na2SO3 | ZnC4H6O4 | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

Matrix: DW - Drinking Water GW - Ground Water SW - Surface Water W - Water WW - Wastewater SR - Stormwater Runoff S - Sludge O - Other _____

Use for Bacteria Samples / Sample Type: 1-Routine 2-Repeat 3-Replacement 4-Special D-Distribution W-Well

TAT: (10) Ten Day (5) Five Day Rush (2) Two Day Rush

| Relinquished By (Sign) | Print Name / Company | Date / Time | Received By (Sign) | Print Name / Company |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

(Lab Use Only) Lompoc Lab Receipt Temp.: _____ ℃

Shipped Via: [ ] Fed Ex [ ] Golden State Overnight [ ] UPS [ ] OnTrac [ ] USPS [ ] Other _____

Condition: [ ] On Wet Ice [ ] On Blu Ice [ ] Intact [ ] Custody Seals Samples / COC Checked By: _____ Work Order Logged By: _____

Receipt Comments: Clinical Lab Receipt Temp.: _____ ℃

# ATTACHMENT C: SURFACE WATER SAMPLING WORKSHEET

# Surface Water Sampling Worksheet

| Sample Date: | Sample Time: ☐AM ☐PM | Sample Location: |
|---|---|---|
| Sampler(s)' Name(s): | | |
| Sampler(s)' Signature(s): | | |

What is being sampled?

☐Stream ☐Pond ☐Lake ☐Lagoon
☐Bay/Estuary ☐Ocean ☐River ☐Other:

Weather at time of sampling: ☐Sunny ☐Overcast
☐Sprinkling ☐Raining ☐Snowing

Was the SSO actively entering the surface water during Sampling?
☐YES ☐NO
If no, complete A-D in the gray box to the right ➔

If the SSO was not actively entering the surface water during sampling:

A. Stream Velocity: _____CFS
B. How Long Has the SSO ***NOT*** Been Entering the Surface Water?
_____ minutes X 60sec/min = _____ seconds
C. How Far Downstream Did You Travel To Collect The SOURCE Sample?
(A X C = Feet): _____ feet
D. Explain why you travelled a different distance, if you did, to collect the source sample:

**NOTE: Calibrate equipment prior to use and record in the Equipment Calibration/Maintenance Log**

| Sample Location | # of Samples* | pH | Temp. (°C) | DO (mg/l) | Photo ID# of Sample Location | Visual Observations and/or Interferences |
|---|---|---|---|---|---|---|
| Upstream | | | | | | |
| Source | | | | | | |
| Downstream | | | | | | |
| Field Blank | | | | | | |

* Minimum of 2 per location

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

# APPENDIX I: SANITARY SEWER SYSTEM WASTE DISCHARGE REQUIREMENTS

**STATE WATER RESOURCES CONTROL BOARD**
**ORDER NO. 2006-0003-DWQ**

# STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR SANITARY SEWER SYSTEMS

The State Water Resources Control Board, hereinafter referred to as "State Water Board", finds that:

1. All federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California are required to comply with the terms of this Order. Such entities are hereinafter referred to as "Enrollees".

2. Sanitary sewer overflows (SSOs) are overflows from sanitary sewer systems of domestic wastewater, as well as industrial and commercial wastewater, depending on the pattern of land uses in the area served by the sanitary sewer system. SSOs often contain high levels of suspended solids, pathogenic organisms, toxic pollutants, nutrients, oxygen-demanding organic compounds, oil and grease and other pollutants. SSOs may cause a public nuisance, particularly when raw untreated wastewater is discharged to areas with high public exposure, such as streets or surface waters used for drinking, fishing, or body contact recreation. SSOs may pollute surface or ground waters, threaten public health, adversely affect aquatic life, and impair the recreational use and aesthetic enjoyment of surface waters.

3. Sanitary sewer systems experience periodic failures resulting in discharges that may affect waters of the state. There are many factors (including factors related to geology, design, construction methods and materials, age of the system, population growth, and system operation and maintenance), which affect the likelihood of an SSO. A proactive approach that requires Enrollees to ensure a system-wide operation, maintenance, and management plan is in place will reduce the number and frequency of SSOs within the state. This approach will in turn decrease the risk to human health and the environment caused by SSOs.

4. Major causes of SSOs include: grease blockages, root blockages, sewer line flood damage, manhole structure failures, vandalism, pump station mechanical failures, power outages, excessive storm or ground water inflow/infiltration, debris blockages, sanitary sewer system age and construction material failures, lack of proper operation and maintenance, insufficient capacity and contractor-caused damages. Many SSOs are preventable with adequate and appropriate facilities, source control measures and operation and maintenance of the sanitary sewer system.

**SEWER SYSTEM MANAGEMENT PLANS**

5. To facilitate proper funding and management of sanitary sewer systems, each Enrollee must develop and implement a system-specific Sewer System Management Plan (SSMP). To be effective, SSMPs must include provisions to provide proper and efficient management, operation, and maintenance of sanitary sewer systems, while taking into consideration risk management and cost benefit analysis. Additionally, an SSMP must contain a spill response plan that establishes standard procedures for immediate response to an SSO in a manner designed to minimize water quality impacts and potential nuisance conditions.

6. Many local public agencies in California have already developed SSMPs and implemented measures to reduce SSOs. These entities can build upon their existing efforts to establish a comprehensive SSMP consistent with this Order. Others, however, still require technical assistance and, in some cases, funding to improve sanitary sewer system operation and maintenance in order to reduce SSOs.

7. SSMP certification by technically qualified and experienced persons can provide a useful and cost-effective means for ensuring that SSMPs are developed and implemented appropriately.

8. It is the State Water Board's intent to gather additional information on the causes and sources of SSOs to augment existing information and to determine the full extent of SSOs and consequent public health and/or environmental impacts occurring in the State.

9. Both uniform SSO reporting and a centralized statewide electronic database are needed to collect information to allow the State Water Board and Regional Water Quality Control Boards (Regional Water Boards) to effectively analyze the extent of SSOs statewide and their potential impacts on beneficial uses and public health. The monitoring and reporting program required by this Order and the attached Monitoring and Reporting Program No. 2006-0003-DWQ, are necessary to assure compliance with these waste discharge requirements (WDRs).

10. Information regarding SSOs must be provided to Regional Water Boards and other regulatory agencies in a timely manner and be made available to the public in a complete, concise, and timely fashion.

11. Some Regional Water Boards have issued WDRs or WDRs that serve as National Pollution Discharge Elimination System (NPDES) permits to sanitary sewer system owners/operators within their jurisdictions. This Order establishes minimum requirements to prevent SSOs. Although it is the State Water Board's intent that this Order be the primary regulatory mechanism for sanitary sewer systems statewide, Regional Water Boards may issue more stringent or more

prescriptive WDRs for sanitary sewer systems. Upon issuance or reissuance of a Regional Water Board's WDRs for a system subject to this Order, the Regional Water Board shall coordinate its requirements with stated requirements within this Order, to identify requirements that are more stringent, to remove requirements that are less stringent than this Order, and to provide consistency in reporting.

## REGULATORY CONSIDERATIONS

12. California Water Code section 13263 provides that the State Water Board may prescribe general WDRs for a category of discharges if the State Water Board finds or determines that:

    - The discharges are produced by the same or similar operations;
    - The discharges involve the same or similar types of waste;
    - The discharges require the same or similar treatment standards; and
    - The discharges are more appropriately regulated under general discharge requirements than individual discharge requirements.

    This Order establishes requirements for a class of operations, facilities, and discharges that are similar throughout the state.

13. The issuance of general WDRs to the Enrollees will:
    a) Reduce the administrative burden of issuing individual WDRs to each Enrollee;
    b) Provide for a unified statewide approach for the reporting and database tracking of SSOs;
    c) Establish consistent and uniform requirements for SSMP development and implementation;
    d) Provide statewide consistency in reporting; and
    e) Facilitate consistent enforcement for violations.

14. The beneficial uses of surface waters that can be impaired by SSOs include, but are not limited to, aquatic life, drinking water supply, body contact and non-contact recreation, and aesthetics. The beneficial uses of ground water that can be impaired include, but are not limited to, drinking water and agricultural supply. Surface and ground waters throughout the state support these uses to varying degrees.

15. The implementation of requirements set forth in this Order will ensure the reasonable protection of past, present, and probable future beneficial uses of water and the prevention of nuisance. The requirements implement the water quality control plans (Basin Plans) for each region and take into account the environmental characteristics of hydrographic units within the state. Additionally, the State Water Board has considered water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect

water quality in the area, costs associated with compliance with these requirements, the need for developing housing within California, and the need to develop and use recycled water.

16. The Federal Clean Water Act largely prohibits any discharge of pollutants from a point source to waters of the United States except as authorized under an NPDES permit. In general, any point source discharge of sewage effluent to waters of the United States must comply with technology-based, secondary treatment standards, at a minimum, and any more stringent requirements necessary to meet applicable water quality standards and other requirements. Hence, the unpermitted discharge of wastewater from a sanitary sewer system to waters of the United States is illegal under the Clean Water Act. In addition, many Basin Plans adopted by the Regional Water Boards contain discharge prohibitions that apply to the discharge of untreated or partially treated wastewater. Finally, the California Water Code generally prohibits the discharge of waste to land prior to the filing of any required report of waste discharge and the subsequent issuance of either WDRs or a waiver of WDRs.

17. California Water Code section 13263 requires a water board to, after any necessary hearing, prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge. The requirements shall, among other things, take into consideration the need to prevent nuisance.

18. California Water Code section 13050, subdivision (m), defines nuisance as anything which 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.

19. This Order is consistent with State Water Board Resolution No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California) in that the Order imposes conditions to prevent impacts to water quality, does not allow the degradation of water quality, will not unreasonably affect beneficial uses of water, and will not result in water quality less than prescribed in State Water Board or Regional Water Board plans and policies.

20. The action to adopt this General Order is exempt from the California Environmental Quality Act (Public Resources Code §21000 et seq.) because it is an action taken by a regulatory agency to assure the protection of the environment and the regulatory process involves procedures for protection of the environment. (Cal. Code Regs., tit. 14, §15308). In addition, the action to adopt

this Order is exempt from CEQA pursuant to Cal.Code Regs., title 14, §15301 to the extent that it applies to existing sanitary sewer collection systems that constitute "existing facilities" as that term is used in Section 15301, and §15302, to the extent that it results in the repair or replacement of existing systems involving negligible or no expansion of capacity.

21. The Fact Sheet, which is incorporated by reference in the Order, contains supplemental information that was also considered in establishing these requirements.

22. The State Water Board has notified all affected public agencies and all known interested persons of the intent to prescribe general WDRs that require Enrollees to develop SSMPs and to report all SSOs.

23. The State Water Board conducted a public hearing on February 8, 2006, to receive oral and written comments on the draft order. The State Water Board received and considered, at its May 2, 2006, meeting, additional public comments on substantial changes made to the proposed general WDRs following the February 8, 2006, public hearing. The State Water Board has considered all comments pertaining to the proposed general WDRs.

**IT IS HEREBY ORDERED**, that pursuant to California Water Code section 13263, the Enrollees, their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted hereunder, shall comply with the following:

## A. DEFINITIONS

1. **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.

2. **Sanitary sewer system** – Any 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.

For purposes of this Order, sanitary sewer systems include only those systems owned by public agencies that are comprised of more than one mile of pipes or sewer lines.

3. **Enrollee** - A federal or state agency, municipality, county, district, and other public entity that owns or operates a sanitary sewer system, as defined in the general WDRs, and that has submitted a complete and approved application for coverage under this Order.

4. **SSO Reporting System** – Online spill reporting system that is hosted, controlled, and maintained by the State Water Board. The web address for this site is http://ciwqs.waterboards.ca.gov. This online database is maintained on a secure site and is controlled by unique usernames and passwords.

5. **Untreated or partially treated wastewater** – Any volume of waste discharged from the sanitary sewer system upstream of a wastewater treatment plant headworks.

6. **Satellite collection system** – The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility to which the sanitary sewer system is tributary.

7. **Nuisance** - California Water Code section 13050, subdivision (m), defines nuisance as anything which 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.

## B. APPLICATION REQUIREMENTS

1. Deadlines for Application – All public agencies that currently own or operate sanitary sewer systems within the State of California must apply for coverage under the general WDRs within six (6) months of the date of adoption of the general WDRs. Additionally, public agencies that acquire or assume responsibility for operating sanitary sewer systems after the date of adoption of this Order must apply for coverage under the general WDRs at least three (3) months prior to operation of those facilities.

2. Applications under the general WDRs – In order to apply for coverage pursuant to the general WDRs, a legally authorized representative for each agency must submit a complete application package. Within sixty (60) days of adoption of the general WDRs, State Water Board staff will send specific instructions on how to

apply for coverage under the general WDRs to all known public agencies that own sanitary sewer systems. Agencies that do not receive notice may obtain applications and instructions online on the Water Board's website.

3. Coverage under the general WDRs – Permit coverage will be in effect once a complete application package has been submitted and approved by the State Water Board's Division of Water Quality.

## C. PROHIBITIONS

1. Any SSO that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited.

2. Any SSO that results in a discharge of untreated or partially treated wastewater that creates a nuisance as defined in California Water Code Section 13050(m) is prohibited.

## D. PROVISIONS

1. The Enrollee must comply with all conditions of this Order. Any noncompliance with this Order constitutes a violation of the California Water Code and is grounds for enforcement action.

2. It is the intent of the State Water Board that sanitary sewer systems be regulated in a manner consistent with the general WDRs. Nothing in the general WDRs shall be:

    (i) Interpreted or applied in a manner inconsistent with the Federal Clean Water Act, or supersede a more specific or more stringent state or federal requirement in an existing permit, regulation, or administrative/judicial order or Consent Decree;
    (ii) Interpreted or applied to authorize an SSO that is illegal under either the Clean Water Act, an applicable Basin Plan prohibition or water quality standard, or the California Water Code;
    (iii) Interpreted or applied to prohibit a Regional Water Board from issuing an individual NPDES permit or WDR, superseding this general WDR, for a sanitary sewer system, authorized under the Clean Water Act or California Water Code; or
    (iv) Interpreted or applied to supersede any more specific or more stringent WDRs or enforcement order issued by a Regional Water Board.

3. The Enrollee shall take all feasible steps to eliminate SSOs. In the event that an SSO does occur, the Enrollee shall take all feasible steps to contain and mitigate the impacts of an SSO.

4. In the event of an SSO, the Enrollee shall take all feasible steps to prevent untreated or partially treated wastewater from discharging from storm drains into

flood control channels or waters of the United States by blocking the storm drainage system and by removing the wastewater from the storm drains.

5. All SSOs must be reported in accordance with Section G of the general WDRs.

6. In any enforcement action, the State and/or Regional Water Boards will consider the appropriate factors under the duly adopted State Water Board Enforcement Policy. And, consistent with the Enforcement Policy, the State and/or Regional Water Boards must consider the Enrollee's efforts to contain, control, and mitigate SSOs when considering the California Water Code Section 13327 factors. In assessing these factors, the State and/or Regional Water Boards will also consider whether:

   (i) The Enrollee has complied with the requirements of this Order, including requirements for reporting and developing and implementing a SSMP;

   (ii) The Enrollee can identify the cause or likely cause of the discharge event;

   (iii) There were no feasible alternatives to the discharge, such as temporary storage or retention of untreated wastewater, reduction of inflow and infiltration, use of adequate backup equipment, collecting and hauling of untreated wastewater to a treatment facility, or an increase in the capacity of the system as necessary to contain the design storm event identified in the SSMP. It is inappropriate to consider the lack of feasible alternatives, if the Enrollee does not implement a periodic or continuing process to identify and correct problems.

   (iv) The discharge was exceptional, unintentional, temporary, and caused by factors beyond the reasonable control of the Enrollee;

   (v) The discharge could have been prevented by the exercise of reasonable control described in a certified SSMP for:
      - Proper management, operation and maintenance;
      - Adequate treatment facilities, sanitary sewer system facilities, and/or components with an appropriate design capacity, to reasonably prevent SSOs (e.g., adequately enlarging treatment or collection facilities to accommodate growth, infiltration and inflow (I/I), etc.);
      - Preventive maintenance (including cleaning and fats, oils, and grease (FOG) control);
      - Installation of adequate backup equipment; and
      - Inflow and infiltration prevention and control to the extent practicable.

   (vi) The sanitary sewer system design capacity is appropriate to reasonably prevent SSOs.

(vii) The Enrollee took all reasonable steps to stop and mitigate the impact of the discharge as soon as possible.

7. When a sanitary sewer overflow occurs, the Enrollee shall take all feasible steps and necessary remedial actions to 1) control or limit the volume of untreated or partially treated wastewater discharged, 2) terminate the discharge, and 3) recover as much of the wastewater discharged as possible for proper disposal, including any wash down water.

   The Enrollee shall implement all remedial actions to the extent they may be applicable to the discharge and not inconsistent with an emergency response plan, including the following:

   (i) Interception and rerouting of untreated or partially treated wastewater flows around the wastewater line failure;
   (ii) Vacuum truck recovery of sanitary sewer overflows and wash down water;
   (iii) Cleanup of debris at the overflow site;
   (iv) System modifications to prevent another SSO at the same location;
   (v) Adequate sampling to determine the nature and impact of the release; and
   (vi) Adequate public notification to protect the public from exposure to the SSO.

8. The Enrollee shall properly, manage, operate, and maintain all parts of the sanitary sewer system owned or operated by the Enrollee, and shall ensure that the system operators (including employees, contractors, or other agents) are adequately trained and possess adequate knowledge, skills, and abilities.

9. The Enrollee shall allocate adequate resources for the operation, maintenance, and repair of its sanitary sewer system, by establishing a proper rate structure, accounting mechanisms, and auditing procedures to ensure an adequate measure of revenues and expenditures. These procedures must be in compliance with applicable laws and regulations and comply with generally acceptable accounting practices.

10. The Enrollee shall provide adequate capacity to convey base flows and peak flows, including flows related to wet weather events. Capacity shall meet or exceed the design criteria as defined in the Enrollee's System Evaluation and Capacity Assurance Plan for all parts of the sanitary sewer system owned or operated by the Enrollee.

11. The Enrollee shall develop and implement a written Sewer System Management Plan (SSMP) and make it available to the State and/or Regional Water Board upon request. A copy of this document must be publicly available at the Enrollee's office and/or available on the Internet. This SSMP must be approved by the Enrollee's governing board at a public meeting.

12. In accordance with the California Business and Professions Code sections 6735, 7835, and 7835.1, all engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. Specific elements of the SSMP that require professional evaluation and judgments shall be prepared by or under the direction of appropriately qualified professionals, and shall bear the professional(s)' signature and stamp.

13. The mandatory elements of the SSMP are specified below. However, if the Enrollee believes that any element of this section is not appropriate or applicable to the Enrollee's sanitary sewer system, the SSMP program does not need to address that element. The Enrollee must justify why that element is not applicable. The SSMP must be approved by the deadlines listed in the SSMP Time Schedule below.

**Sewer System Management Plan (SSMP)**

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

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

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

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

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

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

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

(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.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(a) **Evaluation**: Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs

that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events;

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

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

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

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

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

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

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

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

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

(x) **SSMP Program Audits** - As part of the SSMP, the Enrollee shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the

Enrollee's compliance with the SSMP requirements identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them.

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

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

14. Both the SSMP and the Enrollee's program to implement the SSMP must be certified by the Enrollee to be in compliance with the requirements set forth above and must be presented to the Enrollee's governing board for approval at a public meeting. The Enrollee shall certify that the SSMP, and subparts thereof, are in compliance with the general WDRs within the time frames identified in the time schedule provided in subsection D.15, below.

    In order to complete this certification, the Enrollee's authorized representative must complete the certification portion in the Online SSO Database Questionnaire by checking the appropriate milestone box, printing and signing the automated form, and sending the form to:

    State Water Resources Control Board
    Division of Water Quality
    Attn: SSO Program Manager
    P.O. Box 100
    Sacramento, CA 95812

    The SSMP must be updated every five (5) years, and must include any significant program changes. Re-certification by the governing board of the Enrollee is required in accordance with D.14 when significant updates to the SSMP are made. To complete the re-certification process, the Enrollee shall enter the data in the Online SSO Database and mail the form to the State Water Board, as described above.

15. The Enrollee shall comply with these requirements according to the following schedule. This time schedule does not supersede existing requirements or time schedules associated with other permits or regulatory requirements.

**Sewer System Management Plan Time Schedule**

<table>
<tr><td>Task and Associated Section</td><td colspan="4">Completion Date</td></tr>
<tr><td></td><td>Population > 100,000</td><td>Population between 100,000 and 10,000</td><td>Population between 10,000 and 2,500</td><td>Population < 2,500</td></tr>
<tr><td>Application for Permit Coverage<br>Section C</td><td colspan="4">6 months after WDRs Adoption</td></tr>
<tr><td>Reporting Program<br>Section G</td><td colspan="4">6 months after WDRs Adoption[1]</td></tr>
<tr><td>SSMP Development Plan and Schedule<br>No specific Section</td><td>9 months after WDRs Adoption[2]</td><td>12 months after WDRs Adoption[2]</td><td>15 months after WDRs Adoption[2]</td><td>18 months after WDRs Adoption[2]</td></tr>
<tr><td>Goals and Organization Structure<br>Section D 13 (i) & (ii)</td><td colspan="2">12 months after WDRs Adoption[2]</td><td colspan="2">18 months after WDRs Adoption[2]</td></tr>
<tr><td>Overflow Emergency Response Program<br>Section D 13 (vi)</td><td rowspan="3">24 months after WDRs Adoption[2]</td><td rowspan="3">30 months after WDRs Adoption[2]</td><td rowspan="3">36 months after WDRs Adoption[2]</td><td rowspan="3">39 months after WDRs Adoption[2]</td></tr>
<tr><td>Legal Authority<br>Section D 13 (iii)</td></tr>
<tr><td>Operation and Maintenance Program<br>Section D 13 (iv)</td></tr>
<tr><td>Grease Control Program<br>Section D 13 (vii)</td><td rowspan="3">36 months after WDRs Adoption</td><td rowspan="3">39 months after WDRs Adoption</td><td rowspan="3">48 months after WDRs Adoption</td><td rowspan="3">51 months after WDRs Adoption</td></tr>
<tr><td>Design and Performance<br>Section D 13 (v)</td></tr>
<tr><td>System Evaluation and Capacity Assurance Plan<br>Section D 13 (viii)</td></tr>
<tr><td>Final SSMP, incorporating all of the SSMP requirements<br>Section D 13</td><td></td><td></td><td></td><td></td></tr>
</table>

1. In the event that by July 1, 2006 the Executive Director is able to execute a memorandum of agreement (MOA) with the California Water Environment Association (CWEA) or discharger representatives outlining a strategy and time schedule for CWEA or another entity to provide statewide training on the adopted monitoring program, SSO database electronic reporting, and SSMP development, consistent with this Order, then the schedule of Reporting Program Section G shall be replaced with the following schedule:

| Reporting Program ***Section G*** | |
|---|---|
| Regional Boards 4, 8, and 9 | 8 months after WDRs Adoption |
| Regional Boards 1, 2, and 3 | 12 months after WDRs Adoption |
| Regional Boards 5, 6, and 7 | 16 months after WDRs Adoption |

If this MOU is not executed by July 1, 2006, the reporting program time schedule will remain six (6) months for all regions and agency size categories.

2. In the event that the Executive Director executes the MOA identified in note 1 by July 1, 2006, then the deadline for this task shall be extended by six (6) months. The time schedule identified in the MOA must be consistent with the extended time schedule provided by this note. If the MOA is not executed by July 1, 2006, the six (6) month time extension will not be granted.

## E. WDRs and SSMP AVAILABILITY

1. A copy of the general WDRs and the certified SSMP shall be maintained at appropriate locations (such as the Enrollee's offices, facilities, and/or Internet homepage) and shall be available to sanitary sewer system operating and maintenance personnel at all times.

## F. ENTRY AND INSPECTION

1. The Enrollee shall allow the State or Regional Water Boards or their authorized representative, upon presentation of credentials and other documents as may be required by law, to:

    a. Enter upon the Enrollee's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order;

    b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

d. Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order or as otherwise authorized by the California Water Code, any substances or parameters at any location.

## G. GENERAL MONITORING AND REPORTING REQUIREMENTS

1. The Enrollee shall furnish to the State or Regional Water Board, within a reasonable time, any information that the State or Regional Water Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Enrollee shall also furnish to the Executive Director of the State Water Board or Executive Officer of the applicable Regional Water Board, upon request, copies of records required to be kept by this Order.

2. The Enrollee shall comply with the attached Monitoring and Reporting Program No. 2006-0003 and future revisions thereto, as specified by the Executive Director. Monitoring results shall be reported at the intervals specified in Monitoring and Reporting Program No. 2006-0003. Unless superseded by a specific enforcement Order for a specific Enrollee, these reporting requirements are intended to replace other mandatory routine written reports associated with SSOs.

3. All Enrollees must obtain SSO Database accounts and receive a “Username” and “Password” by registering through the California Integrated Water Quality System (CIWQS). These accounts will allow controlled and secure entry into the SSO Database. Additionally, within 30days of receiving an account and prior to recording spills into the SSO Database, all Enrollees must complete the “Collection System Questionnaire”, which collects pertinent information regarding a Enrollee’s collection system. The “Collection System Questionnaire” must be updated at least every 12 months.

4. Pursuant to Health and Safety Code section 5411.5, any person who, without regard to intent or negligence, causes or permits any untreated wastewater or other waste to be discharged in or on any waters of the State, or discharged in or deposited where it is, or probably will be, discharged in or on any surface waters of the State, as soon as that person has knowledge of the discharge, shall immediately notify the local health officer of the discharge. Discharges of untreated or partially treated wastewater to storm drains and drainage channels, whether man-made or natural or concrete-lined, shall be reported as required above.

   Any SSO greater than 1,000 gallons discharged in or on any waters of the State, or discharged in or deposited where it is, or probably will be, discharged in or on any surface waters of the State shall also be reported to the Office of Emergency Services pursuant to California Water Code section 13271.

## H. CHANGE IN OWNERSHIP

1. This Order is not transferable to any person or party, except after notice to the Executive Director. The Enrollee shall submit this notice in writing at least 30 days in advance of any proposed transfer. The notice must include a written agreement between the existing and new Enrollee containing a specific date for the transfer of this Order's responsibility and coverage between the existing Enrollee and the new Enrollee. This agreement shall include an acknowledgement that the existing Enrollee is liable for violations up to the transfer date and that the new Enrollee is liable from the transfer date forward.

## I. INCOMPLETE REPORTS

1. If an Enrollee becomes aware that it failed to submit any relevant facts in any report required under this Order, the Enrollee shall promptly submit such facts or information by formally amending the report in the Online SSO Database.

## J. REPORT DECLARATION

1. All applications, reports, or information shall be signed and certified as follows:

    (i) All reports required by this Order and other information required by the State or Regional Water Board shall be signed and certified by a person designated, for a municipality, state, federal or other public agency, as either a principal executive officer or ranking elected official, or by a duly authorized representative of that person, as described in paragraph (ii) of this provision. (For purposes of electronic reporting, an electronic signature and accompanying certification, which is in compliance with the Online SSO database procedures, meet this certification requirement.)

    (ii) An individual is a duly authorized representative only if:

        (a) The authorization is made in writing by a person described in paragraph (i) of this provision; and

        (b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity.

## K. CIVIL MONETARY REMEDIES FOR DISCHARGE VIOLATIONS

1. The California Water Code provides various enforcement options, including civil monetary remedies, for violations of this Order.

2. The California Water Code also provides that any person failing or refusing to furnish technical or monitoring program reports, as required under this Order, or

falsifying any information provided in the technical or monitoring reports is subject to civil monetary penalties.

## L. SEVERABILITY

1. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.

2. This order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor protect the Enrollee from liability under federal, state or local laws, nor create a vested right for the Enrollee to continue the waste discharge.

## CERTIFICATION

The undersigned Clerk to the State Water Board does hereby certify that the foregoing is a full, true, and correct copy of general WDRs duly and regularly adopted at a meeting of the State Water Resources Control Board held on May 2, 2006.

AYE: Tam M. Doduc
Gerald D. Secundy

NO: Arthur G. Baggett

ABSENT: None

ABSTAIN: None

Song Her
Clerk to the Board

STATE OF CALIFORNIA
WATER RESOURCES CONTROL BOARD
**ORDER NO. WQ 2013-0058-EXEC**

AMENDING MONITORING AND REPORTING PROGRAM
FOR
STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR
SANITARY SEWER SYSTEMS

The State of California, Water Resources Control Board (hereafter State Water Board) finds:

1. The State Water Board is authorized to prescribe statewide general Waste Discharge Requirements (WDRs) for categories of discharges that involve the same or similar operations and the same or similar types of waste pursuant to Water Code section 13263(i).

2. Water Code section 13193 *et seq.* requires the Regional Water Quality Control Boards (Regional Water Boards) and the State Water Board (collectively, the Water Boards) to gather Sanitary Sewer Overflow (SSO) information and make this information available to the public, including but not limited to, SSO cause, estimated volume, location, date, time, duration, whether or not the SSO reached or may have reached waters of the state, response and corrective action taken, and an enrollee's contact information for each SSO event. An enrollee is defined as the public entity having legal authority over the operation and maintenance of, or capital improvements to, a sanitary sewer system greater than one mile in length.

3. Water Code section 13271, *et seq.* requires notification to the California Office of Emergency Services (Cal OES), formerly the California Emergency Management Agency, for certain unauthorized discharges, including SSOs.

4. On May 2, 2006, the State Water Board adopted Order 2006-0003-DWQ, "Statewide Waste Discharge Requirements for Sanitary Sewer Systems"[1] (hereafter SSS WDRs) to comply with Water Code section 13193 and to establish the framework for the statewide SSO Reduction Program.

5. Subsection G.2 of the SSS WDRs and the Monitoring and Reporting Program (MRP) provide that the Executive Director may modify the terms of the MRP at any time.

6. On February 20, 2008, the State Water Board Executive Director adopted a revised MRP for the SSS WDRs to rectify early notification deficiencies and ensure that first responders are notified in a timely manner of SSOs discharged into waters of the state.

7. When notified of an SSO that reaches a drainage channel or surface water of the state, Cal OES, pursuant to Water Code section 13271(a)(3), forwards the SSO notification information[2] to local government agencies and first responders including local public health officials and the applicable Regional Water Board. Receipt of notifications for a single SSO event from both the SSO reporter

---

[1] Available for download at:
http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2006/wqo/wqo2006_0003.pdf

[2] Cal OES Hazardous Materials Spill Reports available Online at:
http://w3.calema.ca.gov/operational/malhaz.nsf/$defaultview and http://w3.calema.ca.gov/operational/malhaz.nsf

and Cal OES is duplicative. To address this, the SSO notification requirements added by the February 20, 2008 MRP revision are being removed in this MRP revision.

8. In the February 28, 2008 Memorandum of Agreement between the State Water Board and the California Water and Environment Association (CWEA), the State Water Board committed to re-designing the CIWQS[3] Online SSO Database to allow "event" based SSO reporting versus the original "location" based reporting. Revisions to this MRP and accompanying changes to the CIWQS Online SSO Database will implement this change by allowing for multiple SSO appearance points to be associated with each SSO event caused by a single asset failure.

9. Based on stakeholder input and Water Board staff experience implementing the SSO Reduction Program, SSO categories have been revised in this MRP. In the prior version of the MRP, SSOs have been categorized as Category 1 or Category 2. This MRP implements changes to SSO categories by adding a Category 3 SSO type. This change will improve data management to further assist Water Board staff with evaluation of high threat and low threat SSOs by placing them in unique categories (i.e., Category 1 and Category 3, respectively). This change will also assist enrollees in identifying SSOs that require Cal OES notification.

10. Based on over six years of implementation of the SSS WDRs, the State Water Board concludes that the February 20, 2008 MRP must be updated to better advance the SSO Reduction Program[4] objectives, assess compliance, and enforce the requirements of the SSS WDRs.

**IT IS HEREBY ORDERED THAT:**

Pursuant to the authority delegated by Water Code section 13267(f), Resolution 2002-0104, and Order 2006-0003-DWQ, the MRP for the SSS WDRs (Order 2006-0003-DWQ) is hereby amended as shown in Attachment A and shall be effective on September 9, 2013.

8/6/13
Date

Thomas Howard
Executive Director

[3] California Integrated Water Quality System (CIWQS) publicly available at http://www.waterboards.ca.gov/ciwqs/publicreports.shtml

[4] Statewide Sanitary Sewer Overflow Reduction Program information is available at: http://www.waterboards.ca.gov/water_issues/programs/sso/

**ATTACHMENT A**

STATE WATER RESOURCES CONTROL BOARD
**ORDER NO. WQ 2013-0058-EXEC**

AMENDING MONITORING AND REPORTING PROGRAM
FOR
STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR
SANITARY SEWER SYSTEMS

This Monitoring and Reporting Program (MRP) establishes monitoring, record keeping, reporting and public notification requirements for Order 2006-0003-DWQ, "Statewide General Waste Discharge Requirements for Sanitary Sewer Systems" (SSS WDRs). This MRP shall be effective from September 9, 2013 until it is rescinded. The Executive Director may make revisions to this MRP at any time. These revisions may include a reduction or increase in the monitoring and reporting requirements. All site specific records and data developed pursuant to the SSS WDRs and this MRP shall be complete, accurate, and justified by evidence maintained by the enrollee. Failure to comply with this MRP may subject an enrollee to civil liabilities of up to $5,000 a day per violation pursuant to Water Code section 13350; up to $1,000 a day per violation pursuant to Water Code section 13268; or referral to the Attorney General for judicial civil enforcement. The State Water Resources Control Board (State Water Board) reserves the right to take any further enforcement action authorized by law.

## A. SUMMARY OF MRP REQUIREMENTS

**Table 1 – Spill Categories and Definitions**

| CATEGORIES | Sewer Overflow (SSO) definition] |
|---|---|
| **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:<br>• Reach surface water and/or reach a drainage channel tributary to a surface water; or<br>• 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** | 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. |
| **CATEGORY 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 **within a privately owned sewer lateral** connected to the enrollee's sanitary sewer system or from other private sewer assets. PLSDs that the enrollee becomes aware of may be voluntarily reported to the California Integrated Water Quality System (CIWQS) Online SSO Database. |

**Table 2 – Notification, Reporting, Monitoring, and Record Keeping Requirements**

| ELEMENT | REQUIREMENT | METHOD |
|---|---|---|
| **NOTIFICATION** (see section B of MRP) | • 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**, notify the California Office of Emergency Services (Cal OES) and obtain a notification control number. | Call Cal OES at: **(800) 852-7550** |
| **REPORTING** (see section C of MRP) | • Category 1 SSO: Submit draft report within three business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date.<br>• Category 2 SSO: Submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of the SSO end date.<br>• Category 3 SSO: Submit certified report within 30 calendar days of the end of month in which SSO the occurred.<br>• SSO Technical Report: 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.<br>• "No Spill" Certification: 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.<br>• Collection System Questionnaire: Update and certify every 12 months. | Enter data into the CIWQS Online SSO Database (http://ciwqs.waterboards.ca.gov/), certified by enrollee's Legally Responsible Official(s). |
| **WATER QUALITY MONITORING** (see section D of MRP) | • 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 are required to be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters. |
| **RECORD KEEPING** (see section E of MRP) | • SSO event records.<br>• Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP.<br>• Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters.<br>• 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. |

## B. NOTIFICATION REQUIREMENTS

Although Regional Water Quality Control Boards (Regional Water Boards) and the State Water Board (collectively, the Water Boards) staff do not have duties as first responders, this MRP is an appropriate mechanism to ensure that the agencies that have first responder duties are notified in a timely manner in order to protect public health and beneficial uses.

1. For any Category 1 SSO greater than or equal to 1,000 gallons that results in a discharge to a surface water or spilled in a location where it probably will be discharged to surface water, either directly or by way of a drainage channel or MS4, the enrollee shall, as soon as possible, but not later than two (2) hours after (A) the enrollee has knowledge of the discharge, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures, notify the Cal OES and obtain a notification control number.

2. To satisfy notification requirements for each applicable SSO, the enrollee shall provide the information requested by Cal OES before receiving a control number. Spill information requested by Cal OES may include:

    i. Name of person notifying Cal OES and direct return phone number.
    ii. Estimated SSO volume discharged (gallons).
    iii. If ongoing, estimated SSO discharge rate (gallons per minute).
    iv. SSO Incident Description:
        a. Brief narrative.
        b. On-scene point of contact for additional information (name and cell phone number).
        c. Date and time enrollee became aware of the SSO.
        d. Name of sanitary sewer system agency causing the SSO.
        e. SSO cause (if known).
    v. Indication of whether the SSO has been contained.
    vi. Indication of whether surface water is impacted.
    vii. Name of surface water impacted by the SSO, if applicable.
    viii. Indication of whether a drinking water supply is or may be impacted by the SSO.
    ix. Any other known SSO impacts.
    x. SSO incident location (address, city, state, and zip code).

3. Following the initial notification to Cal OES and until such time that an enrollee certifies the SSO report in the CIWQS Online SSO Database, the enrollee shall provide updates to Cal OES regarding substantial changes to the estimated volume of untreated or partially treated sewage discharged and any substantial change(s) to known impact(s).

4. PLSDs: The enrollee is strongly encouraged to notify Cal OES of discharges greater than or equal to 1,000 gallons of untreated or partially treated wastewater that result or may result in a discharge to surface water resulting from failures or flow conditions within a privately owned sewer lateral or from other private sewer asset(s) if the enrollee becomes aware of the PLSD.

## C. REPORTING REQUIREMENTS

1. **CIWQS Online SSO Database Account:** All enrollees shall obtain a CIWQS Online SSO Database account and receive a "Username" and "Password" by registering through CIWQS. These accounts allow controlled and secure entry into the CIWQS Online SSO Database.

2. **SSO Mandatory Reporting Information:** For reporting purposes, if one SSO event results in multiple appearance points in a sewer system asset, the enrollee shall complete one SSO report in the CIWQS Online SSO Database which 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 caused the SSO, and provide descriptions of the locations of all other discharge points associated with the SSO event.

3. **SSO Categories**

   i. **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:

      a. Reach surface water and/or reach a drainage channel tributary to a surface water; or

      b. Reach a 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).

   ii. **Category 2** – Discharges of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from an enrollee's sanitary sewer system failure or flow condition that does not reach a surface water, a drainage channel, or the MS4 unless the entire SSO volume discharged to the storm drain system is fully recovered and disposed of properly.

   iii. **Category 3** – All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.

4. **Sanitary Sewer Overflow Reporting to CIWQS - Timeframes**

   i. **Category 1 and Category 2 SSOs** – All SSOs that meet the above criteria for Category 1 or Category 2 SSOs shall be reported to the CIWQS Online SSO Database:

      a. Draft reports for Category 1 and Category 2 SSOs shall be submitted to the CIWQS Online SSO Database within three (3) business days of the enrollee becoming aware of the SSO. Minimum information that shall be reported in a draft Category 1 SSO report shall include all information identified in section 8.i.a. below. Minimum information that shall be reported in a Category 2 SSO draft report shall include all information identified in section 8.i.c below.

      b. A final Category 1 or Category 2 SSO report shall be certified through the CIWQS Online SSO Database within 15 calendar days of the end date of the SSO. Minimum information that shall be certified in the final Category 1 SSO report shall include all information identified in section 8.i.b below. Minimum information that shall be certified in a final Category 2 SSO report shall include all information identified in section 8.i.d below.

ii. **Category 3 SSOs** – All SSOs that meet the above criteria for Category 3 SSOs shall be reported to the CIWQS Online SSO Database and certified within 30 calendar days after the end of the calendar month in which the SSO occurs (e.g., all Category 3 SSOs occurring in the month of February shall be entered into the database and certified by March 30). Minimum information that shall be certified in a final Category 3 SSO report shall include all information identified in section 8.i.e below.

iii. **"No Spill" Certification** – If there are no SSOs during the calendar month, the enrollee shall either 1) certify, within 30 calendar days after the end of each calendar month, a "No Spill" certification statement in the CIWQS Online SSO Database certifying that there were no SSOs for the designated month, or 2) certify, quarterly within 30 calendar days after the end of each quarter, "No Spill" certification statements in the CIWQS Online SSO Database certifying that there were no SSOs for each month in the quarter being reported on. For quarterly reporting, the quarters are Q1 - January/ February/ March, Q2 - April/May/June, Q3 - July/August/September, and Q4 - October/November/December.

If there are no SSOs during a calendar month but the enrollee reported a PLSD, the enrollee shall still certify a "No Spill" certification statement for that month.

iv. **Amended SSO Reports** – The enrollee may update or add additional information to a certified SSO report within 120 calendar days after the SSO end date by amending the report or by adding an attachment to the SSO report in the CIWQS Online SSO Database. SSO reports certified in the CIWQS Online SSO Database prior to the adoption date of this MRP may only be amended up to 120 days after the effective date of this MRP. After 120 days, the enrollee may contact the SSO Program Manager to request to amend an SSO report if the enrollee also submits justification for why the additional information was not available prior to the end of the 120 days.

5. **SSO Technical Report**

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

i. **Causes and Circumstances of the SSO:**

a. Complete and detailed explanation of how and when the SSO was discovered.

b. Diagram showing the SSO failure point, appearance point(s), and final destination(s).

c. Detailed description of the methodology employed and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.

d. Detailed description of the cause(s) of the SSO.

e. Copies of original field crew records used to document the SSO.

f. Historical maintenance records for the failure location.

ii. **Enrollee's Response to SSO:**

a. Chronological narrative description of all actions taken by enrollee to terminate the spill.

b. Explanation of how the SSMP Overflow Emergency Response plan was implemented to respond to and mitigate the SSO.

c. Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.

iii. **Water Quality Monitoring:**

a. Description of all water quality sampling activities conducted including analytical results and evaluation of the results.

b. Detailed location map illustrating all water quality sampling points.

6. **PLSDs**

Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the enrollee's sanitary sewer system or from other private sanitary sewer system assets may be voluntarily reported to the CIWQS Online SSO Database.

i. The enrollee is also encouraged to provide notification to Cal OES per section B above when a PLSD greater than or equal to 1,000 gallons has or may result in a discharge to surface water. For any PLSD greater than or equal to 1,000 gallons regardless of the spill destination, the enrollee is also encouraged to file a spill report as required by Health and Safety Code section 5410 et. seq. and Water Code section 13271, or notify the responsible party that notification and reporting should be completed as specified above and required by State law.

ii. If a PLSD is recorded in the CIWQS Online SSO Database, the enrollee must identify the sewage discharge as occurring and caused by a private sanitary sewer system asset and should identify a responsible party (other than the enrollee), if known. Certification of PLSD reports by enrollees is not required.

7. **CIWQS Online SSO Database Unavailability**

In the event that the CIWQS Online SSO Database is not available, the enrollee must fax or e-mail all required information to the appropriate Regional Water Board office in accordance with the time schedules identified herein. In such event, the enrollee must also enter all required information into the CIWQS Online SSO Database when the database becomes available.

8. **Mandatory Information to be Included in CIWQS Online SSO Reporting**

All enrollees shall obtain a CIWQS Online SSO Database account and receive a "Username" and "Password" by registering through CIWQS which can be reached at CIWQS@waterboards.ca.gov or by calling (866) 792-4977, M-F, 8 A.M. to 5 P.M. These accounts will allow controlled and secure entry into the CIWQS Online SSO Database. Additionally, within thirty (30) days of initial enrollment and prior to recording SSOs into the CIWQS Online SSO Database, all enrollees must complete a Collection System Questionnaire (Questionnaire). The Questionnaire shall be updated at least once every 12 months.

i. **SSO Reports**

At a minimum, the following mandatory information shall be reported prior to finalizing and certifying an SSO report for each category of SSO:

a. **Draft Category 1 SSOs**: At a minimum, the following mandatory information shall be reported for a draft Category 1 SSO report:

1. SSO Contact Information: Name and telephone number of enrollee contact person who can answer specific questions about the SSO being reported.
2. SSO Location Name.
3. Location of the overflow event (SSO) by entering GPS coordinates. If a single overflow event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the SSO appearance point explanation field.
4. Whether or not the SSO reached surface water, a drainage channel, or entered and was discharged from a drainage structure.
5. Whether or not the SSO reached a municipal separate storm drain system.
6. Whether or not the total SSO volume that reached a municipal separate storm drain system was fully recovered.
7. Estimate of the SSO volume, inclusive of all discharge point(s).
8. Estimate of the SSO volume that reached surface water, a drainage channel, or was not recovered from a storm drain.
9. Estimate of the SSO volume recovered (if applicable).
10. Number of SSO appearance point(s).
11. Description and location of SSO appearance point(s). If a single sanitary sewer system failure results in multiple SSO appearance points, each appearance point must be described.
12. SSO start date and time.
13. Date and time the enrollee was notified of, or self-discovered, the SSO.
14. Estimated operator arrival time.
15. For spills greater than or equal to 1,000 gallons, the date and time Cal OES was called.
16. For spills greater than or equal to 1,000 gallons, the Cal OES control number.

b. **Certified Category 1 SSOs**: At a minimum, the following mandatory information shall be reported for a certified Category 1 SSO report, in addition to all fields in section 8.i.a :

1. Description of SSO destination(s).
2. SSO end date and time.
3. SSO causes (mainline blockage, roots, etc.).
4. SSO failure point (main, lateral, etc.).
5. Whether or not the spill was associated with a storm event.
6. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the overflow; and a schedule of major milestones for those steps.
7. Description of spill response activities.
8. Spill response completion date.
9. Whether or not there is an ongoing investigation, the reasons for the investigation and the expected date of completion.

10. Whether or not a beach closure occurred or may have occurred as a result of the SSO.
11. Whether or not health warnings were posted as a result of the SSO.
12. Name of beach(es) closed and/or impacted. If no beach was impacted, NA shall be selected.
13. Name of surface water(s) impacted.
14. If water quality samples were collected, identify parameters the water quality samples were analyzed for. If no samples were taken, NA shall be selected.
15. If water quality samples were taken, identify which regulatory agencies received sample results (if applicable). If no samples were taken, NA shall be selected.
16. Description of methodology(ies) and type of data relied upon for estimations of the SSO volume discharged and recovered.
17. SSO Certification: Upon SSO Certification, the CIWQS Online SSO Database will issue a final SSO identification (ID) number.

c. **Draft Category 2 SSOs**: At a minimum, the following mandatory information shall be reported for a draft Category 2 SSO report:

1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO.

d. **Certified Category 2 SSOs**: At a minimum, the following mandatory information shall be reported for a certified Category 2 SSO report:

1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO and Items 1-9, and 17 in section 8.i.b above for Certified Category 1 SSO.

e. **Certified Category 3 SSOs**: At a minimum, the following mandatory information shall be reported for a certified Category 3 SSO report:

1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO and Items 1-5, and 17 in section 8.i.b above for Certified Category 1 SSO.

ii. **Reporting SSOs to Other Regulatory Agencies**

These reporting requirements do not preclude an enrollee from reporting SSOs to other regulatory agencies pursuant to state law. In addition, these reporting requirements do not replace other Regional Water Board notification and reporting requirements for SSOs.

iii. **Collection System Questionnaire**

The required Questionnaire (see subsection G of the SSS WDRs) provides the Water Boards with site-specific information related to the enrollee's sanitary sewer system. The enrollee shall complete and certify the Questionnaire at least every 12 months to facilitate program implementation, compliance assessment, and enforcement response.

iv. **SSMP Availability**

The enrollee shall provide the publicly available internet web site address to the CIWQS Online SSO Database where a downloadable copy of the enrollee's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP is posted. If all of the SSMP documentation listed in this subsection is not publicly available on the Internet, the enrollee shall comply with the following procedure:

a. Submit an **electronic** copy of the enrollee's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP to the State Water Board, within 30 days of that approval and within 30 days of any subsequent SSMP re-certifications, to the following mailing address:

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

## D. WATER QUALITY MONITORING REQUIREMENTS:

To comply with subsection D.7(v) of the SSS WDRs, the enrollee shall develop and implement an SSO Water Quality Monitoring Program to assess impacts from SSOs to surface waters in which 50,000 gallons or greater are spilled to surface waters. The SSO Water Quality Monitoring Program, shall, at a minimum:

1. Contain protocols for water quality monitoring.

2. Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.).

3. 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 enrollee becoming aware of the SSO, require water quality sampling for, at a minimum, the following constituents:
   i. Ammonia
   ii. Appropriate Bacterial indicator(s) per the applicable Basin Plan water quality objective or Regional Board direction which may include total and fecal coliform, enterococcus, and e-coli.

## E. RECORD KEEPING REQUIREMENTS:

The following records shall be maintained by the enrollee for a minimum of five (5) years and shall be made available for review by the Water Boards during an onsite inspection or through an information request:

1. General Records: The enrollee shall maintain records to document compliance with all provisions of the SSS WDRs and this MRP for each sanitary sewer system owned including any required records generated by an enrollee's sanitary sewer system contractor(s).

2. SSO Records: The enrollee shall maintain records for each SSO event, including but not limited to:
   i. Complaint records documenting how the enrollee responded to all notifications of possible or actual SSOs, both during and after business hours, including complaints that do not

result in SSOs. Each complaint record shall, at a minimum, include the following information:

a. Date, time, and method of notification.

b. Date and time the complainant or informant first noticed the SSO.

c. Narrative description of the complaint, including any information the caller can provide regarding whether or not the complainant or informant reporting the potential SSO knows if the SSO has reached surface waters, drainage channels or storm drains.

d. Follow-up return contact information for complainant or informant for each complaint received, if not reported anonymously.

e. Final resolution of the complaint.

ii. Records documenting steps and/or remedial actions undertaken by enrollee, using all available information, to comply with section D.7 of the SSS WDRs.

iii. Records documenting how all estimate(s) of volume(s) discharged and, if applicable, volume(s) recovered were calculated.

3. Records documenting all changes made to the SSMP since its last certification indicating when a subsection(s) of the SSMP was changed and/or updated and who authorized the change or update. These records shall be attached to the SSMP.

4. Electronic monitoring records relied upon for documenting SSO events and/or estimating the SSO volume discharged, including, but not limited to records from:

i. Supervisory Control and Data Acquisition (SCADA) systems

ii. Alarm system(s)

iii. Flow monitoring device(s) or other instrument(s) used to estimate wastewater levels, flow rates and/or volumes.

## F. CERTIFICATION

1. All information required to be reported into the CIWQS Online SSO Database shall be certified by a person designated as described in subsection J of the SSS WDRs. This designated person is also known as a Legally Responsible Official (LRO). An enrollee may have more than one LRO.

2. Any designated person (i.e. an LRO) shall be registered with the State Water Board to certify reports in accordance with the CIWQS protocols for reporting.

3. Data Submitter (DS): Any enrollee employee or contractor may enter draft data into the CIWQS Online SSO Database on behalf of the enrollee if authorized by the LRO and registered with the State Water Board. However, only LROs may certify reports in CIWQS.

4. The enrollee shall maintain continuous coverage by an LRO. Any change of a registered LRO or DS (e.g., retired staff), including deactivation or a change to the LRO's or DS's contact information, shall be submitted by the enrollee to the State Water Board within 30 days of the change by calling (866) 792-4977 or e-mailing help@ciwqs.waterboards.ca.gov.

5. A registered designated person (i.e., an LRO) shall certify all required reports under penalty of perjury laws of the state as stated in the CIWQS Online SSO Database at the time of certification.

**CERTIFICATION**

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of an order amended by the Executive Director of the State Water Resources Control Board.

7/30/13
Date

Jeanine Townsend
Clerk to the Board