



# **Sanitary Sewer Management Plan November 2020**

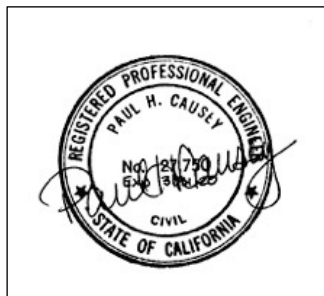
**WDIDS Covered:  
Anthony Chabot 2SSO11410  
Coyote Hills 2SSO11481  
Del Valle 2SSO11413  
Garin 2SSO11411**

**Originally Certified: June 6, 2012**

**Resolution No: 2012-6-140**

**Readopted: November 17, 2020**

**Resolution No: 2020-11-266**



**Prepared In Conjunction With:  
Causey Consulting  
Walnut Creek, CA 94598**

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## **Appendix A: Enrolled Park Maps**

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*EBRPD has contracted for a full asset evaluation and remapping of the four enrolled parks under the WDR. At the time of the SSMP adoption by the Board and due to the Covid-19 pandemic, the project schedule was significantly delayed. Upon completion of the current contract, the final revised maps should be placed here.*

**Appendix B: Sewer System Management Plan Adoption Documents**

**EAST BAY REGIONAL PARK DISTRICT**

**RESOLUTION NO.: 2012 – 6 - 140**

**June 6, 2012**

**APPROVAL OF SANITARY SEWER MANAGEMENT PLANS IN ACCORDANCE WITH STATE WATER RESOURCES CONTROL BOARD ORDER 2006-0003-DWQ STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR SANITARY SEWER SYSTEMS: ANTHONY CHABOT, COYOTE HILLS, DEL VALLE AND GARIN REGIONAL PARKS**

WHEREAS, on May 2, 2006 the State Water Resources Control Board (SWRCB) adopted Wastewater Discharge Requirements (WDR) Order #2006-0003-DWQ which mandated all federal and state agencies, municipalities, counties, districts, and other public entities ("enrollees") that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated sewer to a Publicly Owned Treatment Works (POTW) facility in the State of California to comply with the terms of this Order; and

WHEREAS, the Order required that to facilitate proper funding and management of sanitary sewer systems, each enrollee must develop and implement a system-specific Sewer System Management Plan (SSMP); and

WHEREAS, the District developed and implemented sanitary sewer management plans for Anthony Chabot, Coyote Hills, Del Valle and Garin Regional Parks;

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors of the East Bay Regional Park District hereby approves the implementation of Sanitary Sewer Management Plans for Anthony Chabot, Coyote Hills, Del Valle, and Garin Regional Parks;

Moved by Director Radke, seconded by Director Dotson, and adopted this 6<sup>th</sup> day of June, 2012, by the following vote:

FOR: Directors Whitney Dotson, Beverly Lane, Carol Severin, Doug Siden, John Sutter, Ted Radke and Ayn Wieskamp.

AGAINST: NONE  
ABSTAIN: NONE  
ABSENT: NONE

  
Carol Severin  
Board President

**CERTIFICATION**

I, Allen Pulido, Clerk of the Board of Directors of the East Bay Regional Park District, do hereby certify that the above and foregoing is a full, true and correct copy of Resolution No. 2012-06-140 adopted by the Board of Directors at a regular meeting held on June 6, 2012.



**EAST BAY REGIONAL PARK DISTRICT**

**RESOLUTION NO.: 2020 – 11 - 266**

**November 17, 2020**

**APPROVAL OF SANITARY SEWER SYSTEM MANAGEMENT PLAN UPDATE IN  
ACCORDANCE WITH STATE WATER RESOURCES CONTROL BOARD (SWRCB)  
ADOPTED ORDER 2006-003-DWQ – STATEWIDE GENERAL WASTE DISCHARGE  
REQUIREMENTS (WDR) FOR SANITARY SEWER SYSTEMS:  
DISTRICT-WIDE**

WHEREAS, in May 2006, the State Water Resources Control Board (SWRCB) adopted Order No. 2006-003-DWQ – Statewide General Waste Discharge Requirements (WDR) for Sanitary Sewer Systems which mandated all federal and state agencies, municipalities, counties, districts and other public entities ("enrollees") in California that own or operate sanitary sewer lines greater than one mile in length that discharge to a publicly owned treatment works comply with the WDR; and

WHEREAS, this WDR requires that to facilitate proper funding and management of sanitary sewer systems, each enrollee must develop and implement a Sewer System Management Plan (SSMP); and

WHEREAS, the East Bay Regional Park District, as environmental stewards of the system, has a responsibility to effectively monitor, maintain and manage the sanitary sewer system; and

WHEREAS, the District developed and implemented the initial SSMPs for Anthony Chabot, Coyote Hills, Del Valle and Garin Regional Parks in 2006 and the Board of Directors approved them on July 6, 2012 per resolution 2012-6-140; and

WHEREAS, the SWRCB's WDR was updated in 2013 and required the SSMP updates to be approved by the agency's governing board for certification upon its completion with the State Water Resources Control Board; and

WHEREAS, the District is required to update its SSMP every five years; and

WHEREAS, to improve the management of its sewer system and comply with the WDR, the District's SSMP update includes an Overflow Emergency Response Plan, a Water Quality Monitoring Plan and combined the four parks into one SSMP; and

WHEREAS, the WDR requires the agency's Legally Responsible Official to certify in the State Sanitary Sewer database the adoption of the SSMP by the governing body;

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors of the East Bay Regional Park District hereby approves the 2020 Sewer System Management Plan Update as required by the State Water Resources Control Board Order No. 2006-003 Statewide General

**Waste Discharge Requirements for Sanitary Sewer Systems; and**

**BE IT FURTHER RESOLVED**, that the Board of Directors hereby authorizes the General Manager or designee to submit the above-mentioned SSMP update to the SWRCB on behalf of the Park District.

Moved by Director Wieskamp, seconded by Director Waespi, and approved this 17<sup>th</sup> day of November 2020 by the following vote:

**FOR:** Colin Coffey, Ellen Corbett, Elizabeth Echols, Beverly Lane, Dee Rosario,  
Dennis Waespi, Ayn Wieskamp.

**AGAINST:** None.  
**ABSTAIN:** None.  
**ABSENT:** None.

**CERTIFICATION**

I, Yolande Barial Knight, Clerk of the Board of Directors of the East Bay Regional Park District, do hereby certify that the above and foregoing is a full, true and correct copy of Resolution No. 2020-11-266 adopted by the Board of Directors at a regular meeting held on Nov. 17, 2020.

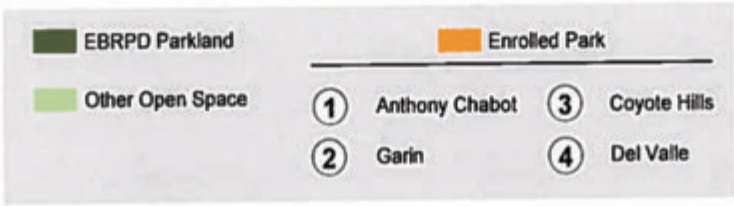
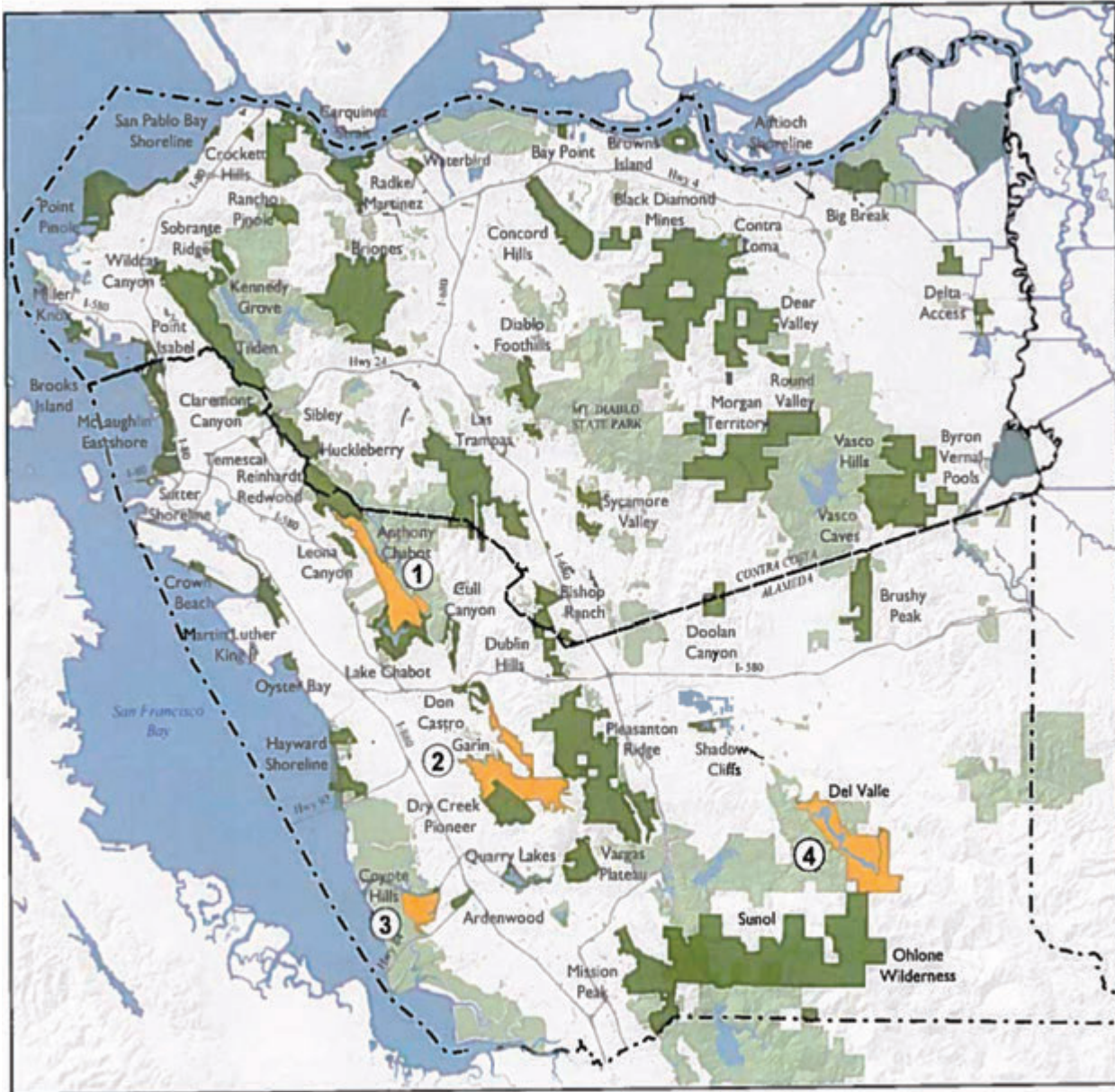
*Yolande Barial Knight*

  
Ellen M. Corbett

Board President



# East Bay Regional Park District Sanitary Sewer System Management Plan Update District Wide



© GIS/McKaskey Projects\_2020 VASD Stewardship Ecological Services District Sanitary Sewer Management Plan Update 11/2/2020

**Appendix C: Sewer System Management Audit Reports**

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**Sanitary Sewer Management Plan**

**Internal Audit Report**

**Audit Period: January 1, 2017 to December 30, 2019**

**WDIDS Covered:**

**Anthony Chabot 2SSO11410**

**Coyote Hills 2SSO11481**

**De Valle 2SSO11413**

**Garin 2SSO11411**

**December 2019**

**Prepared by:**

**Causey Consulting**

**Walnut Creek, CA 94598**



**CERTIFICATION**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations

*Matthew Gaul*

Matthew Gaul (Sep 28, 2020 16:30 PDT)

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*Matt Gaul, Chief of Stewardship  
Legally Responsible Official*

*Kelly Barrington*

Kelly Barrington (Sep 28, 2020 17:06 PDT)

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*Kelly Barrington, Chief of MAST  
Legally Responsible Official*

## Sanitary Sewer Management Plan Internal Audit Report

### EXECUTIVE SUMMARY

December 2019

#### INTRODUCTION

This internal audit (audit) reviews the effectiveness of the four (4) East Bay Regional Park District (EBRPD or District) Sanitary Sewer Management Plans (SSMP)s documentation and implementation for the calendar years 2017, 2018 and 2019. The four enrolled parks and their State Waste Discharge Identification Numbers (WDID) and infrastructure information include:

Table 1: EBRPD Enrolled Parks Sanitary Asset Information\*

Park	State WDID	Size, acres	Force Mains, miles	Gravity Lines, miles	Lift Stations	Discharge Location
Anthony Chabot	2SSO11410	3168	0.9	1.0	2	CVSD
Coyote Hills	2SSO11481	1274	1.4	1.1	1	USD
Del Valle	2SSO11413	4316	1.6	0.8	6	On-site
Garin	2SSO11411	3314	0.3	0.8	1	Hayward
Totals		12,072	4.2	3.7	10	

\*Source: 2014 Sanitary Sewer Master plans for each of the four enrolled parks.

The audit is intended to meet State Water Resources Control Board (SWRCB) 2006 waste discharge requirements (WDR), State Water Board Order No. 2006-0003-DWQ, Section D13(x) for agencies that own or operate more than one mile of sanitary sewer collection systems discharging to a publicly owned treatment plant. In addition, it also evaluates conformance to the 2013 revised Monitoring and Reporting Plan (MRP) Order No. 2013-0058-EXEC. The four parks above are the only parks in the seventy-four park EBRPD system that meet the above criteria for enrollment with the State of California. Consequently, this audit assesses the current state of compliance with WDR provisions including effectiveness of program implementation, identifies "deficiencies" found in the SSMPs and recommends corrective actions to remedy those deficiencies for these four parks programs only. In September 2019, The District submitted a completion report compliance schedule to the RWQCB to address specific deficiencies as identified in their Inspection Report and Staff Enforcement letter (dated July 9, 2019). This audit includes those deficiencies identified by the RWQCB and identifies additional concerns. The audit was authorized pursuant to an agreement between the District and Causey Consulting dated August 1, 2019. Internal audits of each of the four SSMPs must be conducted every two years from the original adoption date of the SSMP by the governing board. The original SSMP for each of the four parks were adopted by the EBRPD Board on June 6, 2012. The current audit report covers the period from January 1, 2017 to December 30, 2019.

## I. SSMP Findings

The purpose of the SSMP Audit is to evaluate the compliance with and effectiveness of the District's four SSMPs and collection system programs and to identify needed improvements. The full SSMP Audit Report discussed general findings and recommendations, evaluates the District's program for compliance and non-compliance with each SSMP element of the State requirements and identifies sanitary collection system strengths and opportunities for improvement (deficiencies).

This audit is comprehensive and addresses issues affecting the SSMP program; ranging from record-keeping to organizational roles and responsibilities. The issues of most fundamental concern to ensure the District has a functioning SSMP program include:

### 1. Asset Management

**None of the parks has a complete asset register of sanitary and storm sewer infrastructure assets including basic pipe information, age, and material types, operating information or lift station asset and operating requirements.** Further there is no clearly documented statement of roles and responsibilities for the four sewer programs as to who maintains accurate asset management records and responsibilities. Lack of complete asset register for both sewer and storm assets is needed to enable a proper asset management program for proper renewal and replacement of these assets that is not purely reactive in nature. The current run to failure philosophy is more expensive and raises the risk and liability of the District from unplanned events and environmental impairment and enforcement resulting from asset failures.

**Corrective Action:** The development and completion of a detailed asset register and assignment of responsibility is required for future renewal and replacement programs for all sewer and storm assets and will assist with the prioritization of any operations and replacement programs as well as inform both short and long term capital programs which do not now exist but are required by the WDR. This is also a utility best management practice.

### 2. Operations & Maintenance (O&M)

**There is not a well-defined and consistent maintenance program for the sewer pipelines, manholes, force mains and other sewer assets at the enrolled parks based upon need, age and condition assessments of the assets.**

For operations and maintenance, each park operates individually without strong O&M oversight and no consistent pipeline maintenance or assessment philosophy. Each park is left to deal with these issues individually as part of their regular ongoing operations. There is no coordinated effort or management oversight to assure consistency nor to regularly report annual compliance with the programs outlined in the SSMPs or the performance metrics established in the Element 9. This approach leads to:

- Inconsistent line cleaning and lift station maintenance occurring across the four parks.
- No formal work order system for tracking customer complaints or completed maintenance work other than "stored at central location" as required by the WDR.
- Proper metrics for O&M are stated but not monitored, measured or documented regularly as stated in the SSMPs at any of the four parks – no historical metrics were provided during the audit.

All four parks rely on other departments for maintenance other than basic sewer operational checks and initial first responder emergency response. These latter responsibilities fall to at least five to seven other departments/divisions for completion and compliance with the WDR and MRP requirements. While these groups do communicate reactively as needed, they also operate in silos as to their roles thus creating the potential for miscommunication and lack of compliance with the required responses in the sewer programs.

**Corrective Action:** Properly define a coordinated regular O&M and condition assessment programs and management responsibilities for implementing those programs for all sewer collection systems programs.

### 3. Emergency Response Planning

**There are no clearly defined and documented roles and responsibilities for each of the division and departments responsible for emergency response activities.** During a single overflow event, five different parks departments may be required to participate with no single person responsible for the coordination and decision making and final certification during and following the event. Responsibilities are transferred among the various departments as they either respond or receive information from the field. This creates significant opportunities for inconsistent and poor record keeping not only of the response but especially the event documentation supporting the certified report at the State. This results in an increased level of risk and liability for District customer satisfaction and possible environmental impairment. Lack of a single overflow event coordinator or department increases the risk and liability for incomplete record keeping and reporting especially if enforcement or litigation results from inconsistent practices and reports. In addition, it can place the LRO who certified the event in legal jeopardy from a lack of improper documentation.

The sewer program does not have a well-defined training matrix for sewer program personnel and emergency responders. The four parks staffs and MAST responders do not currently maintain necessary first responder equipment and supplies to assist with timely containment of sewage overflows at the parks. There currently are no lift station, RV dump stations and comminutors contingency emergency response plans for the ten lift stations in the four parks. No maps or information on storm drainage systems are available to emergency response crews in the field for use should these systems be impacted by an SSO.

There is no regular training or field emergency response completed regularly; no discussion of field exercises or training on SSMPS, OERP, WDR, MRP, etc. There is no definition or discussion of a Water Quality Management Plan (WQMP) defined as required.

**Corrective Action:** Properly define responsibility for emergency response and for providing annual training for emergency response. Develop a single Overflow Emergency Response Plan (OERP) to describe emergency response personnel and coordinator responsibilities, response equipment and supplies, map of storm drainage and other site information for each park. Define annual sewer system and emergency response training program matrix by employee classification.

### 4. Incident Reporting

**No complete documentation or forms used for each SSO event.**

While the four parks experience of sewage overflows is stellar with only seven in the past twelve years, the internal files used to document these events do not contain sufficient documentation of event; especially start times and both spill and recovered volume assumptions and calculations which is a key concern for regulators and the environmental community. EBRPD does not create proper and complete documentation of a CIWQS certified SSO report especially for start times and for spill and recovered volumes. There is no LRO certification of the SSO supporting file. There is no documentation of sewer related calls to the Dispatch center. There is no documentation of debrief and failure analysis from an event leading to modifications or enhancements to response procedures. There are no standard EBRPD forms developed or used for the complete documentation of an overflow event. The parks do not contain proper signage or information for sewer related operations and reporting.

**Corrective Action:**

Create comprehensive documentation requirements and forms for the reporting of sewer overflows and outreach materials and park signage for customer reporting. Create process for comprehensive debrief/failure analysis and documentation of an SSO event with all parties involved during the event from dispatch to final certification and file approval.

**East Bay Regional Park District  
Internal Audit Report  
Sewer System Management Plan  
Causey Consulting  
December 2019**

**Acronym Listing Used in This Audit Report**

BMP	Best Management Practices
Cal OES	State of California Office of Emergency Services
CCTV	Closed Circuit Television
CIP	Capital Improvement Program
CIWQS	California Integrated Water Quality System
CVSD	Castro Valley Sanitary District
DS	Data Submitter
DWQ	Department of Water Quality
EBMUD	East Bay Municipal Utility District
EBRPD	East Bay Regional Park District
EXEC	Executive Director Authorization
FOG	Fats, Oils and Grease
FSE	Food Services Establishment
GIS	Geographic Information System
Hayward	City of Hayward
LRO	Legally Responsible Official
MAST	Maintenance and Skilled Trades
MER	Major Equipment Replacement
MIRR	Major Infrastructure Renovation and Replacement

MRP	Monitoring and Reporting Program
O&M	Operations and Maintenance Program
OERP	Overflow Emergency Response Plan
OES	See Cal OES
RWQCB2	Regional Water Quality Control Board, San Francisco
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow
SWRCB	State Water Resources Control Board
USD	Union Sanitary District
WDID	Waste Discharge Identification Number
WDR	Sanitary Sewer Waste Discharge Requirements
WQMP	Water Quality Monitoring Plan



**East Bay Regional Park District  
Internal Audit Report  
Sewer System Management Plan  
Causey Consulting  
December 2019**

II. Sanitary Sewer Management Plan (SSMP) Audit

This internal audit (audit) reviews the effectiveness of the four (4) East Bay Regional Park District (EBRPD or District) SSMPs documentation and implementation for the calendar years 2017, 2018 and 2019. The four enrolled parks and their Water Quality Identification Number (WDID) including:

Table 1: EBRPD Enrolled Parks Sanitary Asset Information\*

Park	State WDID	Size, acres	Force Mains, miles	Gravity Lines, miles	Lift Stations	Discharge Location
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Garin	2SSO11411	3314	0.3	0.8	1	Hayward
Totals		12,072	4.2	3.7	10	

\*Source: 2014 Sanitary Sewer Master plans for each of the four enrolled parks.

The above asset information are those reported by the District in the SSMPs but do not come from a formal asset register and should be field verified as part of the development of a future sewer system asset register.

The audit is intended to meet State Water Resources Control Board (SWRCB) 2006 waste discharge requirements (WDR), State Water Board Order No. 2006-0003-DWQ, Section D13(x) for agencies that own or operate more than one mile of sanitary sewer collection systems discharging to a publicly owned treatment plant. In addition, it also evaluates conformance to the 2013 revised Monitoring and Reporting Plan (MRP) Order No. 2013-0058-EXEC. The four parks above are the only parks in the seventy-four park EBRPD system that meet the above criteria for enrollment with the State of California. Consequently, this audit assesses the current state of compliance with WDR provisions including effectiveness of program implementation, identifies "deficiencies" found in the SSMPs and recommends corrective actions to remedy those deficiencies for these four parks programs only.

Causey Consulting performed this third party audit on behalf of the EBRPD through evaluation of SSMP documentation provided by District, publicly available data sources such as the District website and California Integrated Water Quality System (CIWQS), and meetings and

conversations with District staff involved in the implementation of the four SSMPs and the sanitary sewer collection system programs. Table 2 lists the audit participants interviewed during the audit.

Table 2: EBRPD Staff Participating in Audit

<b>Participant</b>	<b>Role</b>	<b>Agency</b>
Terry Noonan	Park Unit Manager - Interpretive	EBRPD
David Vance	Park Unit Manager - Lakes	EBRPD
David Sykes	Park Unit Manager – Parklands	EBRPD
Shelly Miller	Park Supervisor – Del Valle	EBRPD
Sarah Miracle Kyle	Park Supervisor – Anthony Chabot	EBRPD
Matt McDonnell	Park Supervisor – Coyote Hills	EBRPD
Matt Norton	Sanitation Supervisor	EBRPD
Mark Pearson	Park Supervisor - Garin	EBRPD
Eric Bowman	Maintenance Superintendent – Roads & Trails	EBRPD
Kelly Barrington	Chief, Maintenance and Skilled Trades	EBRPD
Kirk Barrington	Acting Water Utilities Maintenance Supervisor	EBRPD
Hal McLean	Water Management Supervisor	EBRPD
Matt Graul	Chief of Stewardship	EBRPD
Becky Tuden	Environmental Services Manager	EBRPD
Steve Castile	Park Operations Chief	EBRPD
Carol Johnson	Assistant General Manager, Public Affairs	EBRPD
Richard Guest	Acting Maintenance Superintendent - Utilities	EBRPD
Glenn Gilchrist	Design Unit Manager	EBRPD
Jeff Rasmussen	Assistant Finance Officer	EBRPD

### III. Audit Schedule

The audit was authorized pursuant to an agreement between the District and Causey Consulting dated August 1, 2019. Internal audits of each of the four SSMPs must be conducted every two years from the original adoption date of the SSMP by the governing board. The original SSMP for each of the four parks were adopted by the EBRPD Board on June 6, 2012. The current audit report covers the period from January 1, 2017 to December 30, 2019. The audit includes a review of each of the 2017 SSMPs and other ancillary documents provided by the Environmental Services Manager.

Additionally, Causey Consulting also reviewed the documents that support the District's certified overflow reports in the California Integrated Water Quality System (CIWQS) under the WDIDs listed in Table 1 above. This review was intended to assure proper compliance with the 2013 MRP recordkeeping requirements and best practices documentation of the District's supporting documentation file.

### IV. SSMP Findings

The purpose of the SSMP Audit is to evaluate the compliance with and effectiveness of the District's four SSMPs and collection system programs and to identify any needed improvements. The Audit included review of the four parks on the District webpage and a small sampling of the EBRPD CIWQS supporting overflow files held by the Environmental Services Manager. The following General Findings provide observations on the entire SSMPs and applies to all Elements of the SSMP.

#### A. General Findings and Recommendations

<b>General Finding</b>	<b>Recommendation</b>
F1. The four SSMPs are so similar and staff responsibilities appear the same that there is no need for separate SSMPs.	R1. At the time of the next revision(s) combine the 4 SSMPs to a single document consistent with District policies and procedures for the sanitary sewer program for the enrolled parks.
F2. Cover page to the SSMPs does not contain basic adoption and WDID information.	R2. Add original adoption dates, subsequent revision dates and WDID numbers to the Cover Page of the SSMP(s).
F3. List of Acronyms is not complete	R3. Assure all acronyms used are included in the table.
F4. RWQCB2 requirements no longer applicable only the State WDR requirements.	R4. Eliminate all references to RWQCB2.
F5. District has not conducted internal audits including audit reports at least every two years from original Board adoption date of June 6, 2012 as required.	R5. Assure regular SSMP audits are conducted every two years and prepare an internal audit report for each audit.
F6. District drafted but did not submit revisions of the SSMPs to the Board in 2017 as required by the WDR or every five years from original adoption dates.	R6. Assure that SSMP(s) or any significant revisions to any SSMP are adopted by the Board at least every 5 years from 2012.
F7. SSMPs do not include critical supporting documents (references) and/or hyperlinks to these documents from the District SSMP webpage.	R7. 2013 MRP requires that all critical supporting documents either be included in the SSMP or hyperlinked from the SSMP and from the SSMP webpage at the District. If not the all including Board adoption documents must be provided to the SWRCB (see MRP Section 8(iv)).
F8. The SSMPs do not include list of figures and tables nor appendices.	R8. Consider adding Table of Contents to the SSMP(s).
F9. Appendices include only system maps even though other documents are referred to in the body of the SSMPs.	R9. Assure all references and critical supporting documents are included in the proper element or in separate appendices or hyperlink from SSMP and SSMP webpage. See Reference Listing in Attachment 1.
F10. WDID not stated early in the SSMPs and is the key to availability of information in the State CIWQS database.- currently stated in Section 2.2	R10. Add WDID to the cover page and in the Introduction.
F11. Each SSMP element does not include the WDR sub Element requirements for the readers use and information.	R11. Assure that each element opens with the WDR requirements from Section D13 for that Element.

F12. SSMP webpage does not include critical supporting documents with all reference documents and outreach materials.	R12. See Attachment 1 for complete list of critical supporting docs now included in the 4 SSMPs; review and determine which are critical as of August 30, 2019.
F13. SSMP Change logs do not include any changes since original adoption in 2012.	R13. SSMP Change Log should be evaluated and updated at least annually like the addition of the references. City specific section(s) of the SSMP changed.
F14. SSMPs contain no figure numbers.	R14. Add figure numbers throughout to assure proper identification in change logs.

### B. Specific Findings and Recommendations by SSMP Element

The information presented below will be used to inform the effectiveness of the SSMP and the implementation of the sanitary sewer collection system program. This information will also help identify program deficiencies that must be addressed either during revisions to the SSMP or prior to the next Audit period. Each of the current SSMP Elements and the Executive Summary were ranked for sufficiency in meeting the WDR requirements utilizing the following ranking system and considers both the findings and the associated recommendations:

- *Complies (C) – complies with all WDR objectives*
- *Marginal Compliance (MC) – complies minimally with basic objectives of the WDR*
- *Non-Compliance (NC) – does not comply with WDR objectives*

SSMP Element	Sufficiency Ranking	Finding	Recommendations
<b>Executive Summary</b>	C	F15. RWQCB2 information included is dated and not responsive to the WDR requirements – does provide some historical perspective. F16. Not all sewer infrastructure asset information included	R15. Remove all references to the RWQCB2. R16. Add asset information in the 4 parks of all sewer related infrastructure to the Introduction.
<b>I. Goals</b>	C	F17.No goal for system asset condition assessment, CCTV evaluations or capital program prioritization. F18. No comprehensive goal for regular asset maintenance and replacement.	R17. Consider adding a new goal for capital planning and project prioritization including regular CCTV assessments.
<b>II. Organization</b>	MC	F19. Reporting responsibilities are stated early in the Element prior to description of the position descriptions.	R18. Place table of reporting responsibilities in Element section 2.2 and include a new flow chart of reporting and responding roles to more

		<p>F20. List of personnel does not identify classifications that are currently designated officials (LROs and DS) for the four parks.</p> <p>F21. Current LRO coverage does not provide full 24/7/365 coverage.</p> <p>F22. List of positions is generally broad and have questionable connection to the sanitary sewer collections program.</p> <p>F23. Organization chart does not include capital projects and outreach support or service contractors used in the Parks.</p> <p>F24. MAST Superintendent now split to two positions titles.</p> <p>F25. No one department is responsible for emergency response coordination.</p> <p>F26. No discussion of the use of root control thru service contractors.</p>	<p>easily understand emergency response.</p> <p>R19. Assure complete 24/7/365 LRO coverage by appointing sufficient LROs for proper coverage.</p> <p>R20. Add support divisions to a new org chart and service contractors like Roto Rooter and Dukes</p> <p>R21. Revise Superintendent descriptions along with designated roles and responsibilities for subordinate positions.</p> <p>R22. Assign one position as main support to coordinate and provide emergency response duties.</p> <p>R23. Add section describing root control program.</p>
<b>III. Legal Authority</b>	NC	<p>F27. Current Ordinance 38-5 does not contain all requirements discussed in the WDR D13.</p> <p>F28. No table responding to specific ordinance sections that support the sub element in the WDR.</p>	<p>R24. Prepare and revise District ordinance to meet sub element requirements to assure park users follow discharge requirements and provide for enforceability for violations.</p> <p>R25. Add new table of specific element sub sections and proper ordinance section reference section.</p>
<b>IV. O&amp;M Program</b>	MC	<p>F29. No maps or information on storm drainage systems available to emergency response crews in the field for use should these systems be impacted by an SSO.s</p> <p>F30. O&amp;M descriptions do not describe actual practices in the field. No consistent maintenance across each of the four parks as stated in 4C.</p> <p>F31. No current defined condition assessment program for gravity and pressure pipes, manholes,</p>	<p>R26. Properly define regular O&amp;M and condition assessment programs for all pipes in the enrolled parks sewer collection systems.</p> <p>R27. Add storm drainage system maps and information for emergency crews during emergency response to the SSMPs and the OERP.</p> <p>R28. Develop full sewer system comprehensive sewer system assessment program immediately and annually thereafter based on condition findings over five or ten years.</p> <p>R29. Consider addition of requirements for collection</p>

		<p>lift stations or other sewer related appurtenances.</p> <p>F32. Section 4b.Resources and Budget not required old RWQCB2 requirement; no current budget information available.</p> <p>F33. No description of CMMS or work order system for tracking customer complaints or completed maintenance work other than "stored at central location" in 4e.</p> <p>F34. EBRPD does not require sewer system O&amp;M employees to be certified as collection system workers in California.</p> <p>F35. No informal agreements with Roto Rooter or Dukes as stated.</p> <p>F36. No complete sanitary sewer asset register for all sewer related assets to base condition assessment and capital program.</p> <p>F37. No define R&amp;R program or define replace prioritization system for sewer asset replacement.</p> <p>F38. No regular training or field emergency response completed regularly; no discussion of field exercises or training in SSMPs, OERP, WDR, MRP, etc.</p> <p>F39. No WQMP defined or discussed as required.</p>	<p>system certification by EBRPD staff positions.</p> <p>R30. Remove Resources and Budget section no longer required.</p> <p>R31. Revise and properly state language on service contractor language</p> <p>R32. Define annual sewer capital improvement program based upon condition assessment results, field input from maintenance activities and asset age and historical construction information.</p> <p>R33. Define annual sewer system and emergency response training program matrix by employee classification.</p>
<b>V. Design</b>	<b>C</b>	<p>F40. Current statements are fully responsive.</p> <p>F41. Section 5b does not provide for end of warranty period inspections prior to release of contractor bonds.</p>	<p>R34. Consider requiring final warranty inspection and sign-off at end of warranty period for all sewer capital projects prior to full acceptance for maintenance.</p>
<b>VI. OERP</b>	<b>MC</b>	<p>F42. OERP ignores outreach to park signage for users regarding impacts and illegal discharge to sewer system at restrooms and RV dump sites.</p> <p>F43. OERP does not recognize methods of notification of an overflow by customers, service providers or others</p>	<p>R35. Develop broader customer education and outreach and proper signage at each park for sewer system impacts and proper reporting methods.</p> <p>R36. Create information at each park for the reporting of sewer overflows and problems in outreach materials and park signage.</p>

	<p>F44. Emergency response program is siloed with poorly defined roles and responsibilities during and following an SSO – no single department or division is fully responsible from cradle to grave.</p> <p>F45. Section 6-2 does not require first responders to take photos or videos of spill.</p> <p>F46. Section 6-3 does not include section for RV dump site mitigation or response.</p> <p>F47. Sampling and testing procedures do not include location of required equipment and testing bottles.</p> <p>F48. No discussion of sampling in flowing waters based on travel time in Section 6-4 as required by MRP 8D.2.</p> <p>F49. No proper or complete documentation procedures or forms used for each SSO event.</p> <p>F50. Sampling requirements exceed current MRP requirements.</p> <p>F51. No discussion of WQMP or Technical Reports for SSOs &gt; 50,000 gallons.</p> <p>F52. No copy of the sampling chain of custody included in the SSMPs – where are these to be found?</p> <p>F53. No discussion of debrief and failure analysis from an event leading to modifications or enhancements to response procedures.</p> <p>F54. No discussion of required record keeping to support CIWQS certified reports.</p> <p>F55.No statement of using SCADA or flow records to justify volumes as required since 2013.</p>	<p>R37. All parties involved in emergency response should have clearly defined and documented roles and they should be clearly stated in a single OERP.</p> <p>R38. Consider assigning a primary authority for responsibility, documenting and certifying be one entity/department.</p> <p>R39. Assure that all events include photos and/or videos by especially first responders.</p> <p>R40. Add narrative information in the OERP for the RV dump station responsibility and management.</p> <p>R41. Add information on location of all sampling materials and requirements for calibration documentation of sampling equipment as required in MRP Section D4. R42. Create and include reporting forms on the OERP with reference dates and form numbers and require completion by prepare and approval by supervisor or LRO.</p> <p>R43. Evaluate current SSO sampling requirements and determine if still applicable especially at Del Valle.</p> <p>R44. Develop agency specific WQMP and add requirements for Technical Report within 45 days of end of event per MRP C5.</p> <p>R45. Add requirement for sampling in flowing water as per MRP D2.</p> <p>R46. Add requirement for inclusion of any lift station or SCADA used to evaluate spill related volumes.</p> <p>R47.Establish operating procedures related to complete overflow event file documentation for each SSO certified in CIWQS using SSO Event Checklist similar to Attachment 2 and with final file certification by LRO.</p> <p>R48. Create process for comprehensive debrief/failure</p>
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		<p>F56. Current CIWQS overflow event documentation inadequate and no individual files established as required.</p> <p>F57. No debrief and/or failure analysis meetings and documentation as stated in the OERP.</p> <p>F58. No assumptions of important information from an event are documented unless included in personal logs but not in SSO file.</p> <p>F59. Response times stated in Element 6 are inappropriate if not properly tracked and documented in the SSO file.</p> <p>F60. Due to the small number of SSOs more frequent field exercises and training are necessary to assure proper response during an event.</p> <p>F61. Current water quality sampling does not comply with the Region 2 Basin Plan requirements.</p>	<p>analysis and documentation of an SSO event with all parties involved during the event from dispatch to final certification and file approval.</p> <p>R49. Assure that all required timelines missed have documentation for why and assure that all assumptions for especially start times and all volume estimates are properly documented and approved prior to CIWQS report certification especially for overflows at Del Valle.</p> <p>R50. Consider removal of response times or document in the SSO file.</p> <p>R51. Expand training program to assure compliance with response procedures including actual field exercises at least annually for the response personnel.</p> <p>R52. Revise sampling procedures recognizing the beneficial uses of the waters required to be sampled.</p>
<b>VII. FOG Program</b>	C	<p>F62. RV dump facilities may create grease and improper disposal related issues that needs evaluation and proper customer notification.</p> <p>F63. No signage at restrooms or dump station regarding acceptable disposal discharges to these facilities.</p> <p>F64. Park brochures do not include any information regarding acceptable disposal at the restrooms or the RV dump station or define "wastewater" for customers.</p>	<p>R53. The RV dump sites may constitute areas that require grease education or maintenance evaluations in and around these facilities.</p> <p>R54. Restroom and dump sites should include signs stating what can be disposed of and what is illegal to dispose.</p> <p>R55. Revise District Code to define wastewater and include information regarding discharges in the parks brochures and other customer information.</p>
<b>VIII. SHECAP</b>	NC	<p>F65. No attempt has been made to evaluate current capacities of the sewer systems assets as required by WDR.</p> <p>F66. No capacity related improvements identified.</p> <p>F67. No complete sewer system asset register</p>	<p>R56. Develop policy for the evaluation and engineering determination that pipe capacities, pump stations and other sewer facilities are adequate for current condition in each park.</p> <p>R57. Complete full asset register for all sewer system</p>



		currently available as well as not current condition assessment conducted.	assets in the four enrolled park systems and processes for complete and regular asset condition evaluations.
<b>IX. Monitoring, Measurement &amp; Modification</b>	MC.	F68. Proper metrics stated but not monitored, measured or documented regularly – no historical metrics provided during the audit. F69. No metrics related to O&M or condition assessment included here on in Element 4. F70. No documentation of annual review of SSMP as stated. F71. No documentation provided of “regular” Water Management and Maintenance Dept. meetings.	R58. Determine metrics that will be tracked annually and create annual report of results. R59. Assure metrics support Goals in Element 1. R60. Either review and update SSMP(s) annually or remove if not to be completed. R61. Establish and track annually O&M related metrics for each park. R62. Either conduct and document regular meetings or remove if not to occur.
<b>X. Audit</b>	NC	F72. Procedures stated in Section 10-1 are not being complied with as no audits conducted since original adoption by the Board in 2012. F73. Biannual reports not required to be submitted to RWQCB2 as stated in 10- F74. Audit format not included in the Appendix as stated; format provided no longer acceptable with only yes/no criteria. F75. Audit roles are very restrictive and should allow for alternate approaches to the completion of the biannual audits. F76. Section 10-2 states audits to start in 2017 yet none was completed. F77. SSMP Change Logs included but not updated since 2012 in Section 10-2. F78. No formal Board adoption of the SSMPs at least every five years from original adoption date in 2012.	R63. Conduct regular SSMP audits as required by WDR including preparation of a Formal Audit Report. R64. Remove reference to RWQCB2 submittal requirements. R65. Consider submitting Audit Reports to Board upon completion for review and approval prior to inclusion in an appendix to the SSMP. R66. Consider using the current audit report form only to inform interviews to be conducted by adding a formal ranking system rather than yes/no responses. R67. Allow audits to be conducted in multiple ways or using not only parks staff. R68. Remove log and place in separate appendix; at least annually update log for changes. R69. Assure SSMPs are considered and adopted by the District Board at least every five years.
<b>XI. Communications</b>	NC	F79. MRP Section 8(iv) requires not only SSMP but all “critical supporting documents” from the SSMP	R70. Add hyperlinks to SSMP(s) and to SSMP webpage as required or mail to SWRCB with adopted SSMP

		<p>be available or transmitted to SWRCB.</p> <p>F80. District Master Plan referred to in Section 11-2 not hyperlinked or available from the SSMP webpage as required.</p> <p>F81. District Master plan contains no references to SSMP or Parks sewer systems.</p> <p>F82. SSMP website does not include critical supporting documents (see attached list) of critical supporting documents.</p> <p>F83. No WDID information available for contact to CIWQS system.</p> <p>F84. No regular Board communications on sewer program for four parks as Stated in 11-1.</p>	<p>and Board resolution of adoption if not to hyperlink.</p> <p>R71. Remove reference to Master Plan as no sewer infrastructure stated in the Plan.</p> <p>R72. Reduce critical supporting document list attached and add to webpage with hyperlinks.</p> <p>R73. Add WDID reference to Section 11.3.</p> <p>R74. Consider annual sewer system report to Board on the four enrolled parks.</p>
<b>Change Log</b>	NC	<p>F85. Section 10-1 requires submittal of audits to the RWQCB – no longer required since 2012.</p> <p>F86. Currently the change log is included in this Element.</p> <p>F87. There have been no additions to the change log in Table 10-1 since adoption of the SSMPs as stated in Section 10-2.</p> <p>F88. 2017 comprehensive update of the SSMPs was not presented to the Board for consideration and adoption.</p>	<p>R75. Remove requirement for submittal to RWQCB2.</p> <p>R76. Move Change Log to new appendix and include all changes between Board adoptions to SSMP(s) in a single log.</p> <p>R77. SSMP change log should include any changes to program policies and procedures between Board adoptions and should never have nothing stated.</p>
<b>Appendices</b>	NC		
<b>Reference Listing</b>		<p>F89. New reference listing added 8/2019</p>	<p>R78. Review and reduce to only critical supporting documents.</p> <p>R79. Add separate reference section to end of each Element.</p>
<b>Index Maps</b>	C	<p>F90. Maps are generally correct – minor revisions required.</p> <p>F91. No storm system information on maps or available during overflow events.</p>	<p>R80. Revise the maps and add to new SSMP appendix.</p> <p>R81. Add storm drainage maps to sewer maps or add separate maps for storm assets for use during SSOs.</p>

**Performance Results**

Tables 3 below and 4 below presents the historical performance of the four parks sanitary sewer collection system operations as relates to sewer overflows (SSO) and emergency response. The

data is taken from the four District CIWQS certified reports found at SWRCB SSO Office under each of the Waste Discharge Identification (WDID) Numbers above. All information is reported by calendar years. Only two of the four enrolled parks have experienced and reported sewage overflows since the adoption of the WDR reporting requirements in 2006 and the majority of those are small category 3 overflows. There was one significant Category 1 overflow at Del Valle several years ago that reached the beach and the lake at the Park. This large overflow resulted in the posting of signs on the beach for customers and sampling of the lake for indications of the presence of sewage. Proper notifications were made to the water suppliers and the health department. However, sampling was stated in CIWQS, no sampling or analysis of results were provided as part of the recordkeeping evaluation. Ultimately the beach was reopened and park activities continued.

None of the seven events were properly documented in a separate supporting file as required by the WDR. The 2013 revised MRP recordkeeping requirements adopted for the final three events contained only email traffic requested by Stewardship to certify the events in CIWQS. There was no documentation of the start times used nor any actual calculations or assumptions provided for the spill or recovered volumes. The seven overflow incidents have involved all forms of sewer assets from pipelines to lift stations to comminutors. In addition, it appears that recovered volumes are not a high priority for the emergency response personnel as on one of the seven events includes recovery of sewage during the event. This should be a priority especially for the first responders in their efforts to contain an overflow event.

EBRPD does not appear to have any standard reporting forms to document SSO by those involved in an SSO event. The development of standard event reporting forms and chain of custody for sampling conducted should be a high priority for future SSO events to assure comprehensive and complete event documentation. This can be enhanced by the use of an SSOI Event Checklist form designed specifically for EBRPD emergency response and included in a separate stand-alone OERP document that forms and appendix to the SSMP(s). The final document event file should be reviewed and approved by the EBRPD LRO upon completion and certification of the event in CIWQS.

Table 3: History of Sewer Overflows by Enrolled Park

Calendar Year	Anthony Chabot	Coyote Hills	Del Valle	Garin	Total
2007	0	0	2	0	2
2008	0	0	1	0	1
2009	0	0	0	0	0
2010	0	0	1	0	1
2011	0	0	0	0	0
2012	0	0	0	0	0
2013	0	0	0	0	0
2014	0	0	0	0	0
2015	0	0	0	0	0
2016	0	0	0	0	0
2017	0	0	1	0	1

2018	0	0	0	0	0
2019	2	0	0	0	0
Total	2	0	5	0	7

Table 4: Historical Overflow Information

Park	SSO Date	SSO Category	Spill Volume, gallons	Recovered Volume, gallons	Asset Failure
Del Valle	7/4/07	2	1,000	0	Main
Del Valle	8/17/07	3	10	0	Main
Del Valle	7/12/08	1	30,000	0	Lift Station
Del Valle	2/6/10	3	700	0	Main
Del Valle	8/10/17	3	300	220	Force Main
Anthony Chabot	2/20/19	3	900	0	Comminutors
Anthony Chabot	9/8/19	3	30	0	RV Dump
Totals			32,940	220	

## V. SSMP Effectiveness

The EBRPD operates four separate enrolled sanitary sewer systems out of its 74 parks. These systems include pipe systems, lift stations, manholes, public laterals and other ancillary sewer facilities important to the proper operations and maintenance of the individual parks sanitary sewer systems. Each of these systems operates separately for the purposes of State compliance however they are each operated by the same parks departments and divisions across the entire service area. Table 1 above provides the basic asset information for each park. The four systems have various levels of current maintenance of the pipelines (both gravity and pressure) but only general inspections and recordkeeping for the lift stations. Each park is an independent entity over seen by employees of the Park Operations Department at the site and responsible for all regular park operational programs and facilities support. All four parks rely on other departments for maintenance other than basic sewer operational checks and initial emergency response. These latter responsibilities fall to at least five to seven other divisions/departments for completion and compliance with the WDR and MRP requirements. While these groups do communicate as needed, they are also operate in silos as to their roles thus creating the potential for miscommunication and lack of understanding of the required responses in the sewer program. Of particular concern is the lack of uniform oversight for both regular maintenance, asset condition assessment and emergency response. All of these sewer related activities appear to be reactive with no consistent or cohesive strategy for the operations, maintenance and renewal as required by the state regulations. Further there is no clearly documented statement of roles and responsibilities for the four sewer programs.

### **Operations and Maintenance Programs**

On operations and maintenance, each park operates individually without strong O&M oversight and no consistent pipeline maintenance or assessment philosophy. There is concern with the proper understanding of each division's roles and responsibilities for the sewer program so much so that there is not consistent line cleaning and lift station maintenance occurring across the four park. In addition, none of the parks has a complete asset register of sewer infrastructure assets including basic pipe information, age, and material types, operating information or lift station asset and operating requirements. There does not appear to be a single unified approach to maintenance procedures across all four parks.

The SSMPs currently state that "preventative maintenance activities include camera inspections, hydro flushing and root foaming. These activities are implemented on a two year cycle." (See page 11). Only some of these cleaning and root foaming activities are occurring and only if the Parks personnel coordinate. There is no ongoing camera inspections of both gravity and pressure pipelines nor has a comprehensive condition assessment program for these sewer assets been developed including regular maintenance and regular condition assessment. Each park is left to deal with these issues individually as part of their regular ongoing operations. There is no coordinated effort between the parks to assure consistency nor to regularly report annual compliance with the programs outlined in the SSMPs or the performance metrics established in the Element 9. As a consequence, the current sewer maintenance program has been evaluated as ineffective and inefficient. Typically, in large diverse organizations a single division or department would have the responsibility for the sewer maintenance program to assure consistency and efficiency for the service contracting or staff required to operate the program especially as relates to the required evaluation of future asset replacement and prioritized capital planning. From the current organization chart, it would appear that this responsibility should rest with the MAST Group especially since they are currently responsible for the maintenance and replacement of all lift stations. In addition, the Department includes both skilled trade and utility functions that traditionally provide oversight and/or actual maintenance of these assets.

Finally, there has not been any determined effort to fully evaluate the needs for asset renewal and replacement in the sewer program. There has not been a comprehensive condition assessment of all sewer facilities nor a defined program for regular ongoing evaluations of these assets for deterioration or potential failure.

### **Emergency Response Activities and Responsibilities**

While the four parks experience of sewage overflows is stellar with only seven in the past twelve years, the opportunity for customer disruption and environmental impairment and risk and financial liability from potential overflows remains high due to the lack of singular oversight and management of a unified response to these events. Additionally, poor event documentation due to the separate divisions involved in any event requires significant enhancement. All events to date have been properly certified in the State CIWQS system, however the internal files used to document these events do not contain sufficient documentation to support especially start times and both spill and recovered volume assumptions and calculations which is a key concern for regulators and the environmental community. Finally, event activities are not debriefed or

evaluated and analyzed for the causes of failure or to improve emergency response procedures in the future.

From an effectiveness standpoint, emergency response activities are also ineffective and very disjointed. Stewardship which is currently charged with regulatory compliance is not generally involved directly in the emergency response in the field unless sampling is required when sewage reaches waters. In addition, it appears that there are at least three or four handoffs of responsibility during any event. This increases the possibility for inconsistent reporting and event certification as there is no singular department directly responsible for all field overflow activities. Parks as the first responders and Stewardship as the regulatory compliance group are really just support functions to MAST during any overflow event. In our opinion, one entity/department should have the overall responsibility for emergency response including recordkeeping and final certification under penalty of perjury of the event in the State system. In addition, it is imperative that the responsible department develop proper written procedures and forms to be used for properly documenting each and every overflow event.

## **VI. District Sanitary Collection System Operational Strengths**

During the progress of the audit several management and operational strengths were identified during the interviews as follows:

- 1) Incredibly dedicated and committed staff desiring to provide high level service to parks customers
- 2) Parks personnel very committed to levels of service for customer to the parks and the environment.
- 3) Improved commitment to lift station telemetry and alarm reporting.
- 4) Good lift station monitoring program reporting to the South County Corporation Yard.
- 5) Enhanced funding for asset renewal and replacement in the Major Equipment Replacement (MER) Fund 533.
- 6) Few, if any, sewage overflows requiring emergency response since initiation of the WDR reporting requirement in 2007.
- 7) Good technical/regulatory support from Engineering and Stewardship.
- 8) Strong Sanitation support for the Parks.
- 9) Recent volume estimation training
- 10) Clear recognition of the importance to immediately respond to overflow events.
- 11) Current in-house notification process very strong.
- 12) Excellent support from Environmental Services Manager.
- 13) Staff has the latitude to direct resources as needed
- 14) Strong support from Water Management Supervisor during emergencies.
- 15) Departments and division generally work well together.
- 16) Excellent maintenance on parks buildings and facilities.
- 17) Good and timely communications chains for emergency response - Dispatch has excellent understanding of who to contact and do it very timely.
- 18) Strong relationship with CVSD for disposal of trucked waste.

- 19) Addition of new Vaccon was a positive addition to the staff capabilities in support of the parks and overflows.
- 20) Parks crews as first responders are well informed of how to respond to protect customers and the environment – their first priority at an overflow event.

## **VII. Opportunities for Improvement (Deficiencies)**

The following issues and opportunities for improvement of the four sewer system programs were also identified during the staff interviews and from detailed reviews of the four SSMPs and the District webpage associated with the SSMPs:

- A. Development of a single SSMP document covering the four separately enrolled parks sanitary sewer systems.
- B. Preparation of a single, stand-alone OERP with clearly defined roles and responsibilities across all departments and divisions of the District.
- C. SSMPs include references to RWQCB2 requirements that no longer apply especially in the Introduction which can create confusion as to proper regulatory compliance.
- D. Well defined and documented roles and responsibilities for both O&M and emergency response activities are needed – clear paths of authority.
- E. Future employee retirements and constant staff turnover at the parks and influx of new employees to the District, drives the need for strong succession planning and new employee orientation program.
- F. Additional and frequent training on all volume estimation methods and techniques and proper event documentation for field emergency responders.
- G. Basic level sewer regulatory training for parks naturalists regularly.
- H. The need for the use of reporting forms for especially start times determinations and volume estimations and possibly sewer related scripts of questions for Dispatch when receiving a sewer related call.
- I. No documentation of sewer related calls received at the Dispatch Center in the event file.
- J. Lack of understanding of the establishment of sewer improvement program needs.
- K. No formal condition assessment program for all sewer assets.
- L. No consistent operation and maintenance program for sewer assets across the four enrolled parks.
- M. A properly defined and consistent operation and maintenance program across all four enrolled parks including regular maintenance, condition assessment and renewal and replacement prioritization.
- N. Stronger collaboration and communications across departments especially regarding emergency response roles and responsibilities.
- O. Elimination of the silos that currently exist for emergency response especially as relates to final reporting and certification by an LRO who is not necessarily directly involved in the event.
- P. SSMPs do not include maps or statements about the storm water systems in each of the parks as required in Element IV of the SSMPs.
- Q. Availability of mapping for storm drainage assets especially for emergency response.
- R. No use of the required SSMP Change Logs since the requirement was instituted in 2013.

- S. No available reporting forms or well documented overflow event documentation files maintained by the LRO including no final certification of the SSO file upon completion.
- T. No process for debrief or failure analysis of overflow events including all parks personnel involved in the incident.
- U. Lack of a single overflow event coordinator or department increases the risk and liability for incomplete record keeping and reporting especially if enforcement or litigation results from inconsistent practices and reports.
- V. Current event documentation is inconsistent and missing important written information, assumptions and calculations to properly support the overflow event.
- W. Lack of complete asset register for both sewer and storm assets is needed to enable a proper asset management program for these assets proper renewal and replacement that is not purely reactive in nature which is more expensive and raises the risk and liability of the District from unplanned events.
- X. Critical supporting documents stated in the SSMPs were not available by hyperlink from the SSMPs or available on the District website as required – see Attachment 1.
- Y. Performance metrics stated in Element IX were not being tracked or evaluated by any of the Park staffs or Environmental Services.
- Z. Improved information from dispatch can enhance emergency response activities.
- AA. District supplied cameras need to be provided to Parks staff to assure first response photos or videos of overflow events.
- BB. No requirement for District employees to be certified in collection system operations as with water system operations.
- CC. No well-defined or prioritized capital replacement program for sewer linear assets and sewer related mechanical facilities.

#### **Past Audit Report Deficiencies**

This is the first audit of the four SSMPs and therefore there are no previously defined or identified deficiencies or opportunities for improvement. In addition, the four SSMP Change Logs did not include any identified changes since the addition of those provisions in each of the SSMPs.

### **VIII. Corrective Actions**

The following corrective actions have been identified as necessary for the improvement of the EBRPD sanitary sewer programs at the four enrolled parks. The corrective actions identified below should be assigned to a particular person to manage to assure complete evaluation and/or implementation as well as a completion scheduled to assure resolution prior to the next audit.

1. The District has established four separate SSMPs for the enrolled parks. These SSMPs are all identical with the exception of the asset statements in the Executive Summary and Element 4. However, the sewer programs defined in each of the SSMPs are not at all different. The State allows programs that have multiple enrolled agencies under a single operational staffing to have a single SSMP that allows for the differences to be stated in a single SSMP.

**Corrective Action:** Develop a single SSMP for the four parks identifying any unusual issues for each park in the overall EBRPD sewer program.



2. The adopted SSMP must represent the actual field programs and activities described therein or the SSMP should be modified to conform to the actual field activities.  
**Corrective Action:** Assure that future SSMPs properly reflect actual field actions and programs and includes actual monitoring and tracking of performance metrics. Do not include actions that will not or cannot be achieved in the SSMP.
3. The District has not complied with the requirement for biannual SSMP audits including a separate Audit Report(s) nor have they complied with the five year SSMP readoption requirement by the District Board of Directors.  
**Corrective Action:** Assure that the biannual audit and SSMP readoption requirements for the SSMP(s) are completed from the original SSMP adoption dates according the WDR timelines. Establish a tickler system to start at least six month prior to the due dates to assure timely completion and adoption by the Board of Directors.
4. EBRPD does not create proper and complete documentation of a CIWQS certified SSO report especially for start times and for spill and recovered volumes. There is no LRO certification of the SSO supporting file.  
**Corrective Action:** The District needs to establish complete supporting record keeping procedures for all participants in an overflow event with clear definition of roles and responsibilities for emergency response as well as associated written documentation. This effort should include the design of District specific Sanitary Sewer Overflow forms for proper reporting and documentation in a single file of all overflow activities including SSO forms supporting field activities, photos, sampling chain of custody, analysis and use of results. In addition, it is advisable to include an SSO Checklist (See Attachment 2) in the front cover of the file which is used to identify all documents that were a result of the event. This should also include a final certification of the file and checklist by the LRO.  
**Corrective Action:** Prepare a separate Overflow Emergency Response Plan (OERP) including proper forms and reporting responsibilities for complete documentation of an event up to and including final certification both in CIWQS and the District event file.
5. There are no clearly defined and documented roles and responsibilities for each of the division and departments responsible for emergency response activities. During a single overflow event, five different parks divisions may be required to participate in the event with no single person responsible for the coordination and decision making and final certification during and following the event. Responsibilities are transferred among the various departments as they either respond or receive information from the field. This creates a significant opportunity for inconsistency and poor record keeping not only of the response but especially the event documentation. This results in an increased level of risk and liability for the District customer satisfaction and environmental impairment especially if enforcement or litigation result long after the event is completed.  
**Corrective Action:** The District must establish proper roles and responsibilities through a well-defined emergency response program with a minimum number of hand offs. Consideration of transferring all overflow event responsibilities to one department with other departments limited to support activities as directed by lead.

6. The four EBRPD sewer systems do not have complete asset registers of all sewer and storm related assets and appurtenances.  
**Corrective Action:** The development and completion of a detailed asset register is imperative for future renewal and replacement programs for all sewer and storm assets and will assist with the prioritization of any operations and replacement programs in the future as well as inform both short and long term capital programs which do not now exist but are required by the WDR.
7. There is not a well-defined and consistent maintenance program for the sewer pipelines, manholes and force mains and other assets at the enrolled parks based upon need, age and condition assessments of the assets.  
**Corrective Action:** Based upon the results of the full condition assessment evaluation in the next six months and the development of the full asset register of the four park, the information should be used to establish a consistent maintenance program at each of the parks from this information with both regular cleaning and condition assessment of all sanitary sewer assets.
8. The District does not have an ongoing program for condition assessment of sewer program assets at the four parks including pipeline, lift stations, force mains, manholes, RV dump stations, comminutors, manholes, laterals and cleanouts.  
**Corrective Action:** The District must complete condition assessment of the four parks sewer assets especially all pipelines as a baseline to the development of the renewal and replacement program of these sewer assets. In addition, following the initial assessment, the District should establish a regular program for condition assessment annually based upon the findings and results of the initial assessment for the ongoing cyclic evaluation of asset condition over a five to ten year frequency.
9. The current District Ordinance 38 does not include adequate provisions for the protection and enforcement of park facilities from improper disposal of FOG and other illegal substances to the four enrolled park sewer systems.  
**Corrective Action:** The Ordinance needs to be amended to include both the definition of illegal discharges to the parks sewer system and the enforcement if it is determined to be found to violate the District ordinance.
10. The current restrooms and RV dump sites do not include proper signage for the use of these facilities and the protection from the disposal of illegal or hazardous substances into these park facilities. This also includes information in the current customer's brochures for each of the parks.  
**Corrective Action:** Once the current District Ordinance has been adopted, proper signage throughout the parks should be installed and customer's brochures revised to include statement of disposal items that are considered illegal.
11. The sewer program does not have a well-defined training matrix for sewer program personnel and emergency responders.

**Corrective Action:** Once proper roles and responsibilities have been established, a training matrix, including refresher training schedules, should be established for all District classifications impacting the sewer program including WDR, MRP, SSMP, OERP, field exercises and general safety training needs.

12. The four parks staff and MAST responders do not currently maintain necessary first responder equipment and supplies to assist with timely containment of sewage overflows at the park.

**Corrective Action:** Park should establish emergency response kits and equipment at each park that would include equipment and supplies to enhance Parks staffs first response activities and roles to protect from raw sewage reaching waterways or storm inlets such as traffic and customer control equipment, cones, tape, signs, safety equipment, catch basin plugs, special response tools, cameras, personnel protective equipment, etc. Consider the establishment of an emergency response trailer for sewage overflow response and remediation that would be available for all overflow calls.

13. There currently are no lift station, RV dump stations and comminutors contingency plans emergency response for the eleven lift stations in the four parks.

**Corrective Action:** Establish separate emergency response contingency plans (separate from the Operators Guide currently in use) at each facility with basic asset information for the station, maps and directions to station, lockout/tagout information, location of overflow directions, close by waters that could be impacted by overflow, containment recommendations and any unique issues that could impact emergency response activities.

14. The District currently requires employee certification for water system operators but not for collection system operators and the State has determined that sewer program operations and emergency response are significantly improved if the agency employee's collection system certified employees.

**Corrective Action:** Evaluate requiring employees working on the sewer collection systems at the four parks and most importantly involved in emergency response to be certified through the State voluntary certification program for collection system operators.

## IX Conclusions

As a result of the February 2019 RWQCB2 field inspection and the subsequent Staff Enforcement Letter, (Letter) it is apparent that the District must improve its compliance of the four enrolled parks to the WDR requirements. The District's response to that Letter has outlined a schedule and set of tasks to further improve its compliance. One of the results of the Letter, moved the District to have the four SSMPs and the sanitary sewer programs audited for the first time since original adoption in 2012.

This audit has identified the need for broad revisions and enhancement of sanitary sewer programs to assure continued customer satisfaction and environmental compliance at the enrolled parks. It has also identified the need for a single set of program goals and procedures in one SSMP. It strongly recommends this because of the similarities of the four parks operations

and the fact that the one Department handles most of the actual field responses and maintenance at the four parks – not individual programs separately at each park. The major changes required have been identified in the findings and recommendations above as well as with the corrective actions recommended for the District staff in Section VIII above.

EBRPD has four of its 74 parks enrolled under the WDR due to their size and scope of the sanitary sewer programs. As a result, EBRPD must assure full compliance with the WDR requirements in their sewer programs and in their responses to events resulting from the release of raw or partially treated sewage from the sewer infrastructure in these parks. While the District has prepared and the Board has adopted original SSMPs for the four parks, these SSMPs have not properly described the actual program in the field or especially defined clear roles and responsibilities for emergency responses from a sewage release. These deficiencies, especially at Del Valle Regional Park because of its nature as a drinking water source and response times for MAST personnel, can present serious environmental consequences and/or financial and enforcement liability for the District if not properly addressed going forward. In addition, the disjointed emergency response procedures and responsibilities and events do not currently assure a complete and thorough record of an event due to very poor recordkeeping practices. These deficiencies can lead the District to significantly impact its customer's experiences and environmental image from the poor and inconsistent operations, maintenance and emergency response programs for the sanitary sewer system. Once proper roles and responsibilities have been agreed to by all involved and memorialized in writing, the District must assure proper and complete training for all aspects of the revised procedures. These training needs are especially important given the very low opportunities for the District staff to put emergency response procedures into practice. While it is very commendable that the District has only experienced seven overflow events in two parks since the adoption of the WDR, staff turnover and lack of regular training programs will reduce the opportunities for success in both field management of an event and in the ultimate recordkeeping to substantiate proper handling of an event. These proper actions would be the basis of the District's legal support in enforcement or litigation.

The District can assure increased compliance with the regulations across all departments and divisions by creating a single SSMP for the four parks only identifying any or the minor differences between the four parks. A single document should assure more consistent implementation of the requirements of the WDR. In addition, the District should develop a single OERP that includes clear definition of roles and responsibilities of the departments and divisions and establishes clear reporting and recordkeeping requirements along with comprehensive forms for the reporting and documentation of an overflow event.

## **Attachments**

Attachment 1: SSMP Critical Supporting Documents: East Bay Parks

Reference ID	Reference Description	Chabot Park Page Number 2SSO11410	Coyote Hills Page Number 2SSO11481	Del Valle Page Number 2SSO11413	Garin Park Page Number 2SSO11411
A	Adoption Resolution No. 2012-6-140	iv	iv	iv	iv
B	RWQCB 13267 Ca Water Code	iv	iv	iv	iv
C	WDR Order No. 2006-0003-DWQ	iv	iv	iv	iv
D	SSMP Development Guide	iv	iv	iv	none
E	MRP Order No. 2013-0058-EXEC	iv	iv	iv	iv
F	RWQCB Order 90-157	none	none	v, 23	none
G	Cal Water Code 13050 (m)	none	none	v, 23	none
H	Self Monitoring Program	none	none	v, 23	none
I	Coyote Hills Land Use Plan	none	v		none
J	Land Use plan	none	v	v, 23	none
K	Informal Roto Rooter Contract	4, 19	4, 19	4, 19	4, 19
L	Notification Listing Tables 2-1 and 6-1	9, 18	9, 18	9, 18	8, 18
M	Collection System Map	11	v, 11	v, 11	11
N	Operating Budget and Expenditure Plan	11	11	11	11
O	Environmental Event Report sample	11	11	11	11
P	Biannual Maintenance Agreement - Dukes Root Control	12	none	none	none
Q	Annual Maintenance Sgreement - Rescue Rooter	none	none	12	12
R	List of available contractors	13	13	13	13
S	District Standard Plans and Specifications	14	14	14	14
T	Public Works Contruccion Standards (Green Book)	14	14	14	14
U	Audit Report Form	26	26	26	26
V	Audit Report on file	26	26	26	26
W	SSMP Change Log Table 10-1	26	26	26	26
X	Reporit to the Board	27	27	27	27
Y	SSMP Implementation Schedule	27	27	27	27
Z	District Master plan	27	27	27	27
AA	Ordinance 38 Element 3	not stated	not stated	not stated	not stated

Attachment 2: Sample SSO File Checklist

**SSO Event Checklist**

Date of SSO \_\_\_\_\_ SSO Location/Name \_\_\_\_\_  
 CIWQS Event ID # \_\_\_\_\_ Category?  1  2  3 OES# \_\_\_\_\_  
 Property Damage?  Yes  No Service Request # \_\_\_\_\_

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

<b>Sanitary Sewer Backup Response Packet First Responder Form</b>		<b>Side A</b>
<p>Fill out this form as completely as possible. Ask customer if you may enter the home. If so, take photos of all damaged and undamaged areas.</p>		
PERSON COMPLETING THIS FORM:		PHONE:
Name: _____		DATE:
Title: _____		TIME:
TIME STAFF ARRIVED ON-SITE:		
DID CUSTOMER CALL CLEANING CONTRACTOR? <input type="checkbox"/> Yes <input type="checkbox"/> No		
If YES, name of contractor:		
RESIDENT NAME: <input type="checkbox"/> Owner <input type="checkbox"/> Renter	IF RENT, PROPERTY MANAGER(S): OWNER:	
STREET ADDRESS:	STREET ADDRESS:	
CITY, STATE AND ZIP:	CITY, STATE AND ZIP:	
PHONE:	PHONE:	
Is nearest upstream manhole visibly higher than the drain/fixture that overflowed? <input type="checkbox"/> Yes <input type="checkbox"/> No		
# OF PEOPLE LIVING AT RESIDENCE:		
Approximate Age of Home:	# of Bathrooms:	# of Rooms Affected:
Approximate Amount of Spill (gallons):	Approximate Time Sewage Has Been Sitting (hrs/days):	
Numbers of Photographs or Videos Taken: <input type="checkbox"/> Photographs <input type="checkbox"/> Video	What device are photos/video stored on?	
Does property have a Property Line Cleanout or BPD?		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Unknown
If yes, was the Property Line Cleanout/BPD operational at the time of the overflow?		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Unknown
Have there ever been any previous spills at this location?		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Unknown
Has the resident had any plumbing work done recently? <i>If YES, please describe:</i>		<input type="checkbox"/> YES <input type="checkbox"/> NO



<b>Sanitary Sewer Backup Response Packet Start Time Determination Form</b>	<b>B-5</b>
--	------------

SSO Start Date: \_\_\_\_\_ Location: \_\_\_\_\_

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

What time was the City notified of the SSO? \_\_\_\_\_  AM  PM

Who notified the City? \_\_\_\_\_

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

Who at the City received the notification? \_\_\_\_\_

What time did the crew arrive at the site of the SSO? \_\_\_\_\_  AM  PM

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

Name	Contact Information	Statement
_____	_____	_____
_____	_____	_____
_____	_____	_____

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

| \_\_\_\_\_

SSO Start Date: \_\_\_\_\_ SSO Start Time: \_\_\_\_\_  AM  PM

SSO End Date: \_\_\_\_\_ SSO End Time: \_\_\_\_\_  AM  PM

SSO Duration: \_\_\_\_\_ minutes

This form completed by:

Name: \_\_\_\_\_ Signature: \_\_\_\_\_

Job Title: \_\_\_\_\_ Date: \_\_\_\_\_

<b>Sanitary Sewer Backup Response Packet Sanitary Sewer Overflow Report</b>	<b>Side A</b>
---	---------------

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

SSO Category (check one):

- Category 1: Discharge of untreated or partially treated wastewater of any volume resulting from a sanitary sewer system failure or flow condition that either (1) Reaches surface water and/or drainage channel tributary to a surface water; OR (2) Reached a Municipal Separate Storm Sewer System (MS4) and was not fully captured and returned to the sanitary sewer system or otherwise captured and disposed of properly.
- Category 2: Discharge of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from a sanitary sewer system failure or flow condition that either (1) Does not reach surface water, a drainage channel, or an MS4, OR (2) The entire SSO discharged to the storm drain system was fully recovered and disposed of properly.
- Category 3: All other discharges of untreated or partially treated wastewater resulting from a sanitary sewer system failure or flow condition
- Spill from Private Lateral (specify):
  - Single Family Home    Multi-Family Home    High Density Residential (5+ units)
  - Food Service Establishment (FSE)    Mixed Use Property    Industrial Property    Commercial Property
  - Public quasi-public institution (hospital, schools, fire department, etc.)

**IMMEDIATE NOTIFICATION: If this is a Category 1 SSO ≥1,000 gallons, contact CalOES within 2 hours at (800) 852-7550.**

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

B. SSO OCCURRING TIME (complete Start Time Determination Form and then complete information below)	
Estimated SSO start date:	Estimated SSO start time:
Date SSO reported to sewer crew:	Time SSO reported to sewer crew:
Date sewer crew arrived:	Time sewer crew arrived:
Who was interviewed to help determine start time?	
Estimated SSO end date:	Estimated SSO end time:

C. SSO DESCRIPTION (Complete Volume Estimation Worksheets and/or refer to Field Guide as needed for estimations.)	
SSO Appearance Point (check one or more): <ul style="list-style-type: none"> <li style="width: 50%;"><input type="checkbox"/> Combined Sewer D.I. (Combined CS Only)</li> <li style="width: 50%;"><input type="checkbox"/> Force Main</li> <li style="width: 50%;"><input type="checkbox"/> Gravity Mainline</li> <li style="width: 50%;"><input type="checkbox"/> Lateral Cleanout (Private)</li> <li style="width: 50%;"><input type="checkbox"/> Lateral Cleanout (Public)</li> <li style="width: 50%;"><input type="checkbox"/> Inside Building or Structure</li> <li style="width: 50%;"><input type="checkbox"/> Manhole</li> <li style="width: 50%;"><input type="checkbox"/> Pump Station</li> <li style="width: 50%;"><input type="checkbox"/> Lower Lateral (Private)</li> <li style="width: 50%;"><input type="checkbox"/> Lower Lateral (Public)</li> <li style="width: 50%;"><input type="checkbox"/> Upper Lateral (Private)</li> <li style="width: 50%;"><input type="checkbox"/> Upper Lateral (Public)</li> <li style="width: 50%;"><input type="checkbox"/> Other Sewer System Structure (specify):</li> </ul>	
Were there multiple appearance points? <input type="checkbox"/> No <input type="checkbox"/> Yes, number of appearance points:	
Did the SSO reach a drainage channel and/or surface water? <input type="checkbox"/> Yes (Category 1) <input type="checkbox"/> No	
If the SSO reached a storm sewer, was it fully captured and returned to the Sanitary Sewer? <input type="checkbox"/> Yes <input type="checkbox"/> No (Category 1)	
Was this spill from a private lateral? <input type="checkbox"/> Yes <input type="checkbox"/> No   If YES, name of responsible party:	
Final Spill Destination: <ul style="list-style-type: none"> <li style="width: 33%;"><input type="checkbox"/> Ocean/ocean beach*</li> <li style="width: 33%;"><input type="checkbox"/> Surface waters other than ocean</li> <li style="width: 33%;"><input type="checkbox"/> Drainage channel</li> <li style="width: 33%;"><input type="checkbox"/> Building/structure</li> <li style="width: 33%;"><input type="checkbox"/> Separate Storm drain</li> <li style="width: 33%;"><input type="checkbox"/> Combined storm drain</li> <li style="width: 33%;"><input type="checkbox"/> Paved surface</li> <li style="width: 33%;"><input type="checkbox"/> Unpaved surface</li> <li style="width: 33%;"><input type="checkbox"/> Street/curb/gutter</li> <li style="width: 33%;"><input type="checkbox"/> Other:</li> </ul>	
*Provide name(s) of affected drainage channels, beach, etc.:	
Total Estimated SSO volume (in gallons – 1,000gal or more = Category 1):                      gallons	
Est. volume that reached a separate storm drain that flows to a surface water body:	gal      Recovered:      gal
Est. volume that reached a drainage channel that flows to a surface water body:	gal      Recovered:      gal
Est. volume discharged directly to a surface water body:	gal      Recovered:      gal
Est. volume discharged to land:	gal      Recovered:      gal
Calc. Methods: <input type="checkbox"/> Eyeball <input type="checkbox"/> Photo Comparison <input type="checkbox"/> Upstream Lat. Connections <input type="checkbox"/> Area/Volume (include sketch/photo with dimensions)	
<input type="checkbox"/> Other (describe):	

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

<b>Sanitary Sewer Overflow Response Packet</b>		<b>DOT</b>
<b>Sanitary Sewer Overflow Report</b>		<b>Side B</b>
<b>D. CAUSE OF SSO</b>		
Where did failure occur? (Check all that apply): <input type="checkbox"/> Air Relief or Blow-Off Valve <input type="checkbox"/> Force Main <input type="checkbox"/> Gravity Mainline <input type="checkbox"/> Siphon		
<input type="checkbox"/> Lower Lateral (public) <input type="checkbox"/> Lower Lateral (private) <input type="checkbox"/> Manhole <input type="checkbox"/> Pump Station (specify): <input type="checkbox"/> Controls <input type="checkbox"/> Mechanical <input type="checkbox"/> Power		
<input type="checkbox"/> Upper Lateral (public) <input type="checkbox"/> Upper Lateral (private) Other:		
SSO cause (check all that apply): <input type="checkbox"/> Air Relief or Blow-Off Valve Failure <input type="checkbox"/> Construction Diversion Failure <input type="checkbox"/> CS Maintenance		
<input type="checkbox"/> Damage by others <input type="checkbox"/> Debris (specify): <input type="checkbox"/> from Construction <input type="checkbox"/> from Lateral <input type="checkbox"/> General <input type="checkbox"/> Rags <input type="checkbox"/> Flow Exceeded Capacity		
<input type="checkbox"/> FROG (Fats, roots, oil, grease) <input type="checkbox"/> Inappropriate Discharge <input type="checkbox"/> Natural Disaster <input type="checkbox"/> Operator Error <input type="checkbox"/> Root Intrusion		
<input type="checkbox"/> Pipe Structural Problem/Failure <input type="checkbox"/> Pipe Structural Problem/Failure (Installation) <input type="checkbox"/> Rainfall Exceeded Design		
<input type="checkbox"/> Pump Station Failure (specify): <input type="checkbox"/> Controls <input type="checkbox"/> Mechanical <input type="checkbox"/> Power <input type="checkbox"/> Siphon Failure <input type="checkbox"/> Vandalism		
<input type="checkbox"/> Surcharged Pipe <input type="checkbox"/> Non - Dispersible Wipes <input type="checkbox"/> Other (specify):		
Diameter (in inches) of pipe at point of blockage/spill cause (if applicable):		
Sewer pipe material at point of blockage/spill cause (if applicable):		
Estimated age of sewer asset at the point of blockage or failure (if applicable):		
Description of terrain surrounding point of blockage/spill cause: <input type="checkbox"/> Flat <input type="checkbox"/> Mixed <input type="checkbox"/> Steep		
<b>E. SSO RESPONSE</b>		
SSO response activities (check all that apply): <input type="checkbox"/> Cleaned-Up <input type="checkbox"/> Mitigated Effects of Spill <input type="checkbox"/> Contained All or Portion of Spill		
<input type="checkbox"/> Restored Flow <input type="checkbox"/> Returned All Spill to Sanitary Sewer System <input type="checkbox"/> Returned Portion of Spill to Sanitary Sewer System		
<input type="checkbox"/> Property Owner Notified <input type="checkbox"/> Other Enforcement Agency Notified (specify) <input type="checkbox"/> Other (specify):		
SSO response completed (date & time):		
Visual inspection result of impacted waters (if applicable):		
Any fish killed? <input type="checkbox"/> Yes <input type="checkbox"/> No Any ongoing investigation? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Were health warnings posted? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, provide health warning/beach closure posting/details:		
Was there a beach closure? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, name of closed beach(es):		
Were samples of impacted waters collected? <input type="checkbox"/> Yes <input type="checkbox"/> No		
If YES, select the analyses: <input type="checkbox"/> DO <input type="checkbox"/> Ammonia <input type="checkbox"/> Bacteria <input type="checkbox"/> pH <input type="checkbox"/> Temperature <input type="checkbox"/> Other:		
Recommended corrective actions: (check all that apply and provide detail)		
<input type="checkbox"/> Add sewer to preventive maintenance program		
<input type="checkbox"/> Adjust schedule/method of preventive maintenance		
<input type="checkbox"/> Enforcement action against FROG source		
<input type="checkbox"/> Inspect Sewer Using CCTV to Determine Cause		
<input type="checkbox"/> Plan rehabilitation or replacement of sewer		
<input type="checkbox"/> Repair Facilities or Replace Defect		
<input type="checkbox"/> Other (specify)		
What major equipment was used in the response?		
List all agency personnel involved in the response including name, title and their role in the response:		
<b>F. NOTES</b>		
<b>G. NOTIFICATION DETAILS</b>		
CalOES contacted date and time (if applicable):		
CalOES Control Number (if applicable):		Spoke to:
This form prepared by: NAME:	TITLE:	DATE:
This form reviewed by: NAME:	TITLE:	DATE:

**Sanitary Sewer Backup Response Packet  
Collection System Failure Analysis**

**Side A**

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

Go to Side B

**Sanitary Sewer Backup Response Packet  
Collection System Failure Analysis**

**Side B**

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



**Appendix E: Overflow Emergency Response Plan (OERP)**

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# **EAST BAY REGIONAL PARK DISTRICT**

## **Overflow Emergency Response Plan**



Effective Date: November 2020  
Revised Date: November 2020  
Approved by: Board of Directors  
Date: November 17, 2020

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**East Bay Regional Park District: Overflow Emergency Response Plan**



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## Sanitary Sewer Overflow Emergency Response Plan

### 1. Purpose

The purpose of the East Bay Regional Park District's (District) Overflow Emergency Response Plan (OERP) is to support an orderly and effective response to Sanitary Sewer Overflows (SSOs). The OERP provides guidelines for District personnel to follow in responding to, cleaning up, and reporting SSOs that may occur within the District's four (4) parks enrolled under the State Sanitary Sewer Waste Discharge requirements. This OERP satisfies the SWRCB Statewide General Waste Discharge Requirements (GWDR), which require wastewater collection agencies to have an Overflow Emergency Response Plan.

### 2. Policy

The District's employees are required to report all wastewater overflows occurring in any of the four (4) enrolled parks and take the appropriate action to secure the wastewater overflow area, properly report to the appropriate regulatory agencies, relieve the cause of the overflow, and ensure that the affected area is cleaned as soon as possible to minimize health hazards to the public and protect the environment. The District's goal is to respond to sewer system overflows as soon as possible following notification. The District will follow reporting procedures in regards to sewer spills as set forth by the San Francisco Regional Water Quality Control Board (RWQCB) and the California State Water Resources Control Board (SWRCB).

### 3. Definitions as Used in This OERP

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

**FROG – Fats, Roots, Oils, and Grease:** Refers to fats, oils, and grease typically associated with food preparation and cooking activities that can cause blockages in the sanitary sewer system. These blockages can be exacerbated by tree and shrub roots entering through cracks in underground pipes.

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

**MAINLINE SEWER:** Refers to District wastewater collection system piping that is not a private lateral connection to a user.

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

**MAJOR SPILL:** A spill of whatever size that, based on a reasonable assessment of the spill size, location, and potential impacts, is deemed to pose an imminent and substantial endangerment to public health or the environment.

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

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

- a. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
- b. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
- c. Occurs during, or as a result of, the treatment or disposal of wastes.

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

**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

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

**SSO Categories:**

Category 1: Discharges of untreated or partially treated wastewater of **any volume** resulting from an enrollee's sanitary sewer system failure or flow condition that:

- Reach surface water and/or reach a drainage channel tributary to a surface water; or
- Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).

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

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

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

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

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

**SEWER SERVICE LATERAL:** Refers to the piping that conveys sewage from the building to the District's wastewater collection system.

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

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

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

General Waste Discharge Requirement (GWDR)

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

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

The Sewer System Management Plan and critical supporting documents are made available to the public via submission of an electronic copy to the State Water Resources Control Board.

#### 5. Goals

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

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

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

## **6. SSO Detection and Notification**

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

The processes that are employed to notify the District of the occurrence of an SSO at any of the four(4) enrolled parks include: observation by the public, receipt of an alarm, or observation by District staff during the normal course of their work.

The District owns various wastewater pump stations in the enrolled parks that are operated by Parks staff and maintained by Water Utilities Maintenance. In the event of any pump failure, and to prevent overflows, wastewater from the wet well can either be pumped into a vacuum truck or disposal to a nearby sanitary sewer manhole or bypassed around the station into the sanitary sewer system.

### **6.1 PUBLIC OBSERVATION**

Public observation is one way that the District is notified of blockages and spills. When the public observes an apparent overflow, they should contact Parks Dispatch or a local Park ranger. Contact numbers and information for reporting sewer spills and backups are posted at each of the parks and on the 1833 The District's Dispatch telephone number for reporting sewer problems is 911 or (510) 881-1833.

During all hours, Dispatch will receive the call and then they will enter the caller's event information into the Dispatch Incident Report. Dispatch will then contact the Maintenance Superintendent who will determine if the Sanitation Crew should be dispatched. All SSOs will be evaluated by the Maintenance Superintendent and Crew to document findings and any actions taken. The Sanitation Supervisor will either document the event utilizing the SSO and backup Response Workbook and submit to the Maintenance Superintendent.

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

- Time and date of call
- Specific Park and location within the park of potential problem
- Nature of call
- In case of SSO, estimated start time of overflow
- Caller's name and telephone number
- Caller's observation (e.g., odor, duration, location on property, known impacts, indication if surface water impacted, appearance at cleanout or manhole)
- Other relevant information

If the overflow/backup is in the District's park, the Maintenance Superintendent will be notified and determine follow-up actions needed and ensure completion of the Sanitary Sewer Overflow/Backup Response Workbook.

### **6.2 DISTRICT PARKS STAFF OBSERVATION**

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

### **6.3 CONTRACTOR OBSERVATION**

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

1. Immediately notify District Dispatch.
2. Protect storm drains.
3. Protect the public.
4. Provide information to the Parks Dispatch or Park Supervisor or Ranger such as start time, appearance point, suspected cause, weather conditions, etc.
5. Direct ALL media and public relations requests to the Public Information Supervisor.

### **6.4 NO OBSERVATION**

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

## 7. SSO Response Procedures

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

### 7.1 Sewer Overflow/Backup Response Summary

The District will respond to SSOs as soon as feasible following notification of an overflow/backup or unauthorized discharge from District Dispatch.

If it is not possible that the overflow/backup is due to a failure in the District-owned/maintained sewer lines or facilities the Sanitation Crew assists the other agency and may perform the following:

- Follows the instructions in the Sanitary Sewer Overflow/Backup Response Workbook as a First Responder.
- Notifies Maintenance Superintendent or designee of the incident.
- Assists with relieving the blockage and cleaning impacted areas.
- Forwards the completed Sanitary Sewer Overflow Workbook to the Maintenance Superintendent or designee.

The Maintenance Superintendent or designee performs required regulatory reporting in accordance with the Sanitary Sewer Overflow/Backup Workbook's Regulatory Reporting section.

### 7.2 First Responder Priorities (Parks Staff)

The first responder's priorities are:

- To follow safe work practices.
- To respond promptly with the appropriate and necessary equipment.
- To close or turn-off any impacted Park Facilities.
- To minimize public access to and/or contact with the spilled sewage.
  
- To contain the spill wherever feasible and safe.
- To assist Sanitation in restoring the flow as soon as practicable.
- To promptly notify Dispatch of the SSO.
- To assist Sanitation to return the recovered sewage to the Park sewer system.
- To assist Sanitation to restore the area to its original condition (or as close as possible).
- Upon completion of clean-up, reopen the Park facilities for public use.

### 7.3 Safety

The first responder is responsible for following safety procedures at all times. Special safety precautions must be observed when responding to SSOs. There may be times when District personnel responding to a sewer system event are not familiar with potential safety hazards peculiar to sewer work. In such cases it is appropriate for Sanitation to take the time to discuss safety issues, consider the order of work, and check safety equipment before starting the job. All park staff reporting to Park with a sewer facility will undergo annual training appropriate for first responders.

#### **7.4 Initial Response (Parks Staff)**

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

The first responder will:

- Note arrival time at the site of the overflow/backup.
- Verify the existence of a public sewer system spill or backup.
- Notify Dispatch. If unavailable, contact Sanitation directly.
- Take photos of overflowing manhole(s)/cleanout(s).
- Identify and assess the affected area and extent of spill.
- Document conditions upon arrival with photographs. Initiate containment measures. The guidance for this decision is:
  - Small spills (i.e., spills that are easily contained) – place signs and incident tape proceed with containment measures.
  - Moderate or large spill where containment is anticipated to be simple – proceed with the containment measures.
  - Moderate or large spills where containment is anticipated to be difficult –whenever deemed necessary, call for additional assistance and implement containment measures.
- Take steps to contain the SSO and shut off impacted sewer related lift station or other sewer facility.

#### **7.5 Initiate Spill Containment Measures (Parks Staff)**

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

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

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

#### **7.6 Restore Flow (Sanitation Division)**

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

#### **7.7 Equipment**



This section provides a list of specialized equipment that is required to support this Overflow Emergency Response Plan.

- *Closed Circuit Television (CCTV) Inspection Unit* – A CCTV Inspection Unit is required to determine the root cause for all SSOs from gravity sewers.
- *Camera* – A digital or disposable camera is required to record the conditions upon arrival, during clean up, and upon departure.
- *Emergency Response Trucks* – A utility body pickup truck, or open bed is required to store and transport the equipment needed to effectively respond to sewer emergencies. The equipment and tools will include containment and clean up materials.
- *Portable Generators, Portable Pumps, Piping, and Hoses* – Equipment used to bypass pump, divert, or power equipment to mitigate an SSO.
- *Combination Sewer Cleaning Trucks* – Combination high velocity sewer cleaning trucks with vacuum tanks are required to clear blockages in gravity sewers, vacuum spilled sewage, and wash down the impacted area following the SSO event.
- *Air plugs, sandbags, wattles plastic mats, and rubber barriers/dikes.*
- *SSO Sampling Kits*
- *Portable Lights*
- *Safety cones, signage, and Hazard tape to cordon off affected areas*

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

## 8. Recovery and Cleanup (Sanitation)

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

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

### 8.1 Estimate the Flow and Volume of Spilled Sewage

To estimate the flow rate, Sanitation will use the Southern Sections Collections System Committee (SSCSC) Manhole Overflow Gauge if the same style of manhole cover is observed overflowing. A variety of approaches exist for estimating the volume of a sanitary sewer spill. Crew members should use the method most appropriate to the sewer overflow in question and reference the Sanitary Sewer Overflow/Backup Response Workbook which provides three (3) methods:

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

In addition, wherever and whenever possible, document the estimate using photos and/or video of the SSO site before and during the recovery operation.

### 8.2 Recovery of Spilled Sewage

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

### **8.3 Clean-up and Disinfection**

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

#### *Hard Surface Areas*

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

#### *Landscaped and Unimproved Natural Vegetation*

Collect all signs of sewage solids and sewage-related material either by protected hand or with the use of rakes and brooms. Wash down the affected area with clean water until the water runs clear. The flushing volume will be approximately three times the estimated volume of the spill. Either contain or vacuum up the wash water so that none is released. Ensure that wash water infiltrates through soil and does not enter waterways or storm drains. Cordon off the affected area and allow the area to dry. Repeat the process if additional cleaning is required.

#### *Natural Waterways*

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

#### *Wet Weather Modifications*

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

### **8.4 Public Notification**

Signs will be posted and barricades put in place to keep vehicles and pedestrians away from contact with spilled sewage. Additionally, staff will use their best judgment regarding supplemental sign placement in order to protect the public and local environment. Signs will not be removed until directed by Stewardship staff (who may choose to consult with County Environmental Health Services Department).

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

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

When contact with the local media is deemed necessary, the Chief of Maintenance and Skilled Trades will provide the media with all relevant information.

## **9. Water Quality (Environmental)**

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

### **9.1 Water Quality Sampling and Testing Stewardship)**

Water quality sampling and testing will be performed by Stewardship Water Management Division for all SSOs greater than 50,000 gallons. The water quality sampling procedures must be implemented within 48 hours of becoming aware of the SSO greater than 50,000 gallons and include the following:

- Water Management will be notified by Sanitation and will collect samples as soon as possible after the discovery and mitigation of the SSO event.
- The water quality samples will be collected from upstream of the spill, from the spill area, and downstream of the spill in flowing water (e.g. creeks) until no contamination is found. The water quality samples will be collected near the point of entry of the spilled sewage.
- The samples shall then be brought to an accredited lab following appropriate chain of custody procedures.

### **9.2 Water Quality Monitoring Plan (Stewardship)**

The District Water Quality Monitoring Plan (WQMP) for the Park where the SSO has occurred will be implemented immediately upon discovery of any Category 1 SSO whenever there is a major spill or when a water supply facility is impacted in order to assess impacts from SSOs to surface waters. The SSO Water Quality Monitoring Plan will be implemented by the Stewardship Water Management Division:

1. Contain protocols for water quality monitoring.
2. Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g. safety, legal right to access, etc.)
3. Require water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.
4. Require monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy.
5. Within 48 hours of the District becoming aware of the SSO, require water quality sampling for fecal coliform, E. Coli, biochemical oxygen demand (BOD), and ammonia.
6. Observe proper chain of custody procedures.
7. If the District's current OERP cannot fully mitigate an SSO and if it is determined that the SSO may pose an imminent and substantial endangerment to public health or the environment, the District shall consult a qualified biologist, health care specialist or equivalent professional to assist.

### **9.3 SSO Technical Report (MAST)**

The Chief of Maintenance and Skilled Trades will submit and certify an SSO Technical Report to the CIWQS Online SSO Database within 45 calendar days of the SSO end date for any major SSO or greater

than 50,000 gallons to surface waters. The Maintenance Superintendent will supervise the preparation of this report and the Chief of Maintenance and Skilled Trades will certify this report. This report, which does not preclude the Water Board from requiring more detailed analyses if requested, shall include at a minimum, the following:

Causes and Circumstances of the SSO:

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

District's Response to SSO:

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

Water Quality Monitoring:

- Description of all water quality sampling activities conducted including analytical results and evaluation of the results (if needed).
- Detailed location map illustrating all water quality sampling points (if needed).

## 10. Notification, Reporting, Monitoring and Recordkeeping Requirements (MAST)

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

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

- Documentation of response steps and/or remedial actions
- Photographic evidence to document the extent of the SSO, field crew response operations, and site conditions after field crew SSO response operations have been completed. The date, time, location, and direction of photographs taken will be documented.
- Documentation of how any estimations of the volume of discharged and/or recovered volumes were calculated including all assumptions made.
- Regulator required notifications are outlined in Section 10.1 on the following page.

## 10.1 Regulator Required Notifications

ELEMENT	REQUIREMENT	METHOD
<b>NOTIFICATION</b>	Within two hours of becoming aware of any Category 1 SSO greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it probably will be discharged to surface water, the District will notify the California Office of Emergency Services (CalOES) and obtain a notification control number.	Call Cal OES at: <b>(800) 852-7550</b>
<b>REPORTING</b>	<ul style="list-style-type: none"> <li>• Category 1 SSO: The District will submit draft report within three business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date.</li> <li>• Category 2 SSO: The District will submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of the SSO end date.</li> <li>• Category 3 SSO: The District will submit certified report within 30 calendar days of the end of month in which SSO the occurred.</li> <li>• SSO Technical Report: The District will submit within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or greater are spilled to surface waters.</li> <li>• "No Spill" Certification: The District will certify that no SSOs occurred within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred.</li> <li>• Collection System Questionnaire: The District will update and certify every 12 months</li> </ul>	<p>Enter data into the CIWQS Online SSO Database<sup>1</sup> (<a href="http://ciwqs.waterboards.ca.gov/">http://ciwqs.waterboards.ca.gov/</a>) certified by the Legally Responsible Official(s)<sup>2</sup>.</p> <p>All information required by CIWQS will be captured in the Sanitary Sewer Overflow Report. Certified SSO reports may be updated by amending the report or adding an attachment to the SSO report within 120 calendar days after the SSO end date. After 120 days, the State SSO Program Manager must be contacted to request to amend an SSO report along with a justification for why the additional information was not available prior to the end of the 120 days.</p>
<b>WATER QUALITY MONITORING</b>	The District will conduct water quality sampling within 48 hours after initial SSO notification for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.	Water quality results will be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.
<b>RECORD KEEPING</b>	<p>The District will maintain the following records:</p> <ul style="list-style-type: none"> <li>• SSO event records.</li> <li>• Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP.</li> <li>• Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters.</li> <li>• Collection system telemetry records if relied upon to document and/or estimate SSO Volume.</li> </ul>	Self-maintained records shall be available during inspections or upon request.

<sup>1</sup> In the event that the CIWQS online SSO database is not available, the Maintenance Superintendent will notify SWRCB by phone and will fax or e-mail all required information to the RWQCB office at (510) 622-2369 in accordance with the time schedules identified above. In such an event, the District will submit the appropriate reports using the CIWQS online SSO database when the database becomes available. A copy of all documents that certify the submittal in fulfillment of this section shall be retained in the SSO file.

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

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

The product of the failure analysis investigation will be the determination of the root cause and the identification and scheduling of the corrective actions. The Collection System Failure Analysis Form G-1 (in Sanitary Sewer Overflow/Backup Response Workbook) will be used to document the investigation.

### 13. SSO Response Training (MAST & Stewardship)

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

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

#### 13.1 Initial and Annual Refresher Training

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

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

- The District's Overflow Emergency Response Plan and Sanitary Sewer Management Plan
- Sanitary Sewer Overflow Volume Estimation Techniques
- Researching and documenting Sanitary Sewer Overflow Start Times
- Impacted Surface Waters: Response Procedures
- State Water Resources Control Board Employee Knowledge Expectations
- Employee Core Competency Evaluations on Sanitary Sewer Operations
- Water Quality Sampling Plan

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

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

1. Please briefly describe your name and job title.

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

### **13.2 SSO Response Drills (MAST & Stewardship)**

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

### **13.3 SSO Training Record Keeping (MAST & STEWARDSHIP)**

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

### **13.4 Contractors Working On District Sewer Facilities**

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

All service contractors performing work on District sewer lines will be provided with Appendix B: Contractor Orientation and will be required to observe contractor procedures.

## **14. Authority**

- Health & Safety Code Sections 5410-5416
- CA Water Code Section 13271
- Fish & Wildlife Code Sections 5650-5656
- State Water Resources Control Board Order No. 2006-0003-DWQ
- State Water Resources Control Board Order No. WQ 2013-0058-EXEC effective September 9, 2013

## **15. Appendices**

- Appendix A: Sample Public Notification Sign
- Appendix B: Contractor Orientation
- Appendix C: Sanitary Sewer Overflow and Backup Response Workbook



APPENDIX A:  
Sample Public Notification Sign

**Overflow Emergency Response Plan  
Public Posting**

# **DANGER**

**RAW SEWAGE • AVOID CONTACT**



# **PELIGRO**

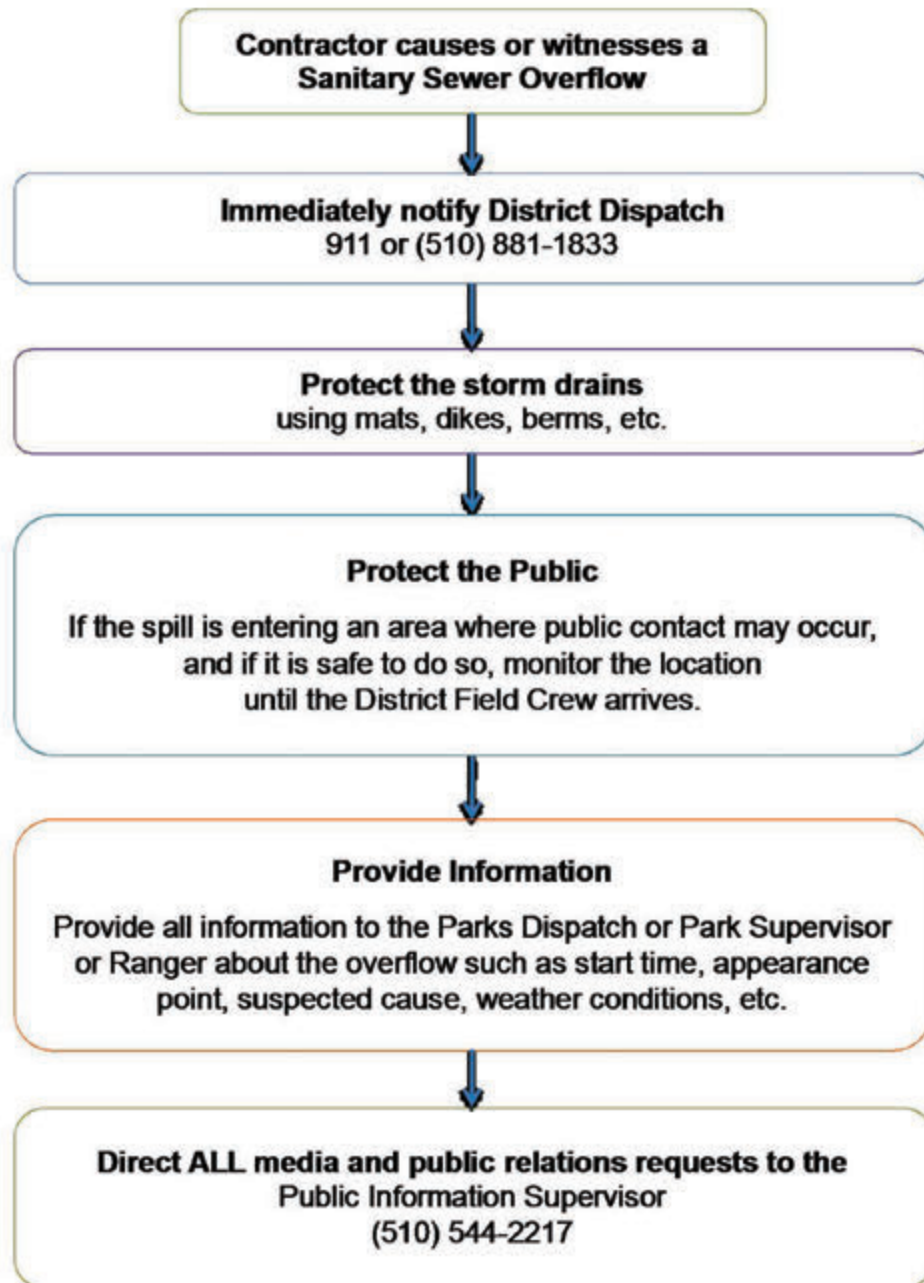
**AGUA CONTAMINADA • EVITE TODO CONTACTO**

**For more information:**

**East Bay Regional Park District  
(510) 881-1833**

**APPENDIX B:  
Contractor Orientation**

East Bay Regional Park District Overflow Emergency Response Plan  
**Contractor Orientation**



APPENDIX C:  
Sanitary Sewer Overflow/Backup Response Workbook

INSERT

Sanitary Sewer Overflow/Backup Response Workbook

# **East Bay Regional Park District**

## **Overflow Emergency Response Plan**



## **Sanitary Sewer Overflow and Backup Response Workbook - Sanitation**

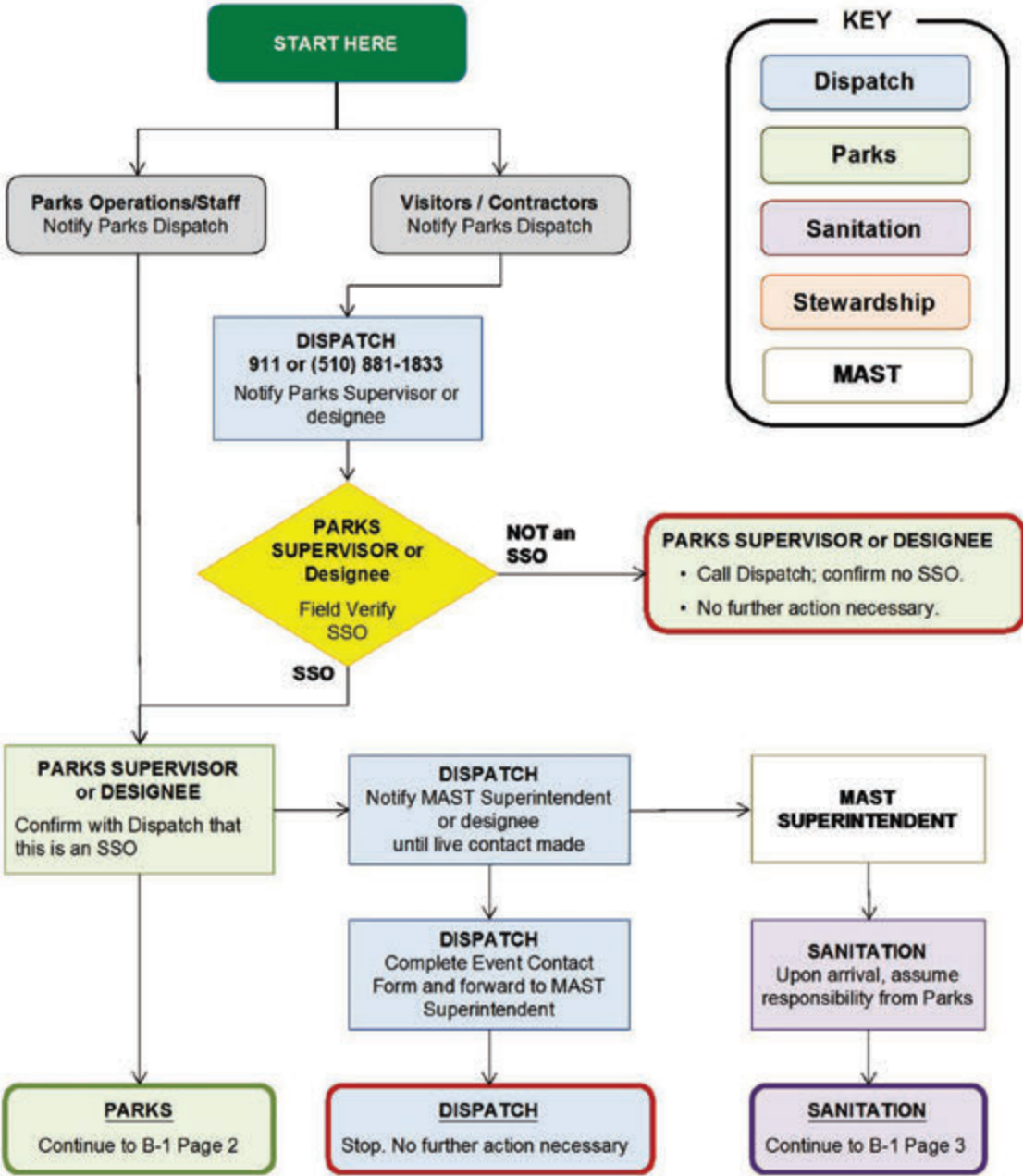
**Anthony Chabot 2SSO11410**

**Coyote Hills 2SSO11481**

**De Valle 2SSO11413**

**Garin 2SSO11411**

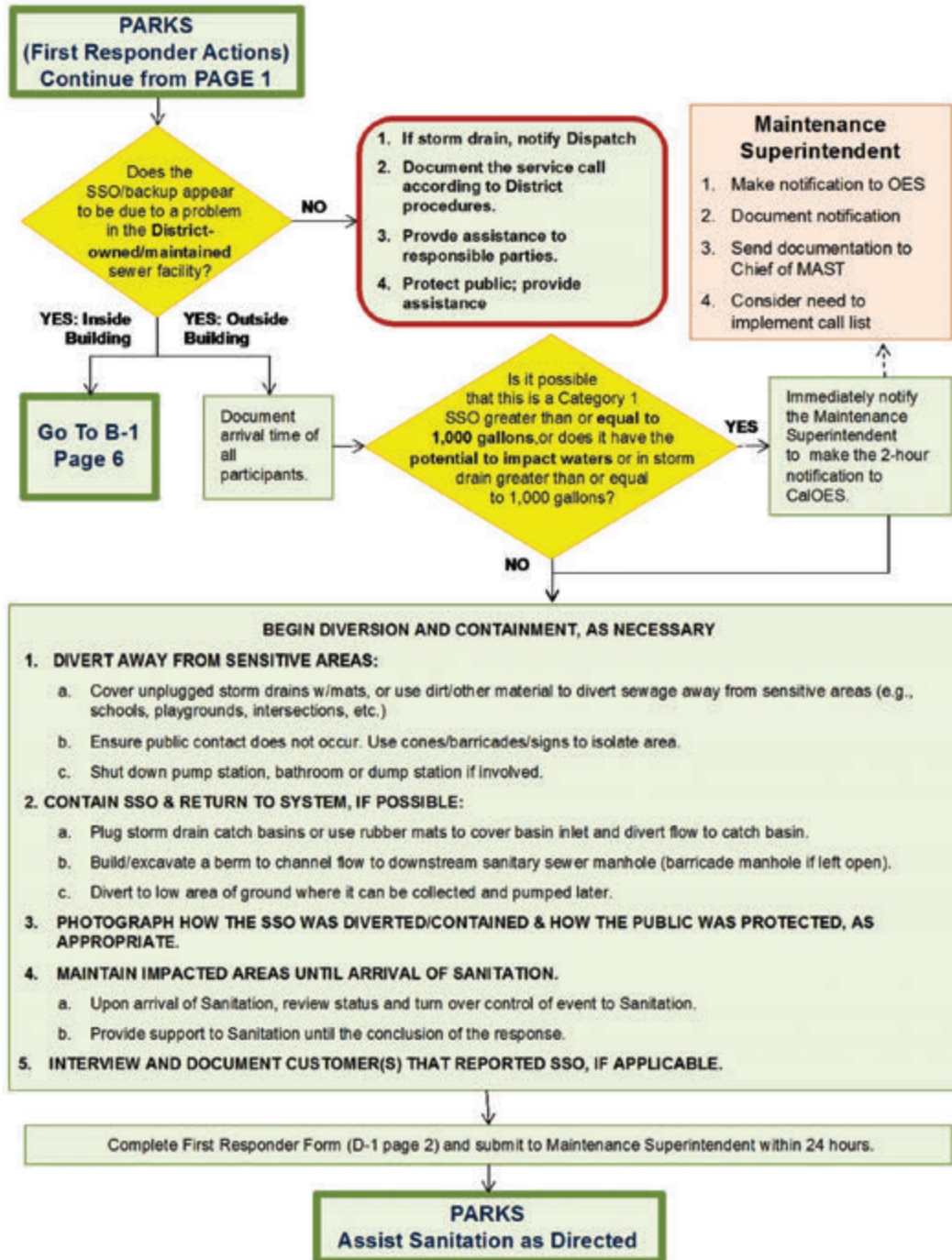
East Bay Regional Park District Overflow Emergency Response Plan  
**Overflow/Backup Response Flowchart**



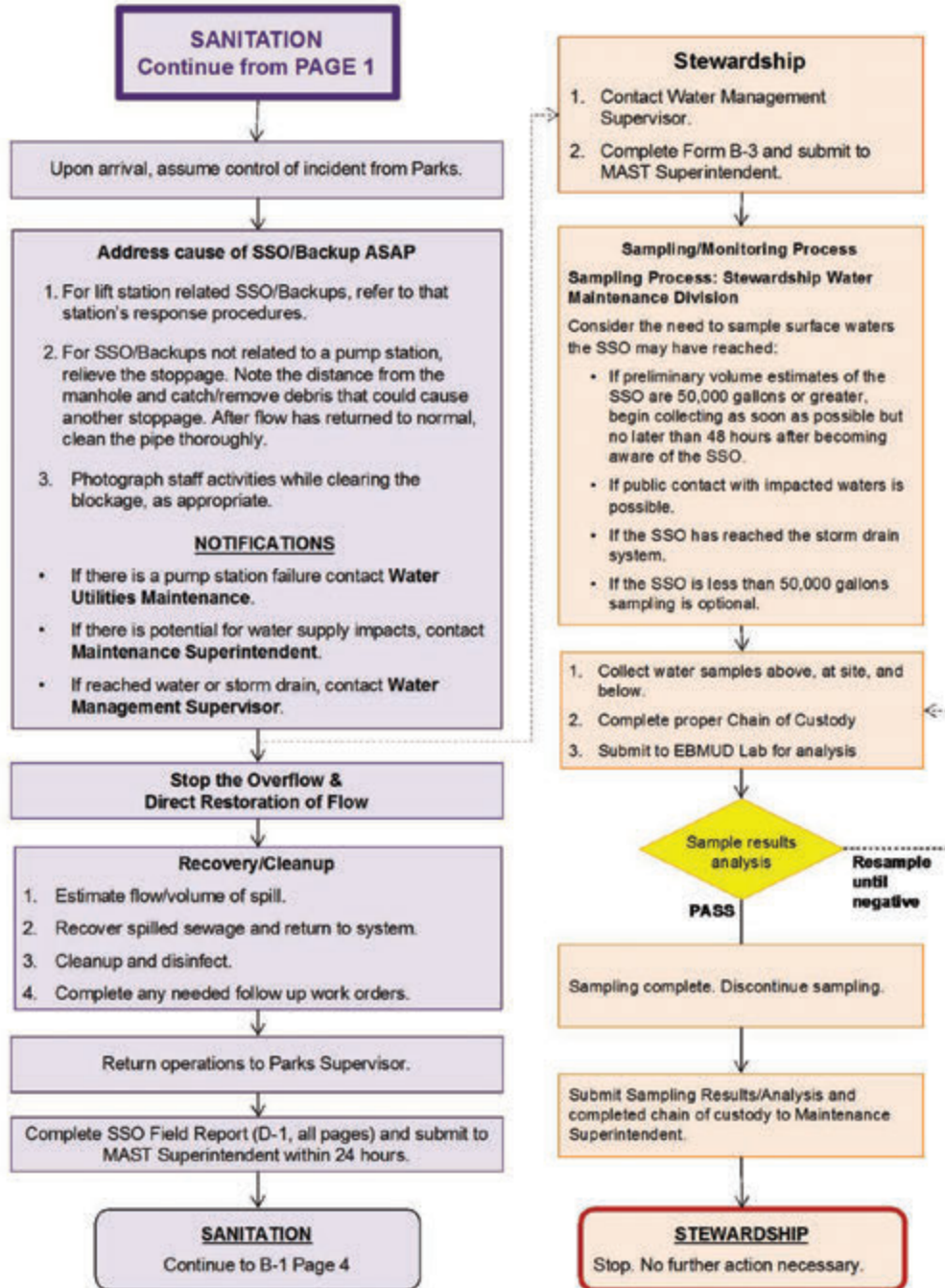


East Bay Regional Park District Overflow Emergency Response Plan  
**Overflow/Backup Response Flowchart**

**A-1: Page 2**

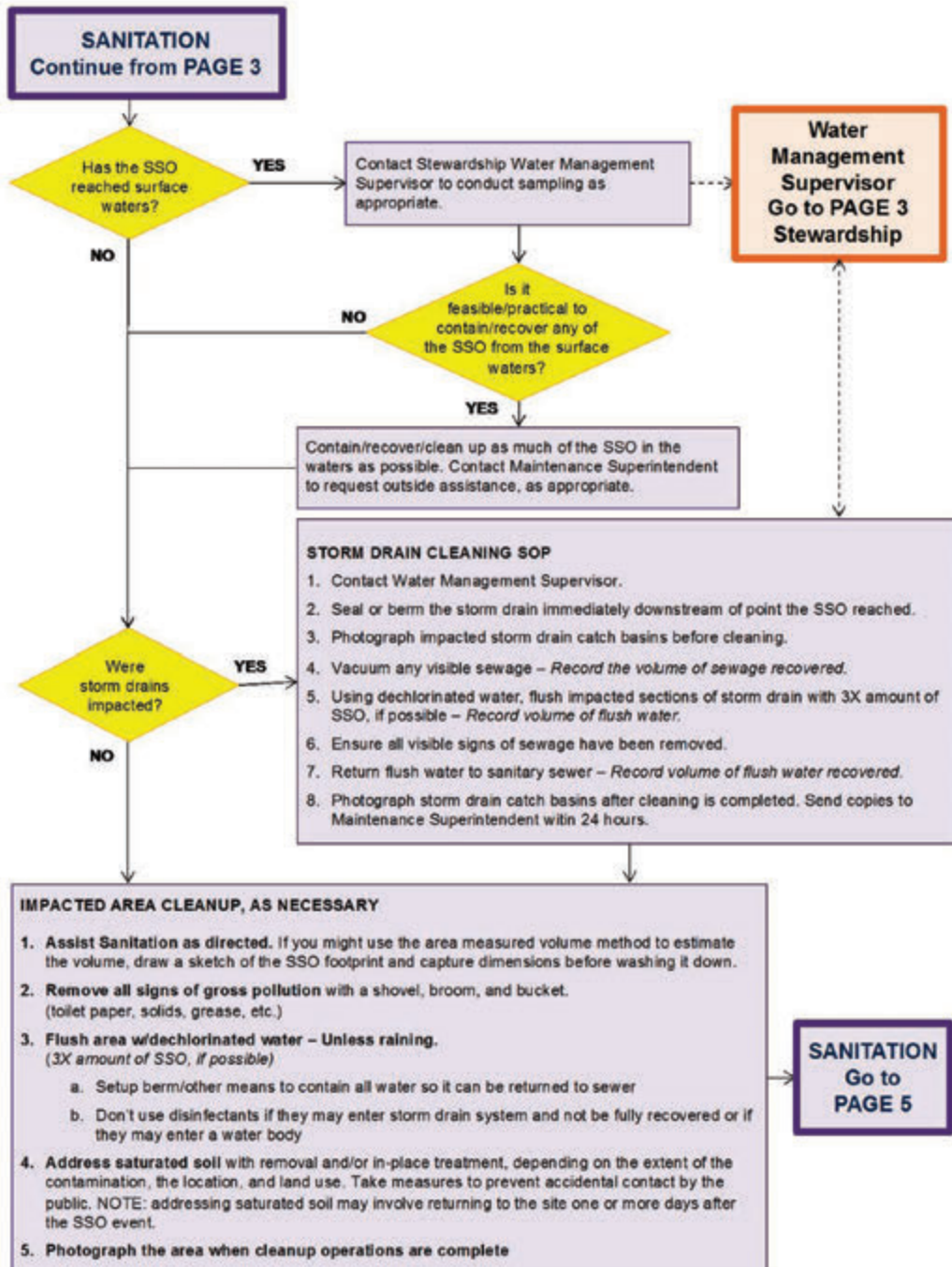


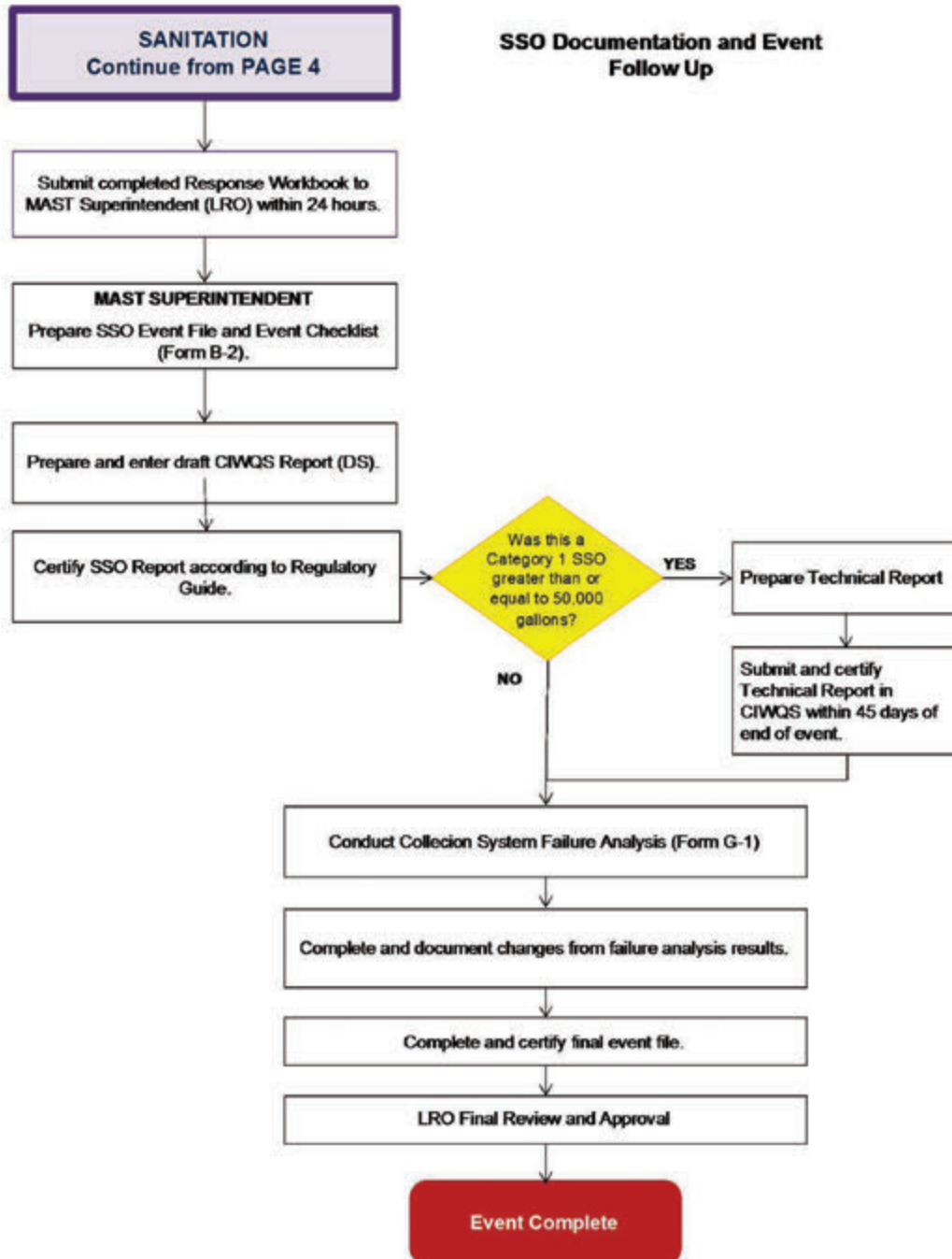
East Bay Regional Park District Overflow Emergency Response Plan  
**Overflow/Backup Response Flowchart**



East Bay Regional Park District Overflow Emergency Response Plan  
**Overflow/Backup Response Flowchart**

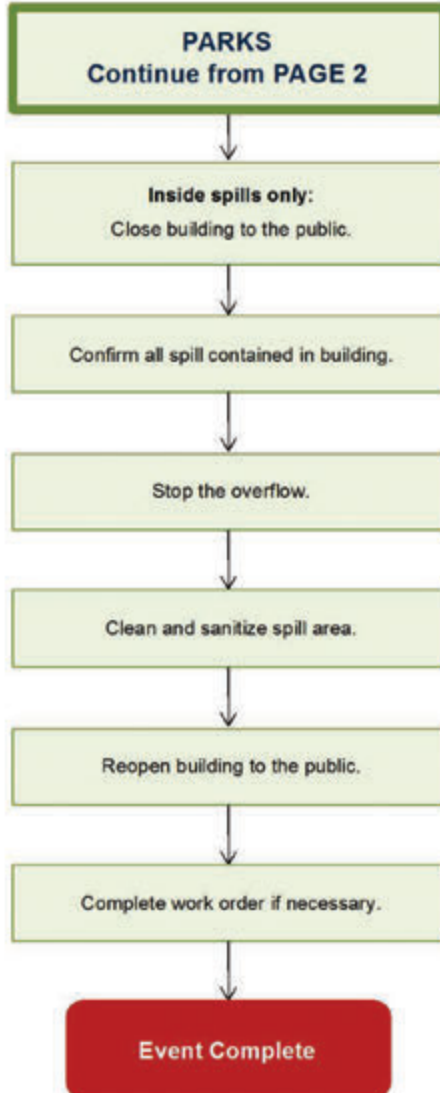
**A-1: Page 4**





East Bay Regional Park District Overflow Emergency Response Plan  
**Overflow/Backup Response Flowchart**

**A-1: Page 6**



**East Bay Regional Park District Overflow Emergency Response Plan  
Workbook Instructions**

**B-1**

This Sewage Overflow Backup Response Workbook is to be carried in all Sanitation vehicles and contains all instructions and reporting forms required for a complete documentation of a sewage overflow event. Upon completion by Sanitations staff, the entire workbook shall be submitted to the Maintenance Superintendent within 24 hours of the end of an overflow event. This page is intended to service as a coordinating document for the Maintenance Superintendent and will be completed by the separate Divisions as work is completed and transmitted to the Maintenance Superintendent.

- If this is a Category 1 SSO greater than or equal to 1,000 gallons, **immediately notify the Maintenance and Utilities Superintendent** at (510) 812-3499 to make the 2-hour notification to CALOES.
- Refer to the Regulatory Reporting Guide (C-1)** for additional reporting requirements
- For any media inquiries/requests:** Public Information Supervisor (510) 544-2217



Don't forget to take photos!

<p><b>Dispatch:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Complete SSO Incident Report</li> <li><input type="checkbox"/> Complete the chain of custody record and forward this workbook to the MAST Superintendent.</li> </ul>	<p>Print Name: _____</p> <p>Initial: _____</p> <p>Date: _____</p> <p>Time: _____</p>
<p><b>Parks (First Responders):</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Contain spill      <input type="checkbox"/> Assist Sanitation</li> <li><input type="checkbox"/> Photograph spill      <input type="checkbox"/> Complete Form D-1 page 2</li> <li><input type="checkbox"/> Notify Dispatch      <input type="checkbox"/> Transmit photos and forms to MAST Superintendent</li> </ul>	<p>Print Name: _____</p> <p>Initial: _____</p> <p>Date: _____</p> <p>Time: _____</p>
<p><b>Sanitation:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Follow the instructions on the Overflow/Backup Response Flowchart and complete forms in this workbook as indicated.</li> <li><input type="checkbox"/> Complete the chain of custody record and deliver this workbook to the Maintenance and Utilities Superintendent.</li> </ul>	<p>Print Name: _____</p> <p>Initial: _____</p> <p>Date: _____</p> <p>Time: _____</p>
<p><b>MAST Superintendent:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Review the SSO Event Checklist and the forms in this booklet. Contact the Dispatch/Parks/Stewardship for additional information if necessary.</li> <li><input type="checkbox"/> Confirm that all required regulatory notifications have been made.</li> <li><input type="checkbox"/> If this was a Sewer Backup, complete the Backup Forms Checklist (E-1).</li> <li><input type="checkbox"/> Complete the Collection System Failure Analysis Form (G-1).</li> <li><input type="checkbox"/> Enter data into CIWQS; certify report.</li> <li><input type="checkbox"/> Complete the Chain of Custody record and file this booklet</li> <li><input type="checkbox"/> Complete District's Internal Incident Report</li> </ul>	<p>Print Name: _____</p> <p>Initial: _____</p> <p>Date: _____</p> <p>Time: _____</p>
<p><b>Environmental:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Initiate sampling; deliver to EBMUD      <input type="checkbox"/> Complete form D-1, page 7</li> <li><input type="checkbox"/> Complete Chain of Custody      <input type="checkbox"/> Submit all completed forms and sample analysis to MAST Superintendent</li> <li><input type="checkbox"/> Manage Lab results</li> <li><input type="checkbox"/> Provide results to Sanitation</li> </ul>	<p>Print Name: _____</p> <p>Initial: _____</p> <p>Date: _____</p> <p>Time: _____</p>

## East Bay Regional Park District Overflow Emergency Response Plan

**SSO Event Checklist (Maintenance Superintendent)****B-2**

Date of SSO: \_\_\_\_\_ SSO Location/Name: \_\_\_\_\_  
 CIWQS Event ID #: \_\_\_\_\_ Category?  1  2  3 OES#: \_\_\_\_\_  
 Property Damage?  Yes  No Service Request #: \_\_\_\_\_

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> Effort made to contain and return a portion/all to the sanitary sewer</li> <li><input type="checkbox"/> Pictures/video taken of overflow</li> <li><input type="checkbox"/> Pictures taken of affected/unaffected area</li> <li><input type="checkbox"/> If property damage, start that process</li> <li><input type="checkbox"/> Pictures taken of containment efforts</li> <li><input type="checkbox"/> If Cat 1 &gt; 1000 gals:<br/>OES Control # _____</li> <li><input type="checkbox"/> Impacted waters identified?</li> <li><input type="checkbox"/> No impacted waters?</li> <li><input type="checkbox"/> SSO Report Form Complete (includes fields for all required fields in CIWQS, and a sketch of SSO)</li> <li><input type="checkbox"/> Volume Estimation Worksheet(s) done</li> <li><input type="checkbox"/> Start Time Determination Form done</li> <li><input type="checkbox"/> Initial review of forms is complete (ensure consistency with dates, times, volumes, and other data)</li> <li><input type="checkbox"/> Review of photos and videos (label/date)</li> <li><input type="checkbox"/> Start Folder for all documentation for this SSO event. Put everything in it (SSO Report, Worksheets/Forms, follow-up work orders, notes, pics, drawings, etc. CIWQS print outs and emails)</li> <li><input type="checkbox"/> Failure Analysis           <ul style="list-style-type: none"> <li><input type="checkbox"/> CCTV to determine cause</li> <li><input type="checkbox"/> Review Asset History</li> </ul> </li> <li><input type="checkbox"/> Determine next steps to prevent recurrence</li> <li><input type="checkbox"/> Document findings and next steps on SSO Report</li> <li><input type="checkbox"/> Submit Draft in CIWQS w/in 3 business days (for Categories 1 and 2 only)</li> <li><input type="checkbox"/> Print CIWQS Draft hard copy and email</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Review CIWQS, SSO Report, Worksheets, CMMS, and any other documentation to ensure data is consistent (e.g. dates, times, volumes, cause, follow-up action, etc.</li> <li><input type="checkbox"/> Attach photos, forms etc. to CIWQS</li> <li><input type="checkbox"/> Submit Ready to Certify in CIWQS (with sufficient time for LRO review)</li> <li><input type="checkbox"/> Print CIWQS Ready to Certify and email</li> <li><input type="checkbox"/> Hand folder to LRO</li> <li><input type="checkbox"/> LRO review folder and CIWQS verify accurate and consistent data</li> <li><input type="checkbox"/> Certify in CIWQS (within 15 calendar days for Categories 1 &amp; 2, 30 days after the month for Category 3)</li> <li><input type="checkbox"/> Print Certified CIWQS and email</li> <li><input type="checkbox"/> Any changes? Change in CIWQS and hard copies and explain changes, print our current version</li> <li><input type="checkbox"/> Move completed folder to SSO Binder</li> <li><input type="checkbox"/> For 50,000 gallons or larger           <ul style="list-style-type: none"> <li><input type="checkbox"/> Follow Water Quality Monitoring and Sampling procedures</li> <li><input type="checkbox"/> Map of where samples were taken</li> <li><input type="checkbox"/> Sampling results</li> <li><input type="checkbox"/> Write Technical Report Certify w/in 45 days</li> <li><input type="checkbox"/> Attach to CIWQS</li> <li><input type="checkbox"/> Add to SSO Folder/Binder</li> <li><input type="checkbox"/> If any changes are made to SSMP               <ul style="list-style-type: none"> <li><input type="checkbox"/> Update SSMP and link on CIWQS to SSMP</li> <li><input type="checkbox"/> Add change to SSMP Change Log</li> <li><input type="checkbox"/> If change is substantive, re-certify SSMP</li> </ul> </li> </ul> </li> </ul> |
|---|---|

## East Bay Regional Park District Overflow Emergency Response Plan

## Regulatory Reporting Guide

C-1

Deadline	Category 1 SSO	Category 2 SSO	Category 3 SSO	Private Lateral Sewage Discharge
2 hours after awareness of SSO	If the spill is greater than or equal to 1,000 gallons, call CalOES.	-	-	-
As soon as possible	If SSO impacts private property that may be a failure of the sewer main and/or if a claim for damages may be submitted against the District, notify Risk Management.			-
48 Hours after awareness of SSO	If 50,000 gal or more were not recovered, begin water quality sampling.	-	-	-
3 Business Days after awareness of SSO	Submit Draft Spill Report in the CIWQS database.	Submit Draft Spill Report in the CIWQS database.	-	-
15 Days after response conclusion	Certify Spill Report in CIWQS. Update as needed until 120 days after SSO end date.	Certify Spill Report in the CIWQS database. Update as needed until 120 days after SSO end time.	-	-
30 Days after end of calendar month in which SSO occurred	-	-	Certify Spill Report in CIWQS. Update as needed until 120 days after SSO end date.	(Voluntary) Certify Spill Report in CIWQS. Update as needed until 120 days after SSO end date.
45 days after SSO end date	If 50,000 gal or more were not recovered, submit SSO Technical Report in CIWQS.	-	-	-

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

Category	Definition
1	Discharges of untreated or partially treated wastewater of <u>any volume</u> resulting from an enrollee's sanitary sewer system failure or flow condition that: <ul style="list-style-type: none"> <li>Reach surface water and/or reach a drainage channel tributary to a surface water; or</li> <li>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).</li> </ul>
2	Discharges of untreated or partially treated wastewater of 1,000 gallons or greater resulting from an enrollee's sanitary sewer system failure or flow condition that do not reach surface water, a drainage channel, or a MS4 unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.
3	All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition. <b>NOTE: This does not include wastewater overflows inside of a building.</b>



East Bay Regional Park District Overflow Emergency Response Plan  
**Regulatory Reporting Checklist**

**C-3**

<b>NOTIFICATIONS</b>	
<b>CAL OES (800) 852-7550</b>	
Notification Date/Time:	
Name of Who You Spoke To:	
OES Control Number:	
<b>MAST Superintendent if applicable</b>	
Notification Date/Time:	
Name of Who You Spoke To: Left Message: <input type="checkbox"/>	
<b>Media Representative, if applicable</b>	
Notification Date/Time:	
Name of Who You Spoke To: Left Message: <input type="checkbox"/>	
<b>San Francisco Regional Water Quality Control Board (only if OES not available)</b>	
Notification Date/Time:	
Name of Who You Spoke To: Left Message: <input type="checkbox"/>	
<b>State Water Resources Control Board</b>	
Notification Date/Time:	
Name of Who You Spoke To: Left Message: <input type="checkbox"/>	

Sanitation to complete a separate Field report for each and every SSO including all pages of this D-1 Report and transmit to Maintenance Superintendent within 24 hours of completion of the spill clean-up. Complete report also includes volume computations from Section E. and mapping for spilled volumes and recovered volumes.

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

East Bay Regional Park District Overflow Emergency Response Plan  
**Sanitary Sewer Overflow Field Report**

**D-1: Page 2**

DATE/TIME DETERMINATIONS		
	DATE	TIME
Start of SSO (Use Start Time Determination/Notes Below)		
Dispatch Notified		
Park Supervisor Notified by Dispatch		
Sanitation Dispatched		
Sanitation Arrived		
End of SSO		
End of Spill Response		

**Start Time Determination/Notes**

Caller Interview: Where did you see sewage spill from?

- Manhole     
  Inside Building     
  Vent/Clean Out     
  Catch Basin     
  Wet Well/Lift Station  
 Other: \_\_\_\_\_

Comments: \_\_\_\_\_

Last Time Caller Observed **NO Spill** occurring: \_\_\_\_\_ AM / PM Date \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Comments: \_\_\_\_\_

If the volume of the SSO and rate of flow are known, divide volume by rate of flow to get duration of SSO event.  
 \_\_\_\_\_ Gallons ÷ \_\_\_\_\_ GPM = Minutes (SSO Duration).

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

Other Efforts to Determine Start Time: \_\_\_\_\_

Other Comments Regarding Spill Start Time: \_\_\_\_\_

Estimated SSO Start Time: \_\_\_\_\_ AM / PM      Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

SSO End Time: \_\_\_\_\_ AM / PM      Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Duration: \_\_\_\_\_ minutes

East Bay Regional Park District Overflow Emergency Response Plan  
**Sanitary Sewer Overflow Field Report**

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



East Bay Regional Park District Overflow Emergency Response Plan  
**Sanitary Sewer Overflow Field Report**

**D-1: Page 5**

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

East Bay Regional Park District Overflow Emergency Response Plan  
**Sanitary Sewer Overflow Field Report**

**D-1: Page 6**

<b>SSO FIELD REPORT</b>		
Spill corrective action taken: (Check all that apply) <ul style="list-style-type: none"> <li><input type="checkbox"/> Add location to, or increase frequency check, in Preventive Maintenance Program</li> <li><input type="checkbox"/> Adjusted Schedule/Method of Preventive Maintenance</li> <li><input type="checkbox"/> Inspected Sewer Using CCTV to Determine Cause</li> <li><input type="checkbox"/> Other (Specify Below)</li> <li><input type="checkbox"/> Plan Rehabilitation or Replacement of Sewer</li> <li><input type="checkbox"/> Repaired Facilities or Replaced Defect</li> </ul>		
Explanation of corrective action taken: (Required if spill corrective action is "Other")   		
Is there an ongoing investigation?	YES	NO
Health warnings posted?	YES	NO
Photos of posted health warnings?	YES	NO
Name of impacted surface waters, if any:   		

East Bay Regional Park District Overflow Emergency Response Plan  
**Sanitary Sewer Overflow Field Report**

**D-1: Page 7**

<b>SSO FIELD REPORT</b>
<p>Water quality samples analyzed for: (Circle all that apply)</p> <p><input type="checkbox"/> Dissolved Oxygen</p> <p><input type="checkbox"/> Other Chemical Indicator(s) – Specify Below</p> <p><input type="checkbox"/> Biological Indicator(s) – Specify Below</p> <p><input type="checkbox"/> No Water Quality Samples Taken</p> <p><input type="checkbox"/> Not Applicable to the Spill</p> <p><input type="checkbox"/> Other (Specify Below)</p>
<p>Explanation of water quality samples analyzed for: (Required if water quality samples analyzed for is "Other chemical indicator(s)", "Biological indicator(s)", or "Other")</p>   
<p>Water quality sample results reported to: (Check all that apply)</p> <p><input type="checkbox"/> County DEHS    <input type="checkbox"/> Regional Water Quality Control Board    <input type="checkbox"/> Other (Specify below)</p> <p><input type="checkbox"/> No Water Quality Samples Taken    <input type="checkbox"/> Not Applicable to this Spill</p>
<p>Explanation of water quality sample results reported to: (Required if water quality sample results reported to is "Other")</p>   
<p>Method and explanation of volume estimation methods used: (Check all that apply)</p> <p><input type="checkbox"/> Eyeball Estimate    <input type="checkbox"/> Measured Volume    <input type="checkbox"/> Duration and Flow Rate</p> <p><input type="checkbox"/> Counting Upstream Connections</p> <p><input type="checkbox"/> Other (Explain):</p>   



East Bay Regional Park District Overflow Emergency Response Plan  
**Volume Estimation Computations & Examples**

**Miscellaneous Computations & Examples**

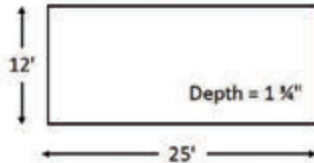
		Convert Inches to Feet	
		Inches	Feet
To convert inches to feet (NOTE: for the purposes of this worksheet, the unit of measurement will be in feet for formula examples)	Divide the inches by 12 or use the chart on the right.  <b>Example 1:</b> $27'' \div 12 = 2.25'$  <b>Example 2:</b> $1\frac{3}{4}'' = ?'$  $1'' (0.08') + \frac{3}{4}'' (0.06') = 0.14'$	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'		
Volume of one cubic foot	7.48 gallons of liquid		
<b>Area:</b> Two-dimensional measurement represented in square feet (SQ/FT or ft <sup>2</sup> )	Square/rectangle: Area = Length x Width  Circle: Area = $\pi \times r^2$ (where $\pi \approx 3.14$ and $r = \text{radius} = \frac{1}{2} \text{ diameter}$ )  Triangle: Area = $\frac{1}{2} (\text{Base} \times \text{Height})$		
<b>Volume:</b> Three-dimensional measurement represented in cubic feet (CU/FT or ft <sup>3</sup> )	Rectangle/square footprint: Volume = Length x Width x Depth  Circle footprint (cylinder): Volume = $\pi \times r^2 \times \text{Depth}$ (where $\pi \approx 3.14$ and $r = \text{radius} = \frac{1}{2} \text{ diameter}$ )  Triangle footprint: Volume = $\frac{1}{2} (\text{Base} \times \text{Height}) \times \text{Depth}$		
<b>Depth:</b> Wet Stain on Concrete or asphalt surface	If the depth is not measurable because it is only a wet stain, use the following estimated depths: Depth of a wet stain on concrete surface: 0.0026' (1/32") Depth of a wet stain on asphalt surface: 0.0013' (1/64")  These were determined to be a reasonable depth to use on the respective surfaces through a process of trial and error. One gallon of water was poured onto both asphalt and concrete surfaces. Once the area was determined as accurately as possible, different depths were used to determine the volume of the wetted footprint until the formula produced a result that (closely) matched the one gallon spilled. This process was repeated several times.		
<b>Depth:</b> Contained or "Ponded" sewage	Measure actual depth of standing sewage whenever possible. When depth varies, measure several representative sample points and determine the average. Use that number in your formula to determine volume.		

East Bay Regional Park District Overflow Emergency Response Plan  
**Volume Estimation Computations & Examples**

**Miscellaneous Computations & Examples (continued)**

**Area/Volume of a Rectangle or Square**

Formula: Length x Width x Depth = Volume in **cubic feet**



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

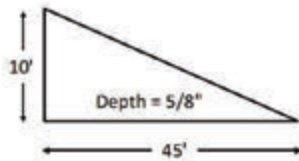
Multiply the volume by 7.48 gallons to determine the volume in **gallons**:

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

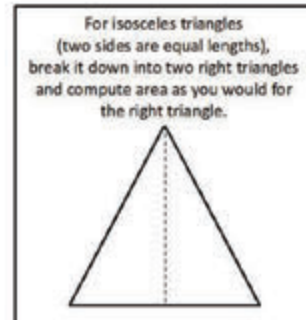
Convert Inches to Feet	
Inches	Feet
1/8"	0.01'
1/4"	0.02'
3/8"	0.03'
1/2"	0.04'
5/8"	0.05'
3/4"	0.06'
7/8"	0.07'
1"	0.08'
2"	0.17'
3"	0.25'
4"	0.33'
5"	0.42'
6"	0.50'
7"	0.58'
8"	0.67'
9"	0.75'
10"	0.83'
11"	0.92'
12"	1.00'

**Area/Volume of a Right Triangle**

Formula: Base x Height x Depth = Volume in **cubic feet**



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

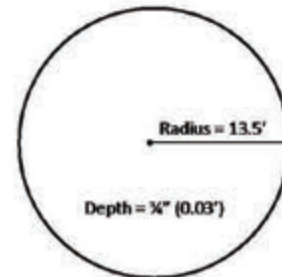


**Area/Volume of a Circle**

Formula:  $\pi \times r^2 \times \text{Depth} = \text{Volume in cubic feet}$

The diameter is a straight line passing from side to side through the center of a circle.

$$\frac{13.5'}{\text{Radius}} \times \frac{13.5'}{\text{Radius}} \times \frac{3.14}{\pi} \times \frac{0.03'}{\text{Depth}} \times \frac{7.48}{\text{gal/ft}^3} = \frac{128.42 \text{ gallons}}{\text{Volume}}$$



East Bay Regional Park Overflow Emergency Response Plan

**Volume Estimation: Eyeball Estimation Method (for ≤100 gallons)**

**E-2**

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

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

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

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

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

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

If yes, what volume of the observed spill volume do you estimate is rainfall? \_\_\_\_\_ gallons  
 If yes, describe how you determined the amount of rainfall in the observed spill?

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

$$\frac{\text{_____ gallons}}{\text{Estimated SSO Volume}} - \frac{\text{_____ gallons}}{\text{Rainfall}} = \frac{\text{_____ gallons}}{\text{Total Estimated SSO Volume}}$$

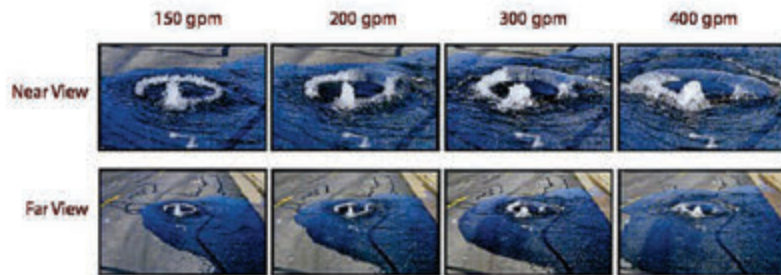
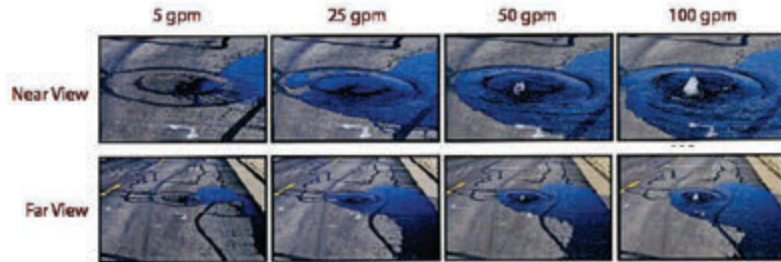
East Bay Regional Park District Overflow Emergency Response Plan

**Volume Estimation: Duration and Flow Rate Comparison Method**

**E-3**

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

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



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

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

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

East Bay Regional Park District Overflow Emergency Response Plan  
**Volume Estimation: Area/Volume Method**

**E-4: Page 1**

SSO Date: \_\_\_\_\_ Location: \_\_\_\_\_

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

Other: \_\_\_\_\_

STEP 2: Draw/sketch the outline (footprint) of the spill. Then break the footprint down into recognizable shapes. See example below.

1. Sketch the outline of the spill (black line)
2. Break the sketch down into recognizable shapes (circles, squares, etc.) as well as you can.
3. Determine the volume of each shape. (note: in this example, after the volume of the circle is determined, multiply it by approximately 65% so that the overlap area won't be counted twice.
4. If the spill is of varying depths, take several measurements at different depths and find the average. 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.

Example (right):  $2'' + 1.5'' + 1.25'' + 3'' + 5'' + 1.25'' = 14.0''$   
 $14.0'' \div 6 \text{ measurements} = 2.33''$   
 Average Depth = 2.33" (0.194')

East Bay Regional Park District Overflow Emergency Response Plan  
**Volume Estimation: Area/Volume Method**

STEP 3: Calculate the area of the footprint by completing the table below for each shape in Step 2.

If two shapes overlap, select one of the two shapes and estimate the percentage of that shape that does not overlap. Enter that percentage in the % Not Overlapping column. This will ensure that the overlap area is only counted once. Refer to the example on the previous page.

Rectangles	Length	X	Width	X	% Not Overlapping*	=	Area	X	Depth	=	Volume
	ft	X	ft	X	%	=	ft <sup>2</sup>	X	ft	=	ft <sup>3</sup>
	ft	X	ft	X	%	=	ft <sup>2</sup>	X	ft	=	ft <sup>3</sup>
	ft	X	ft	X	%	=	ft <sup>2</sup>	X	ft	=	ft <sup>3</sup>

Triangles	Base	X	Height	÷	X	% Not Overlapping*	=	Area	X	Depth	=	Volume
	ft	X	ft	÷ 2	X	%	=	ft <sup>2</sup>	X	ft	=	ft <sup>3</sup>
	ft	X	ft	÷ 2	X	%	=	ft <sup>2</sup>	X	ft	=	ft <sup>3</sup>
	ft	X	ft	÷ 2	X	%	=	ft <sup>2</sup>	X	ft	=	ft <sup>3</sup>

Circles	π	X	Radius	X	Radius	X	% Not Overlapping*	=	Area	X	Depth	=	Volume
	3.14	X	ft	X	ft	X	%	=	ft <sup>2</sup>	X	ft	=	ft <sup>3</sup>
	3.14	X	ft	X	ft	X	%	=	ft <sup>2</sup>	X	ft	=	ft <sup>3</sup>
	3.14	X	ft	X	ft	X	%	=	ft <sup>2</sup>	X	ft	=	ft <sup>3</sup>

**Total Spill Volume (sum of all three tables above): \_\_\_\_\_ ft<sup>3</sup>**

STEP 4: Convert from cubic feet to gallons by multiplying by 7.48.

$$\underline{\hspace{2cm}} \text{ ft}^3 \times 7.48 \text{ gallons} = \underline{\hspace{2cm}} \text{ gallons}$$

spill volume in cubic feet  **Total estimated volume**

East Bay Regional Park District Overflow Emergency Response Plan

**Volume Estimation: Upstream Connections Method**

**E-5**

SSO Date: \_\_\_\_\_ Location: \_\_\_\_\_

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

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

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

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

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

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

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

Total Estimated SSO Volume: \_\_\_\_\_ gallons

East Bay Regional Park District Overflow Emergency Response Plan

**Drawing Worksheet**

**E-6**



## East Bay Regional Park District Overflow Emergency Response Plan

**Dispatch Event Contact Form****F-1****Sewage Overflow Contact Information**

Call Date \_\_\_\_\_ Time \_\_\_\_\_ AM / PM Dispatcher Name: \_\_\_\_\_

Park: \_\_\_\_\_ Location in the park: \_\_\_\_\_

Caller Name: \_\_\_\_\_ Address: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Caller location in Park \_\_\_\_\_

Location of the Overflow: Restroom\_\_ Office\_\_ Road\_\_ Manhole\_\_ Creek\_\_ Pump Station\_\_  
Sanitary Dump\_\_ Other (specify) \_\_\_\_\_**Questions for the Caller:**

1. Nature of the call: Odor\_\_ Sewage overflow\_\_ Sewage spill\_\_ Restroom overflow\_\_ Other\_\_
2. Is the problem inside a Park building Yes\_\_ No\_\_ Outside of a Park building Yes\_\_ No\_\_ Both\_\_
3. Is water flowing from a manhole? Yes\_\_ No\_\_ Flowing from building Yes\_\_ No\_\_
4. When did you first notice the overflow? Date: \_\_\_\_\_ Time: \_\_\_\_\_ AM/PM
5. Please describe what you are seeing: \_\_\_\_\_
6. Is the overflow continuing? If so, size of the flowing water: small\_\_ medium\_\_ large\_\_
7. What did/do you notice about the overflow? \_\_\_\_\_
8. Is the overflow entering a catch basin, creek, waterway or lake? Yes\_\_ No\_\_ Unknown\_\_
9. If so, do you know the name of the waterway: \_\_\_\_\_
10. Have you notified anyone at the Park? If so who? \_\_\_\_\_, When: \_\_\_\_\_

Thank you for the call and the information. We will contact Park personnel to respond and evaluate the situation. May we contact you at the above number if we have further follow-up questions? Yes\_\_ No\_\_

**Dispatch Follow up Actions/Notifications:**

- A. Contact Park Supervisor Name: \_\_\_\_\_ Time: \_\_\_\_\_ AM/PM Date: \_\_\_\_\_
- B. Verification of sewage overflow to Dispatch: Yes/No Name \_\_\_\_\_ Date: \_\_\_\_\_ Time \_\_\_\_\_ AM/PM
- C. Dispatch notification to MAST Superintendent or designee: Date \_\_\_\_\_ Time \_\_\_\_\_ AM/PM
- D. Dispatch notification of Sanitation Supervisor: Date \_\_\_\_\_ Time \_\_\_\_\_ AM/PM
- E. **Return completed Dispatch Event Contact Form to MAST Superintendent upon completion**

**OFFICE USE ONLY**

Incident Report #		Prepared By	
<b>SSO/Backup Information</b>			
Cause			
<b>Summary of Historical SSOs/Backups/Service Calls/Other Problems</b>			
Date	Cause	Date Last Cleaned	Crew
Records Reviewed By:		Record Review Date:	
<b>Summary of CCTV Information</b>			
CCTV Inspection Date		File Name/Number	
CCTV Tape Reviewed By		CCTV Review Date	
Observations			

Go to Side B

East Bay Regional Park District Overflow Emergency Response Plan  
**Collection System Failure Analysis**

**G-1: Page 2**

The following Failure Analysis shall be completed by the Maintenance Superintendent following debrief meeting(s) that includes all District personnel involved in the overflow event and results in an evaluation of any necessary changes or improvements necessary in emergency response procedures.

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

# East Bay Regional Park District

## Overflow Emergency Response Plan



## Sanitary Sewer Overflow and Backup Response Workbook WDR Enrolled Parks

Anthony Chabot 2SSO11410

Coyote Hills 2SSO11481

De Valle 2SSO11413

Garin 2SSO11411

November 2020

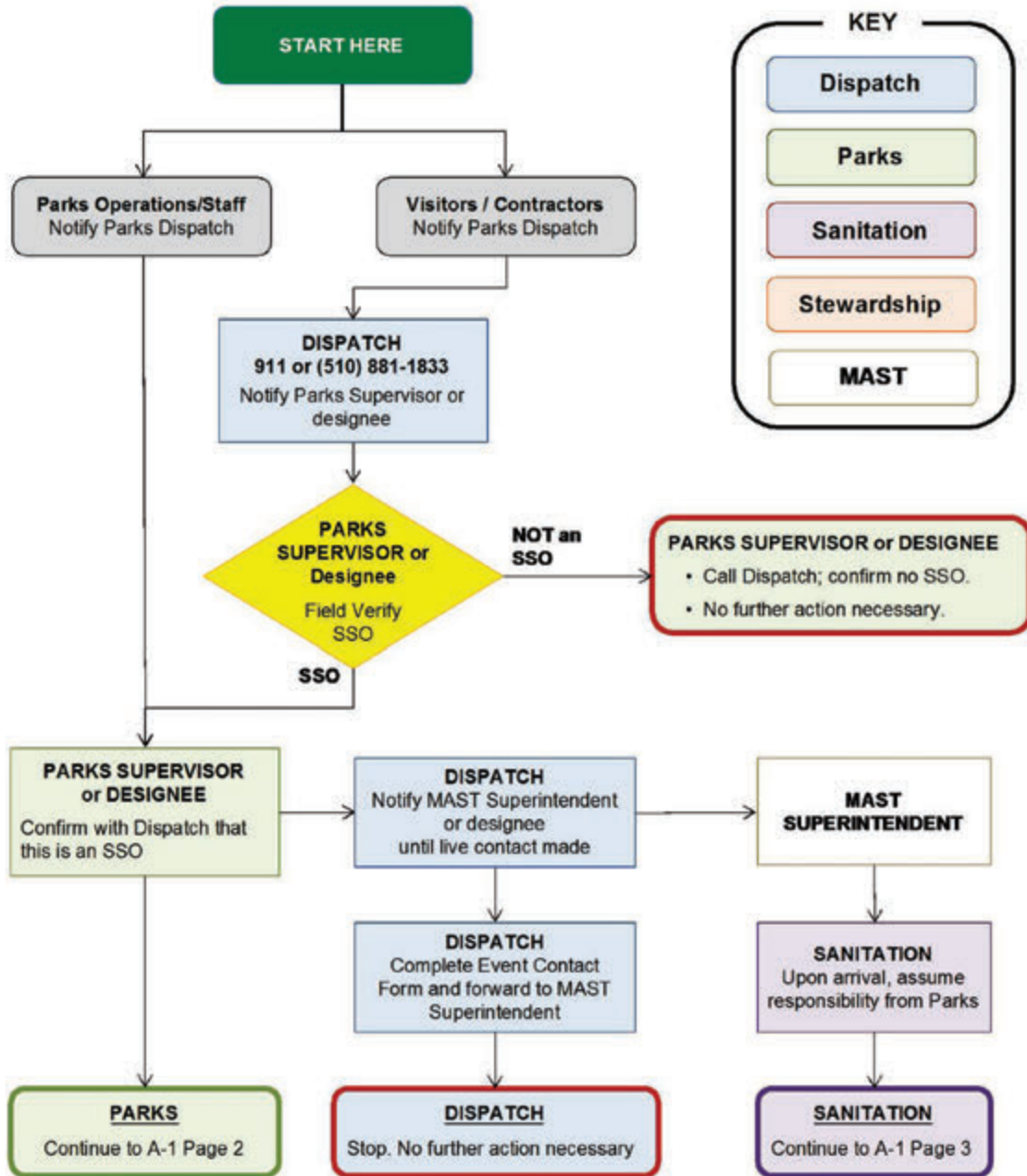
**Sanitary Sewer Overflow and Backup**

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**Response Workbook  
Workbook Acronyms**

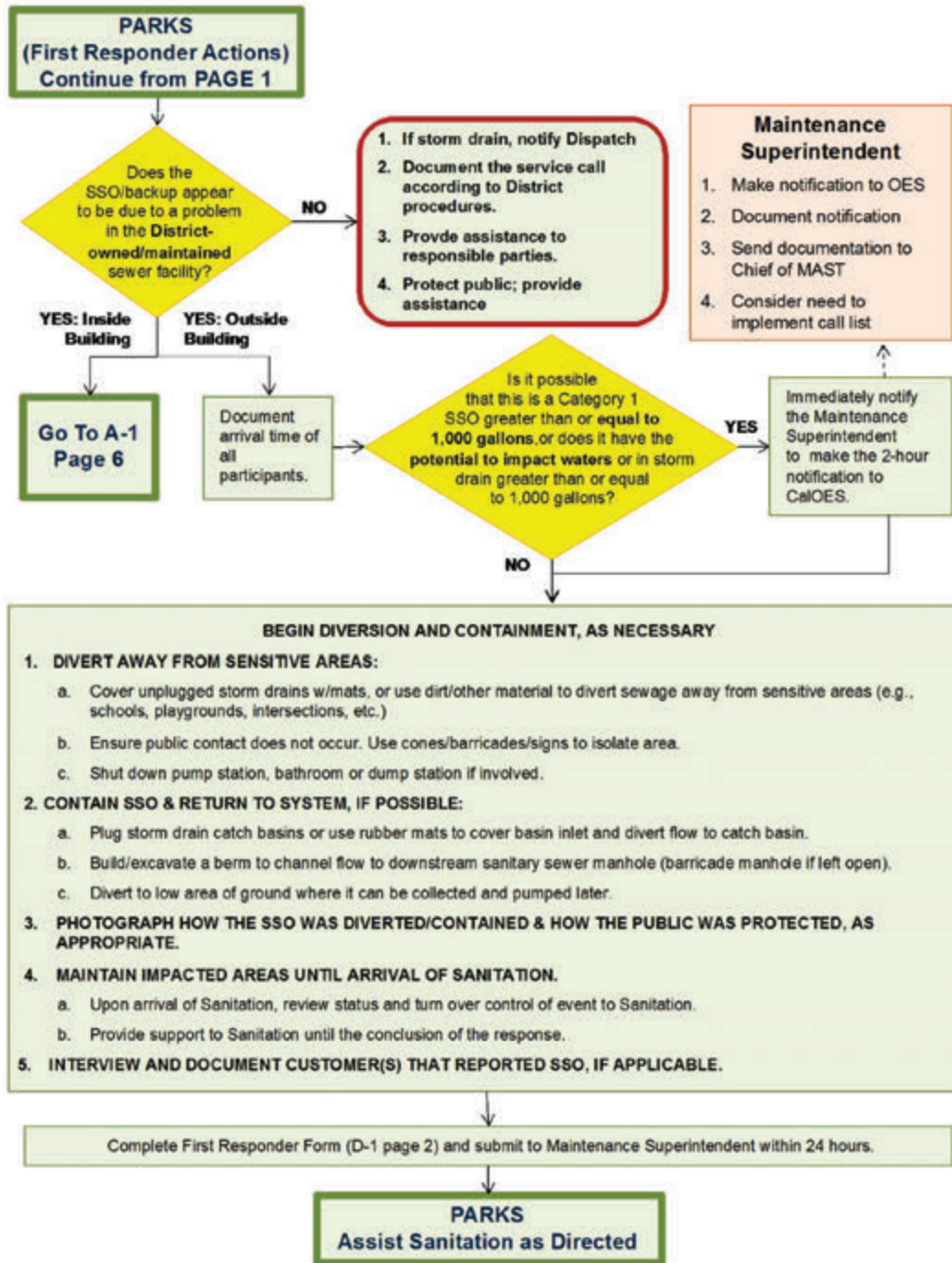
CalOES	State of California Office of Emergency Services
CCTV	Closed Circuit Television
CIWQS	California Water Quality System
CWEA	California Water Environment
CVSD	Castro Valley Sanitary District
DS	Data Submitter
DWQ	Department of Water Quality
EBMUD	East Bay Municipal Utility District
EBRPD	East Bay Regional Park District
EPA	Environmental Protection Agency
FOG	Fats, Oils and Grease
GWDR	General Waste Discharge Regulation (see also WDR)
LRO	Legally Responsible Official
LS	Lift Station or Pump Station
MAST	Maintenance and Skilled Trades
MRP	Monitoring and Reporting Program (appendix to the WDR)
OERP	Overflow Emergency Response Plan
OES	State of California Office of Emergency Services
RWQCB	Regional Water Board
SSMP	Sanitary Sewer Management Plan
SSO	Sanitary Sewer Overflow
SSS	Sanitary Sewer System
SWRCB	State Water Resources Control Board
USD	Union Sanitary District
WDR	General Waste Discharge Regulations (also SSS GWDR)
WDID	Waste Discharge Identification Designation
WQMP	Water Quality Monitoring Plan

East Bay Regional Park District Overflow Emergency Response Plan  
**Overflow/Backup Response Flowchart**

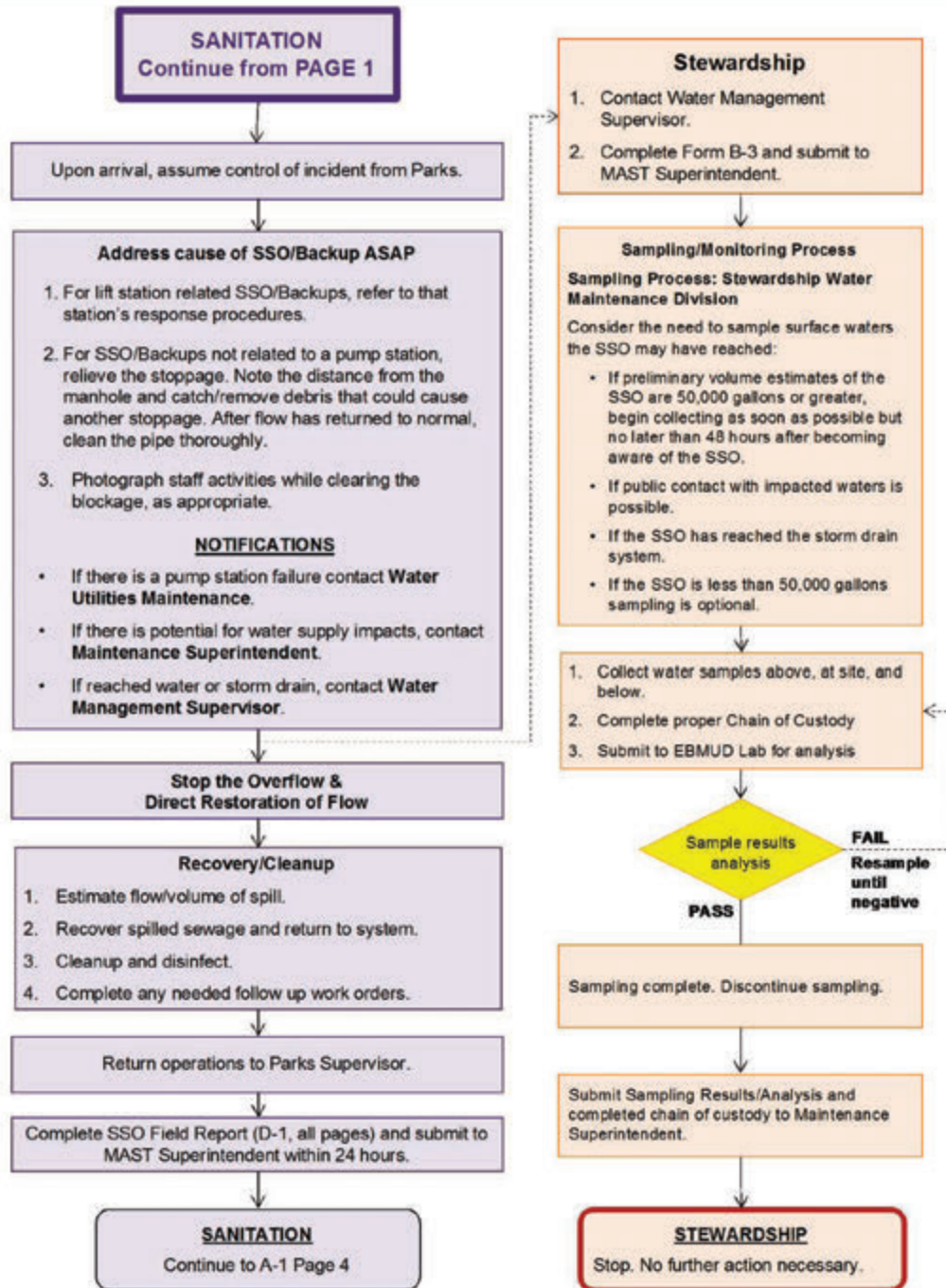


East Bay Regional Park District Overflow Emergency Response Plan  
**Overflow/Backup Response Flowchart**

**A-1: Page 2**



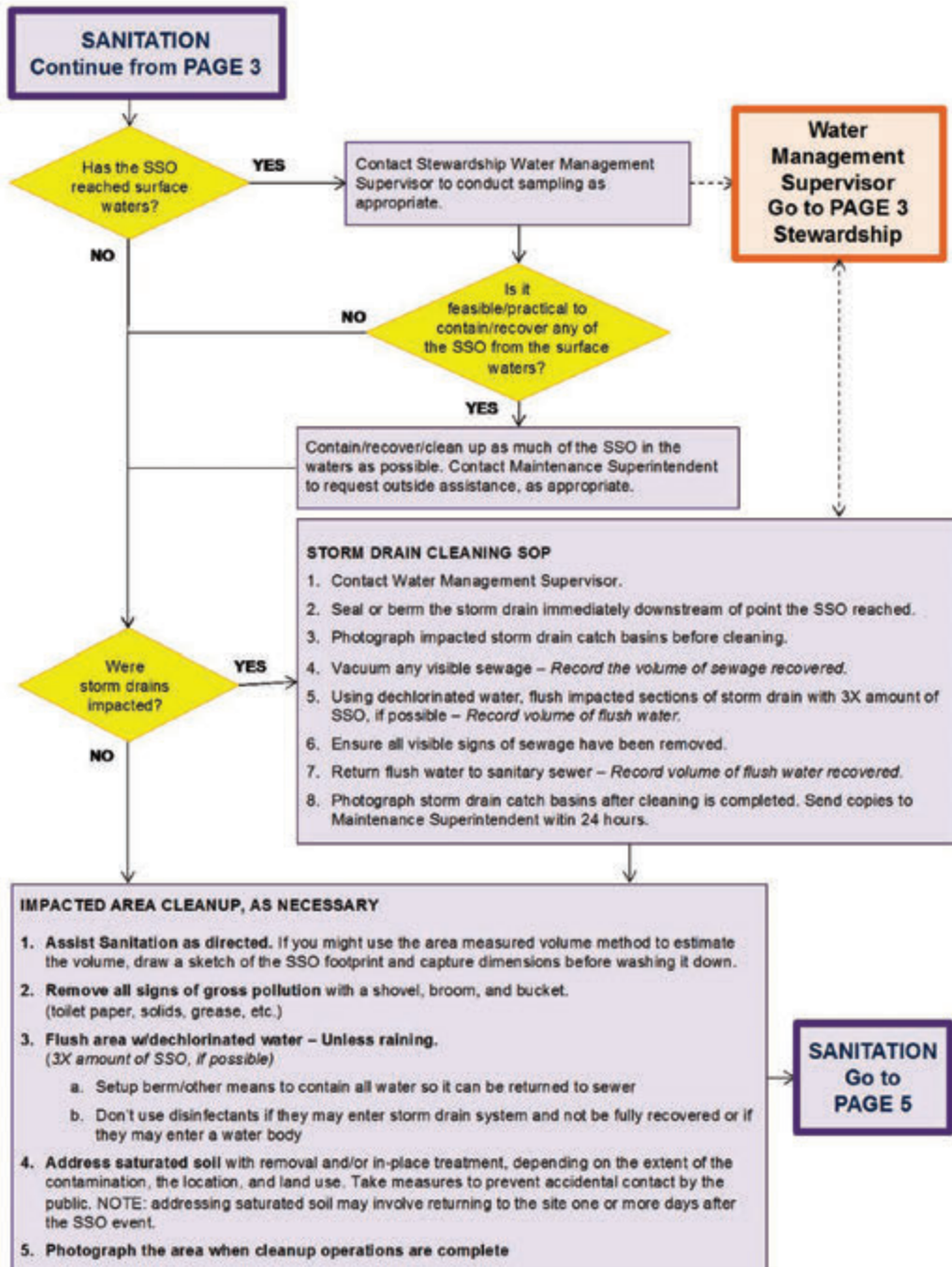
East Bay Regional Park District Overflow Emergency Response Plan  
**Overflow/Backup Response Flowchart**

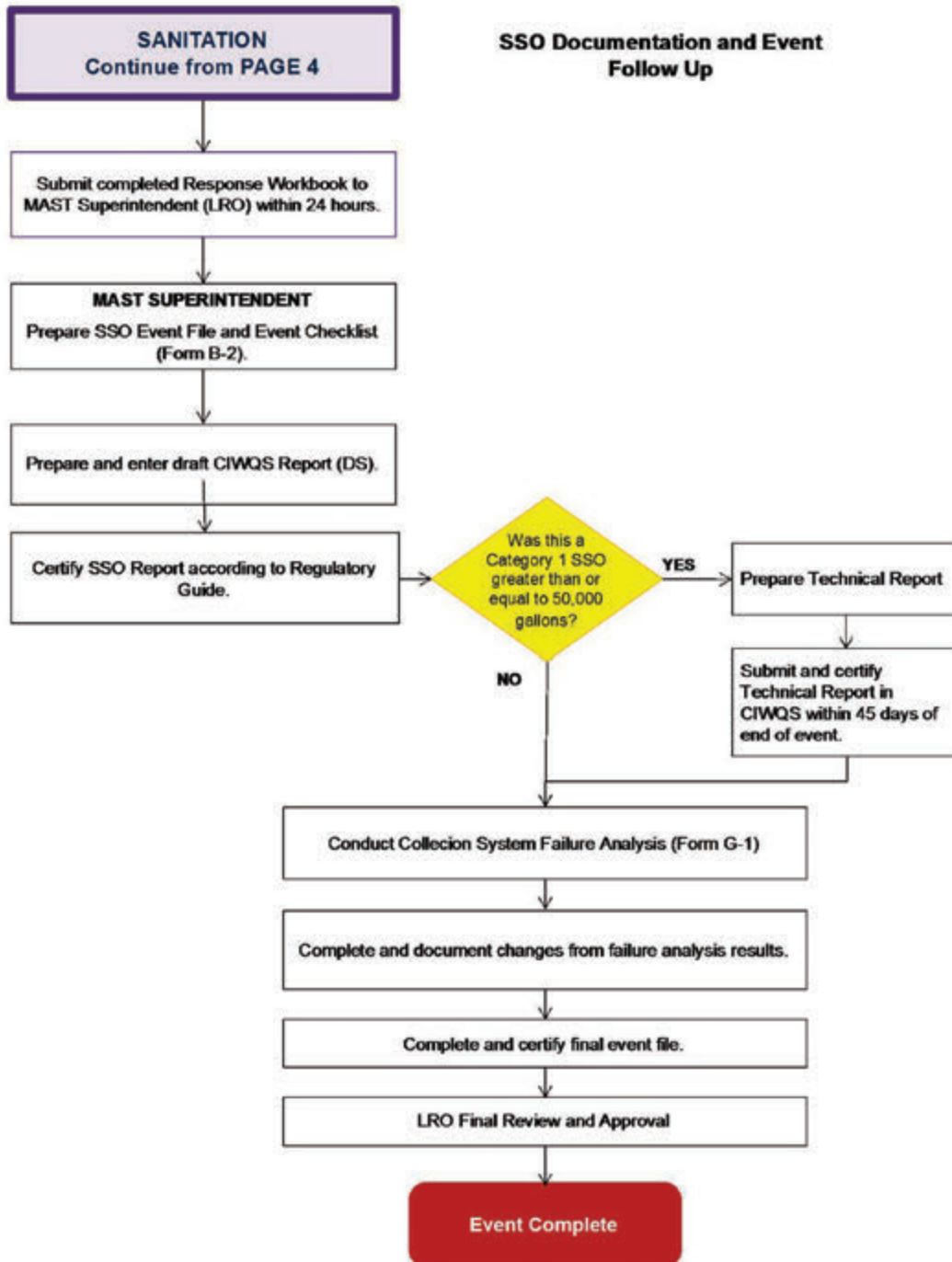




East Bay Regional Park District Overflow Emergency Response Plan  
**Overflow/Backup Response Flowchart**

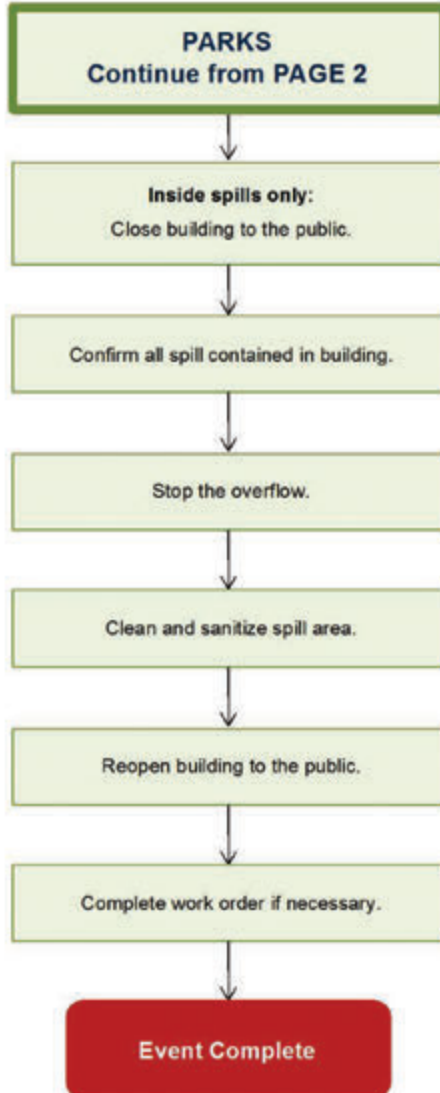
**A-1: Page 4**





East Bay Regional Park District Overflow Emergency Response Plan  
**Overflow/Backup Response Flowchart**

**A-1: Page 6**



**East Bay Regional Park District Overflow Emergency Response Plan  
Workbook Instructions**

**B-1**

This Sewage Overflow Backup Response Workbook is to be carried in all Sanitation vehicles and contains all instructions and reporting forms required for a complete documentation of a sewage overflow event. Upon completion by Sanitations staff, the entire workbook shall be submitted to the Maintenance Superintendent within 24 hours of the end of an overflow event. This page is intended to service as a coordinating document for the Maintenance Superintendent and will be completed by the separate Divisions as work is completed and transmitted to the Maintenance Superintendent.

- If this is a Category 1 SSO greater than or equal to 1,000 gallons, **immediately notify the Maintenance and Utilities Superintendent** at (510) 812-3499 to make the 2-hour notification to CALOES.
- Refer to the Regulatory Reporting Guide (C-1)** for additional reporting requirements
- For any media inquiries/requests:** Public Information Supervisor (510) 544-2217



Don't forget to take photos!

<p><b>Dispatch:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Complete SSO Incident Report</li> <li><input type="checkbox"/> Complete the chain of custody record and forward this workbook to the MAST Superintendent.</li> </ul>	<p>Print Name: _____</p> <p>Initial: _____</p> <p>Date: _____</p> <p>Time: _____</p>
<p><b>Parks (First Responders):</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Contain spill      <input type="checkbox"/> Assist Sanitation</li> <li><input type="checkbox"/> Photograph spill      <input type="checkbox"/> Complete Form D-1 page 2</li> <li><input type="checkbox"/> Notify Dispatch      <input type="checkbox"/> Transmit photos and forms to MAST Superintendent</li> </ul>	<p>Print Name: _____</p> <p>Initial: _____</p> <p>Date: _____</p> <p>Time: _____</p>
<p><b>Sanitation:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Follow the instructions on the Overflow/Backup Response Flowchart and complete forms in this workbook as indicated.</li> <li><input type="checkbox"/> Complete the chain of custody record and deliver this workbook to the Maintenance and Utilities Superintendent.</li> </ul>	<p>Print Name: _____</p> <p>Initial: _____</p> <p>Date: _____</p> <p>Time: _____</p>
<p><b>MAST Superintendent:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Review the SSO Event Checklist and the forms in this booklet. Contact the Dispatch/Parks/Stewardship for additional information if necessary.</li> <li><input type="checkbox"/> Confirm that all required regulatory notifications have been made.</li> <li><input type="checkbox"/> If this was a Sewer Backup, complete the Backup Forms Checklist (E-1).</li> <li><input type="checkbox"/> Complete the Collection System Failure Analysis Form (G-1).</li> <li><input type="checkbox"/> Enter data into CIWQS; certify report.</li> <li><input type="checkbox"/> Complete the Chain of Custody record and file this booklet</li> <li><input type="checkbox"/> Complete District's Internal Incident Report</li> </ul>	<p>Print Name: _____</p> <p>Initial: _____</p> <p>Date: _____</p> <p>Time: _____</p>
<p><b>Environmental:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Initiate sampling; deliver to EBMUD      <input type="checkbox"/> Complete form D-1, page 7</li> <li><input type="checkbox"/> Complete Chain of Custody      <input type="checkbox"/> Submit all completed forms and sample analysis to MAST Superintendent</li> <li><input type="checkbox"/> Manage Lab results</li> <li><input type="checkbox"/> Provide results to Sanitation</li> </ul>	<p>Print Name: _____</p> <p>Initial: _____</p> <p>Date: _____</p> <p>Time: _____</p>

## East Bay Regional Park District Overflow Emergency Response Plan

**SSO Event Checklist (Maintenance Superintendent)****B-2**

Date of SSO: \_\_\_\_\_ SSO Location/Name: \_\_\_\_\_

CIWQS Event ID #: \_\_\_\_\_ Category?  1  2  3 OES#: \_\_\_\_\_Property Damage?  Yes  No

Service Request #: \_\_\_\_\_

- Effort made to contain and return a portion/all to the sanitary sewer
- Pictures/video taken of overflow
- Pictures taken of affected/unaffected area
- If property damage, start that process
- Pictures taken of containment efforts
- If Cat 1 > 1000 gals:  
OES Control # \_\_\_\_\_
- Impacted waters identified?
- No impacted waters?
- SSO Report Form Complete (includes fields for all required fields in CIWQS, and a sketch of SSO)
- Volume Estimation Worksheet(s) done
- Start Time Determination Form done
- Initial review of forms is complete (ensure consistency with dates, times, volumes, and other data)
- Review of photos and videos (label/date)
- Start Folder for all documentation for this SSO event. Put everything in it (SSO Report, Worksheets/Forms, follow-up work orders, notes, pics, drawings, etc. CIWQS print outs and emails)
- Failure Analysis
  - CCTV to determine cause
  - Review Asset History
- Determine next steps to prevent recurrence
- Document findings and next steps on SSO Report
- Submit Draft in CIWQS w/in 3 business days (for Categories 1 and 2 only)
- Print CIWQS Draft hard copy and email
- Review CIWQS, SSO Report, Worksheets, CMMS, and any other documentation to ensure data is consistent (e.g. dates, times, volumes, cause, follow-up action, etc.)
- Attach photos, forms etc. to CIWQS
- Submit Ready to Certify in CIWQS (with sufficient time for LRO review)
- Print CIWQS Ready to Certify and email
- Hand folder to LRO
- LRO review folder and CIWQS verify accurate and consistent data
- Certify in CIWQS (within 15 calendar days for Categories 1 & 2, 30 days after the month for Category 3)
- Print Certified CIWQS and email
- Any changes? Change in CIWQS and hard copies and explain changes, print our current version
- Move completed folder to SSO Binder
- For 50,000 gallons or larger
  - Follow Water Quality Monitoring and Sampling procedures
  - Map of where samples were taken
  - Sampling results
  - Write Technical Report Certify w/in 45 days
  - Attach to CIWQS
  - Add to SSO Folder/Binder
  - If any changes are made to SSMP
    - Update SSMP and link on CIWQS to SSMP
    - Add change to SSMP Change Log
    - If change is substantive, re-certify SSMP

## **5. Goals**

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

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

**6. SSO Detection and Notification**

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

The processes that are employed to notify the District of the occurrence of an SSO at any of the four(4) enrolled parks include: observation by the public, receipt of an alarm, or observation by District staff during the normal course of their work.

The District owns various wastewater pump stations in the enrolled parks that are operated by Parks staff and maintained by Water Utilities Maintenance. In the event of any pump failure, . And to prevent overflows, wastewater from the wet well can either be pumped into a vacuum truck or disposal to a nearby sanitary sewer manhole or bypassed around the station into the sanitary sewer system.

**6.1 PUBLIC OBSERVATION**

Public observation is one way that the District is notified of blockages and spills. When the public observes an apparent overflow, they should contact Parks Dispatch or a local Park ranger. Contact numbers and information for reporting sewer spills and backups are posted at each of the parks and on the 1833 The District's Dispatch telephone number for reporting sewer problems is 911 or (510) 881-1833.

During all hours, Dispatch will receive the call and then they will enter the caller's event information into the Dispatch Incident Report. Dispatch will then contact the Maintenance Superintendent who will determine if the Sanitation Crew should be dispatched. All SSOs will be evaluated by the Maintenance Superintendent and Crew to document findings and any actions taken, The Sanitation Supervisor will either document the event utilizing the SSO and bakckup Response Workbook and submit to the Maintenance Superintendent.

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

- Time and date of call
- Specific Park and location within the park of potential problem
- Nature of call
- In case of SSO, estimated start time of overflow
- Caller's name and telephone number
- Caller's observation (e.g., odor, duration, location on property, known impacts, indication if surface water impacted, appearance at cleanout or manhole)
- Other relevant information

If the overflow/backup is in the District's park, the Maintenance Superintendent will be notified and determine follow-up actions needed and and ensure completion of the Sanitary Sewer Overflow/Backup Response Workbook.

## **6.2 DISTRICT PARKS STAFF OBSERVATION**

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

## **6.3 CONTRACTOR OBSERVATION**

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

1. Immediately notify District Dispatch.
2. Protect storm drains.
3. Protect the public.
4. Provide information to the Parks Dispatch or Park Supervisor or Ranger such as start time, appearance point, suspected cause, weather conditions, etc.
5. Direct ALL media and public relations requests to the Public Information Supervisor.

## **6.4 NO OBSERVATION**

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



**7.2 First Responder Priorities (Parks Staff)**

The first responder's priorities are:

- To follow safe work practices.
- To respond promptly with the appropriate and necessary equipment.
- To close or turn-off any impacted Park Facilities.
- To minimize public access to and/or contact with the spilled sewage.
  
- To contain the spill wherever feasible and safe.
- To assist Sanitation in restoring the flow as soon as practicable.
- To promptly notify Dispatch of the SSO.
- To assist Sanitation to return the recovered sewage to the Park sewer system.
- To assist Sanitation to restore the area to its original condition (or as close as possible).
- Upon completion of clean-up, reopen the Park facilities for public use.

**7.3 Safety**

The first responder is responsible for following safety procedures at all times. Special safety precautions must be observed when responding to SSOs. There may be times when District personnel responding to a sewer system event are not familiar with potential safety hazards peculiar to sewer work. In such cases it is appropriate for Sanitation to take the time to discuss safety issues, consider the order of work, and check safety equipment before starting the job. All park staff reporting to Park with a sewer facility will undergo annual training appropriate for first responders.

**7.4 Initial Response (Parks Staff)**

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

The first responder will:

- Note arrival time at the site of the overflow/backup.
- Verify the existence of a public sewer system spill or backup.
- Notify Dispatch. If unavailable, contact Sanitation directly.
- Take photos of overflowing manhole(s)/cleanout(s).
- Identify and assess the affected area and extent of spill.
- Document conditions upon arrival with photographs. Initiate containment measures. The guidance for this decision is:
  - Small spills (i.e., spills that are easily contained) – place signs and incident tape proceed with containment measures.

- Moderate or large spill where containment is anticipated to be simple – proceed with the containment measures.
- Moderate or large spills where containment is anticipated to be difficult –whenever deemed necessary, call for additional assistance and implement containment measures.
- Take steps to contain the SSO and shut off impacted sewer relatd lift station or other sewer facility.

#### **7.5 Initiate Spill Containment Measures (Parks Staff)**

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

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

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

#### **8.4 Public Notification**

Signs will be posted and barricades put in place to keep vehicles and pedestrians away from contact with spilled sewage. Additionally, staff will use their best judgment regarding supplemental sign placement in order to protect the public and local environment. Signs will not be removed until directed by Stewardship staff (who may choose to consult with County Environmental Health Services Department).

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

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

When contact with the local media is deemed necessary, the Chief of Maintenance and Skilled Trades will provide the media with all relevant information.

**13. SSO Response Training (MAST & Stewardship)***ref. SWRCB Order No. 2006-0003-DWQ D.13vi(d)*

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

**13.1 Initial and Annual Refresher Training**

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

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

- The District's Overflow Emergency Response Plan and Sanitary Sewer Management Plan
- Sanitary Sewer Overflow Volume Estimation Techniques
- Researching and documenting Sanitary Sewer Overflow Start Times
- Impacted Surface Waters: Response Procedures
- State Water Resources Control Board Employee Knowledge Expectations
- Employee Core Competency Evaluations on Sanitary Sewer Operations
- Water Quality Sampling Plan

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

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

1. Please briefly describe your name and job title.
2. Please describe for us approximately when you started in this field and how long you have worked for the District.
3. Please expand on your current position duties and role in responding in the field to any SSO complaints.
4. Please describe your SOPs used to respond/mitigate SSOs when they occur.
5. Describe any training the District provides or sends you to for conducting spill volume estimates.
6. We are interested in learning more about how your historical SSO response activities have worked in the field. We understand from discussions with management earlier that you use the OERP from the SSMP. Please elaborate on how you implement and utilize the procedures in the plan.
7. Historically, before any recent changes, can you please walk us through how you would typically receive and respond to any SSO complaints in the field?
8. Can you tell us who is responsible for estimating SSO volumes discharged? If it is you, please describe how you go about estimating the SSO volume that you record on the work order/service request forms?
9. What other information do you collect or record other than what is written on the work order form?

10. Describe if and when you ever talk with people that call in SSOs (either onsite or via telephone) to further check out when the SSO might have occurred based on what they or others know? If you do this, can you tell us where this information is recorded?
11. We understand you may be instructed to take pictures of some sewer spills/backups into structures. Other than these SSOs, when else would you typically take any pictures of an SSO?
12. Please walk us through anything else you'd like to add to help us better understand how your field crews respond and mitigate SSO complaints.

### **13.2 SSO Response Drills (MAST & Stewardship)**

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

### **13.3 SSO Training Record Keeping (MAST & STEWARDSHIP)**

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

### **13.4 Contractors Working On District Sewer Facilities**

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

All service contractors performing work on District sewer lines will be provided with Appendix B: Contractor Orientation and will be required to observe contractor procedures.

East Bay Regional Park District Overflow Emergency Response Plan  
**Sanitary Sewer Overflow Field Report**

DATE/TIME DETERMINATIONS		
	DATE	TIME
Start of SSO (Use Start Time Determination/Notes Below)		
Disatch Notified		
Park Supervisor Notified by Dispatch		
Sanitation Dispatched		
Sanitation Arrived		
End of SSO		
End of Spill Response		

**Start Time Determination/Notes**

Caller Interview: Where did you see sewage spill from?

- Manhole     
  Inside Building     
  Vent/Clean Out     
  Catch Basin     
  Wet Well/Lift Station  
 Other: \_\_\_\_\_

Comments: \_\_\_\_\_  
 \_\_\_\_\_

Last Time Caller Observed **NO Spill** occurring: \_\_\_\_\_ AM / PM Date \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Comments: \_\_\_\_\_  
 \_\_\_\_\_

If the volume of the SSO and rate of flow are known, divide volume by rate of flow to get duration of SSO event.  
 \_\_\_\_\_ Gallons ÷ \_\_\_\_\_ GPM = Minutes (SSO Duration).

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

Other Efforts to Determine Start Time: \_\_\_\_\_  
 \_\_\_\_\_

Other Comments Regarding Spill Start Time: \_\_\_\_\_  
 \_\_\_\_\_

Estimated SSO Start Time: \_\_\_\_\_ AM / PM      Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

SSO End Time: \_\_\_\_\_ AM / PM      Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Duration: \_\_\_\_\_ minutes

**Overflow Emergency Response Plan  
Public Posting**

# **DANGER**

**RAW SEWAGE • AVOID CONTACT**



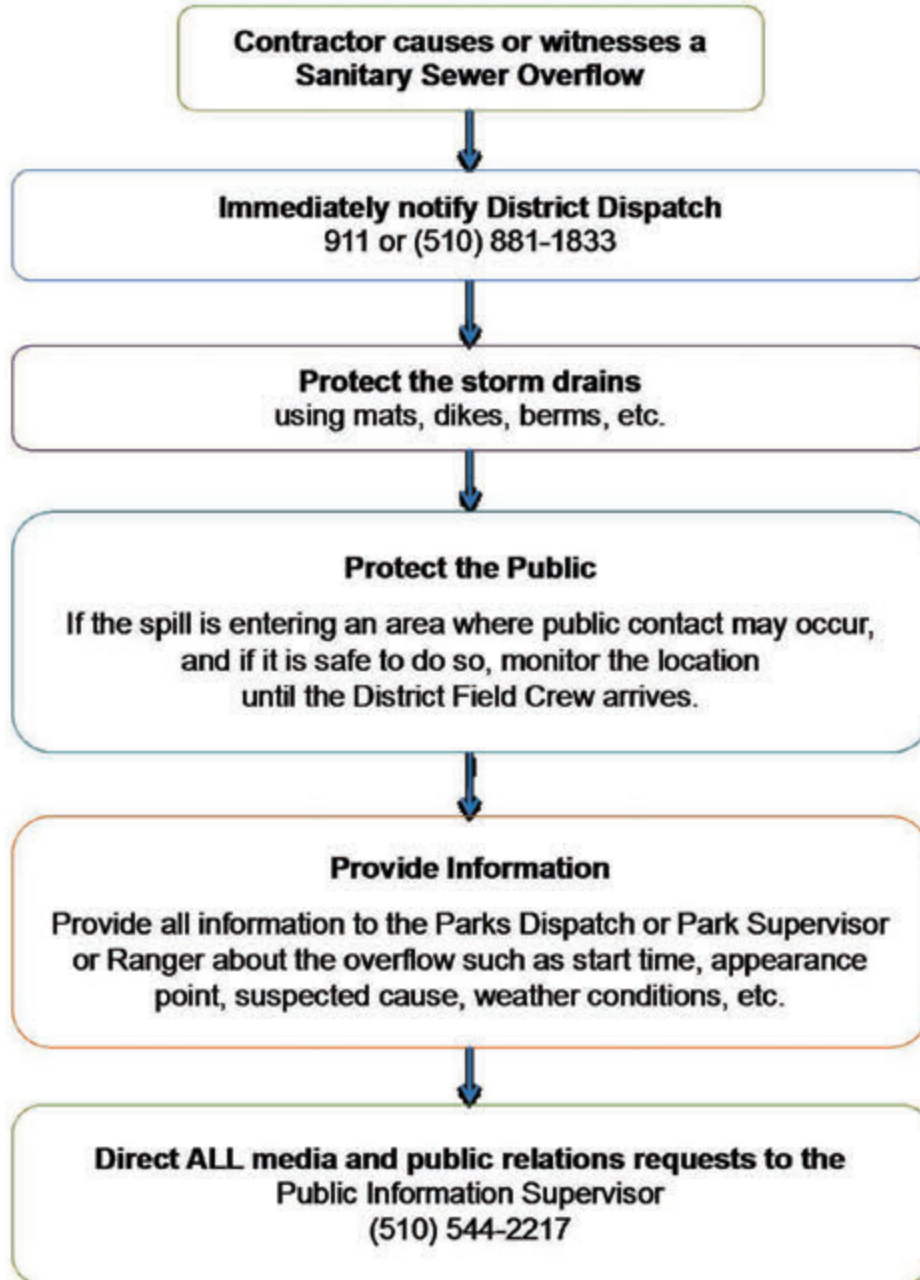
# **PELIGRO**

**AGUA CONTAMINADA  
EVITE TODO CONTACTO**

For more information:

**East Bay Regional Park District  
(510) 881-1833**

East Bay Regional Park District Overflow Emergency Response Plan  
**Contractor Orientation**





**Appendix F: Water Quality Monitoring Plan**

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**East Bay Regional Parks District (EBRPD)**  
**Water Quality Monitoring Plan**  
November 2020



East Bay Regional Parks District  
**Water Quality Monitoring Plan**

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East Bay Regional Parks District  
**Water Quality Monitoring Plan**

## 1. PURPOSE OF PROGRAM PLAN

The purpose of this Water Quality Monitoring Program Plan (WQMP or Plan) is to implement the requirements for sampling of sanitary sewer overflows (SSOs) greater than 50,000 gallons that reach surface waters in only the four enrolled District parks under the State of California General Waste Discharge Requirements (GWDR). The four enrolled parks are: Anthony Chabot, Coyote Hills, Del Valle and Garin. This WQMP does not apply to remainder of the District parks. This WQMP is intended to achieve compliance with the State Water Resources Control Board Waste Discharge Requirements Order No. 2006-0003-DWQ, Section D.7(v) and Monitoring and Reporting Program (MRP) Section D, Water Quality Monitoring Requirements issued by executive order number WQ 2013-0058-EXEC effective on September 9, 2013. This WQMP provides the East Bay Regional Parks District (District) policies and procedures to assure consistent conformance to the regulatory requirements and to establish procedures for District staff and contractors in their responses to large releases of sanitary sewage that reach surface waters or storm water inlets at the four enrolled parks. This WQMP is consistent with and supplemental to the District Overflow Emergency Response Plan, Element VI of its Sanitary Sewer Management Plan (October 2020). Finally, this WQMP will be used to coordinate training for the District's new employees and provide regular, refresher training for existing employees who conduct monitoring and sampling of sanitary sewer overflows.

Additionally, this Plan is will be used as a guideline for monitoring and sampling requirements that are self-imposed or may be imposed upon the District from citizen suits under the Clean Water Act (CWA) resulting in settlement agreements, stipulated orders or consent decrees that can require monitoring and sampling of sanitary sewer overflows of any kind or size. It should be noted, however, that this Plan is specifically tailored to meet the requirements of the SWRCB and any lesser requirements for SSOs less than 50,000 gallons and or specifically cited in settlement agreements, stipulated orders or consent decrees, still remain in effect and are not enhanced by this Plan. This Plan establishes procedures for the identification of sampling locations, protocols for the proper collection of samples, the chain of custody for sample collections, the handling of samples, the reporting and recordkeeping to assure the legal integrity of monitoring for compliance with regulatory requirements. The plan will also establish policies and procedures that will be used to assure proper coordination between the taking and testing of samples, as well as assure that samples taken will satisfy the San Francisco Regional Water Quality Control Board (RWQCB) Basin Plan and the unique character of the District's local service area and surface waters.

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

## 2. DEFINITIONS

The following definitions and acronyms are used in this Plan:

<b>BACTERIA</b>	Probaryotic microorganisms typically a few micrometers in length, with shapes from spheres to rods and spirals
<b>Cal OES</b>	State of California Office of Emergency Services

**East Bay Regional Parks District  
Water Quality Monitoring Plan**

CALOSHA	California Division of Occupational Safety and Health
CFR	Code of Federal Regulations
CFS	Cubic feet per second
CIWQS	California Integrated Water Quality System
CSRMA	California Sanitation Risk Management Association
CWA	Clean Water Act
DH2O	Distilled Water
DEET	N,N-Diethyl-meta-toluamide
DOHS	California Department of Health Services
EBRPD	East Bay Regional Park District
E. Coli	Escherichia coli (bacteria)
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency
Field QC	Field Quality Control
GPM	Gallons per minute
GWDR	General Waste Discharge Requirements or WDR
GIS	Geographic Information System
LIMS	Laboratory Information Management System
LRO	Legally Responsible Official
mg/l	Milligrams per liter
ml	Milliliter
MPN	Most Probable Number
MRP	Monitoring and Reporting Program
NH3	Ammonia
NH3-N	Ammoniacal Nitrogen
NPDES	National Pollution Discharge and Elimination System
OERP	Overflow Emergency Response Plan

**East Bay Regional Parks District  
Water Quality Monitoring Plan**

OES	See Cal OES
PPE	Personal Protective Equipment
ppm	Parts per Million
QA/QC	Quality Assurance/Quality Control
RWQCB	Regional Water Quality Control Board (Region 2, San Francisco)
SOP	Standard Operating Procedure
SSC	Sewer Service Charge
SSMP	Sanitary Sewer Management Plan
SSO	Sanitary Sewer Overflow
SSO GWDR	Sanitary Sewer Overflow General Waste Discharge Requirements

**SURFACE WATER**

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

SWRCB	State Water Resources Control Board
WQMP	Water Quality Monitoring Plan
WQ	Water Quality
WDR	Waste Discharge Requirements
VOC	Volatile Organic Compound

**3. RESPONSIBILITY**

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

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

East Bay Regional Parks District  
**Water Quality Monitoring Plan**

Roles and Responsibility	Responsible Classification
Provide and document regular training on WQMP for all District classifications that have a role or responsibility in the WQMP and identified herein	Environmental Services Manager
Identification and assessment of potential impacts to local areas with surface waters that may require WQMP (i.e. aerial crossings, creeks, waterways, rivers, bays, estuaries, etc.)	Environmental Services Manager, Water Management Supervisor or Water Management Technician
Certification of calibration of sampling equipment and maintenance of calibration records	Water Management Supervisor
Determination of specific sampling protocols and analytic methods to be used for the District-required testing	Water Management Supervisor
Determination of appropriate bacterial indicators for sampling	Water Management Supervisor
Quarterly completion of the monitoring and sampling kit checklist from Appendix E	Water Management Supervisor
Annual review of all standard operating procedures related to this WQMP especially the Sample Collection procedures	Water Management Supervisor
Decision to invoke a WQMP and direct the monitoring program to conclusion	Maintenance Superintendent
Selection of sampling locations	Water Management Supervisor or Water Management Technician
Coordination of field sampling	Water Management Supervisor
Conduct field sampling per District protocols	Water Management Supervisor or Water Management Technician
Authorization and direction for placement of public notifications and signage	Maintenance Superintendent, Unit Manager or Park Supervisor
Photographs of sampling and signage placed to protect public health and safety	Water Management Supervisor or Water Management Technician
Preparation of Chain of Custody for all samples taken including proper labeling	Water Management Supervisor or Water Management Technician
Determination of spill travel time, if applicable.	Water Management Supervisor or Water Management Technician
Review and evaluate lab results for termination of sampling and to determine the nature and impact of the release	Environmental Services Manager, Water Management Supervisor or Water Management Technician
Decision to terminate sampling	Environmental Services Manager, Water Management Supervisor or Water Management Technician
Preparation of detailed sampling location map	Environmental Services Manager, Water Management Supervisor or Water Management Technician
Conduct sample analysis	EBMUD Laboratory

East Bay Regional Parks District  
**Water Quality Monitoring Plan**

Roles and Responsibility	Responsible Classification
Preparation of water quality sampling activities narrative for Technical Report	Environmental Services Manager, Water Management Supervisor or Water Management Technician
Review and Approval of Technical Report	Maintenance Superintendent
Certification and placement of Technical report in the CIWQS spill reporting system.	Maintenance Superintendent
Failure Analysis Investigation of all water quality monitoring from the SSO event to determine all necessary changes or modifications to the WQMP	Maintenance Superintendent
Audits of the WQMP as required by District SSMP Element 10, Audit.	Maintenance Superintendent or Environmental Services Manager
Management of Change responsibilities for the WQMP and all associated forms and documents required for use during an incident	Environmental Services Manager

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

#### 4. AUTHORITY AND REFERENCES

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

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

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

- A. Basin Plan of the San Francisco Regional Water Quality Control Board (May 2017)
- B. Best Management Practices for Sanitary Sewer Overflow (SSO) Reduction Strategies, Central Valley Clean Water Associates and Bay Area Clean Water Agencies, December 2009
- C. District Overflow Emergency Response Plans
- D. Field Guide for Surface Water Sample and Data Collection, Air Program, USDA Forest Service, June 2001
- E. Standard Operating Procedures for Surface Water Quality Sampling, Arizona Department of Environmental Quality, Surface Water Section, September 2012.
- F. Surface Water Sampling AF.R3, Document Number SESDPROC-201-R3, Region 4, Environmental Protection Agency, Science and Ecosystem Support Division, Athens, Georgia, February 28, 2013

#### 5. IDENTIFICATION OF LOCAL SURFACE WATERS AND CHARACTERISTICS



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East Bay Regional Parks District  
**Water Quality Monitoring Plan**

An important element of any water quality monitoring program is the proper and thorough understanding of the service area and the various challenges the geography and sanitary sewer infrastructure of the service area present for the potential of wastewater reaching surface waters or storm water facilities. By evaluating the areas of concern in a the four (4) enrolled SSMP Parks such as lakes, rivers, dry creeks, aerial pipeline crossings over water ways and all storm water related infrastructure, the District can be better prepared to timely respond to any SSO reaching surface waters and to minimize the impacts of an SSO in or around local surface waters and storm water infrastructure.

**A. Surface Waters of Concern**

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

Surface waters of concern are those surface waters within the District's four enrolled parks service area that may be impacted by a sanitary sewer overflow from the District's sanitary sewer collection system. Prior planning, review and evaluation of potential failure mechanisms can help minimize any potential impacts to surface waters or storm water infrastructure when and if the WQMP must be invoked. Any review of these important areas of potential surface water contamination in advance of an SSO should allow the District to be better prepared to respond to an SSO with the proper equipment and a better understanding of the procedures that may need to be invoked during the SSO such as flow rate of a creek or stream, and potential areas of significant environmental concern such as shell fish beds or fish habitats. In addition, having all storm water infrastructure located on the collection system field maps will help the District's responders quickly determine if SSOs may flow into storm drains reach and impact surface waters.

The following (Table 5.1) are the surface waters of concern within the District's jurisdiction:

Seaside County Sanitation District  
**Water Quality Monitoring Program Plan**

Name	Type (see legend, below)	Map Location	Background Monitoring?	Access Considerations	Safety Considerations
Del Valle Reservoir			At swim beaches		Trip/fall, poison oak, drowning
Arroyo Del Valle	ES				Trip/fall, poison oak, drowning
Lake Chabot	DC, CU		Some data	Limited, vegetation,	Trip/fall, poison oak, drowning
San Leandro Creek	ES				Trip/fall, poison oak, drowning
Redwood Creek	ES		Some data		Trip/fall, poison oak, drowning
Jordan Pond	DC		Some data	Limited, vegetation,	Trip/fall, drowning
Dry Creek	ES				Trip/fall, poison oak, drowning
Demonstration Urban Treatment Marsh (DUST) (Main, North and South)	DC, CU			Limited, vegetation,	Trip/fall, drowning Trip/fall, poison
Alameda Creek				Limited	Trip/fall, drowning
SF Bay				Limited	Trip/fall, drowning

- Bog:** Freshwater wetlands that are poorly drained and characterized by a buildup of peat.
- Brackish Water:** Generally, water containing dissolved minerals in amounts that exceed normally acceptable standards for municipal, domestic, and irrigation uses. Considerably less saline than sea water. Also, Marine and Estuarine waters with Mixohaline salinity (0.5 to 30 due to ocean salts). Water containing between 1,000-4,000 parts per million (PPM) Total Dissolved Solids (TDS). The term brackish water is frequently interchangeable with Saline Water. The term should not be applied to inland waters.
- Brook:** A natural stream of water, smaller than a river or creek, especially a small stream or rivulet which breaks directly out of the ground, as from a spring or seep; also, a stream or torrent of similar size, produced by copious rainfall, melting snow and ice, etc.; a primary stream not formed by tributaries, though often fed below its source, as by rills or runlets; one of the smallest branches or ultimate ramifications of a drainage system.
- Canal:** A constructed open channel for transporting water.
- Channel (CH):** An area that contains continuously or periodically flowing water that is confined by banks and a stream bed.
- Culvert (CU):** A buried pipe that allows streams, rivers, or runoff to pass under a road.
- Ditch:** A long narrow trench or furrow dug in the ground, as for irrigation, drainage, or a boundary line.
- Diversion channel:** (1) An artificial channel constructed around a town or other point of high potential flood damages to divert floodwater from the main channel to minimize flood damages.  
(2) A channel carrying water from a diversion dam.
- Drainage Channel (DC):** For the purposes of complying with the Statewide Sanitary Sewer Order, (1) a man-made canal used to transport storm water as part of a municipal separate storm sewer system, or (2) an intermittent or perennial stream bed.
- Dry Wash:** A streambed that carries water only during and immediately following rainstorms.
- Ephemeral Streams (ES):** Streams which flow only in direct response to precipitation and whose channel is at all times above the water table.
- Freshwater marsh:** Open wetlands that occur along rivers and lakes.
- Intermittent stream:** Any nonperennial flowing drainage feature having a definable channel and evidence of scour or deposition. This includes what are sometimes referred to as ephemeral streams if they meet these two criteria.
- Ocean:** Sea, salt water
- Perennial streams (PS):** Streams which flow continuously.

Seaside County Sanitation District  
**Water Quality Monitoring Program Plan**

<b>Pipe crossing:</b>	Crossing of a pipe or force main over or under a surface water body.
<b>Riverine:</b>	Relating to, formed by, or resembling a river including tributaries, streams, brooks, etc.
<b>Slough:</b>	A shallow backwater inlet that is commonly exposed at low tide.
<b>Stream:</b>	A general term for a body of flowing water, natural water course containing water at least part of the year. In Hydrology, the term is generally applied to the water flowing in a natural channel as distinct from a canal. More generally, as in the term Stream Gaging, it is applied to the water flowing in any channel, natural or artificial.

For additional definitions refer to the glossary at <http://www.streamnet.org/glossarystream.html>

Seaside County Sanitation District  
**Water Quality Monitoring Program Plan**

**6. LAB SELECTION****A. Analytical Lab**

Samples collected for monitoring purposes will be analyzed at EBMUD Lab. The laboratory is accredited through California's Department of Public Health Environmental Laboratory Accreditation Program (ELAP). ELAP provides evaluation and accreditation of environmental testing laboratories to ensure the quality of analytical data used for regulatory purposes to meet the requirements of the State's drinking water, wastewater, shellfish, food, and hazardous waste programs. The State agencies that monitor the environment use the analytical data from these accredited labs. The ELAP-accredited laboratories have demonstrated capability to analyze environmental samples using approved methods. The lab at McCampbell Analytical will serve as a backup laboratory.

**B. Getting Samples to the Lab**

At all times, sample hold times identified below will be observed in accordance with Section 7.0.

Once samples are collected, they will be transported to the lab as follows:

1. During Business Hours: Water Management staff taking samples will deliver to Lab. 510-287-1664, 8-3:30 M-F
2. After Hours: Water Management staff taking samples will deliver to Lab.

**C. Lab Contact Info****Primary Lab**

Name: EBMUD Laboratory

Contact: Jack Lim, Senior Chemist

Address: 2020 Wake Ave, Oakland, CA 94607

Hours Samples Are Accepted: M-F 8 AM to 3:30 PM except holidays  
(after hours by arrangement)

Phone: (510) 287-1664

Alternate or After Hours Phone: (510) 287-1722

**Secondary Lab (if applicable)**

Contact: Rosa Venegas, Sales Manager

Address: 1534 Willow Pass Road, Pittsburg, CA 94565

Hours Samples are Accepted: M-F 8:00AM to 9:00PM except holidays

Phone: 925-252-9262 or toll free 877-252-9262

Alternate or After Hours:

**7. SAMPLING PARAMETERS**

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**A. Required Sampling Parameters**

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

In accordance with the SWRCB Revised MRP WQ 2013-0058, the following parameters will be sampled for each SSO greater than 50,000 gallons:

**1. Ammonia**

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

**2. Bacteriological Indicator as specified in the local Basin Plan**

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

It should be noted that there may be non-SSO related causes of elevated bacteria in surface water, for example, animal sources, storm drain discharge, homeless encampments, private laterals, septic system/leach field malfunctions. Any or all samples taken may reflect the extent of bacterial contamination from these other sources. Sometimes the extent of the SSO may be indistinguishable from the other natural sources beyond the District's control. This is especially true when taking Source samples based on an estimated downstream location of the SSO plume (Reference Section 7F).

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

The surface water quality objectives of these groups of bacteria are shown in Table 7.1 and 7.2, below. The threshold should be determined using Table 7.2, considering the beneficial use of affected surface water for either *E. Coli* or enterococci, depending on the salinity of the affected surface water body.

**Table 7.1: Water Quality Objectives for Coliform Bacteria<sup>a,f</sup>**

Beneficial Use	Fecal Coliform (MPN/100ml)	Enterococci (cfu/100ml)
Water Contact Recreation	Geometric Mean < 200 90 <sup>th</sup> percentile < 400	Geometric Mean (GM) < 30 STV > 110
Shellfish Harvesting <sup>b</sup>	Median < 14 90 <sup>th</sup> percentile < 43	Median < 70 90 <sup>th</sup> percentile < 230
Non-contact Water Recreation <sup>d</sup>	Mean < 2000 90 <sup>th</sup> percentile < 4000	
Municipal Supply: <ul style="list-style-type: none"> <li>• Surface Water<sup>e</sup></li> <li>• Groundwater</li> </ul>	Geometric Mean < 20	Geometric Mean < 100 < 1.1 <sup>e</sup>

**NOTES:**

- a. Based on a minimum of five consecutive samples equally spaced over a 30-day period.
- b. Source: National Shellfish Sanitation Program.
- c. Based on a five-tube decimal dilution test or 300 MPN/100ml when a three-tube decimal dilution test is used.
- d. Source: Report of the Committee on Water Quality Criteria, National Technical Advisory Committee, 1968.
- e. Based on multiple tube fermentation technique; equivalent test results based on other analytical techniques, as specified in the National Primary Drinking Water Regulation, 40 CFR, Part 142.1.21 (f), revised June 10, 1992, are acceptable.
- f. Enterococcus standards - applicable to estuarine waters (salinity >1 more than 5 percent of the time). E. Coli standards - applicable to fresh waters (salinity <1 ppt). Numerical values are based on Part 3 of the Water Quality Control Plan...Bacteria Provisions..., effective March 2019.  
 Water Contact Recreation (cfu/100ml): Enterococcus: geometric mean <30 STV <110,  
 E. Coli: geometric mean <100, STV < 320

Source: San Francisco Bay Basin (Region 2), Water Quality Control Plan (Basin Plan)  
 California RWQCB, San Francisco Bay Basin Region, Dec. 31, 2010, Part 3, Bacteria Provisions....  
 August 2018

**Table 7.2 – U.S. EPA Bacteriological Criteria for Water Contact Recreation<sup>1,2</sup>**  
(in colonies per 100 ml)

Steady State (all areas)	Fresh Water		Salt Water
	Enterococci	E. Coli	Enterococci
	33	126	35
Maximum at:			
• Designated beach	61	235	104
• Moderately used area	89	298	124
• Lightly used area	108	406	276
• Infrequently used area	151	576	500

## NOTES:

1. The criteria were published in the Federal Register, Vol. 51, No. 45 / Friday, March 7, 1986 / 8012-8016. The criteria are based on:
  - a. Cabelli, V.J. 1983. Health Effects Criteria for Marine Recreational Waters, U.S. EPA, EPA 600/1-80-031, Cincinnati, Ohio, and
  - b. Dufour, A.P. 1984, Health Effects Criteria for Fresh Recreational Waters, U.S. EPA, EPA 600/1-84-004, Cincinnati, Ohio.
2. The U.S. EPA criteria apply to water contact recreation only. The criteria provide for a level of production based on the frequency of usage of a given water contact recreation area. The criteria may be employed in special studies within this region to differentiate between pollution sources or to supplement the current coliform objectives for water contact recreation.

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**B. Sampling Parameters for East Bay Regional Parks District**

1. Ammonia

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

2. Total Coliform, *E. coli*. (fresh water), Fecal coliform

- Discussion: See Section 7A.2
- Sample Container: Plastic (sterile)
- Sample Type: Grab
- Sample Volume Required: 120 ml.
- Hold Time: 8 hours
- Preservative: None if waters are not chlorinated
- Analytical Method: Method 9221 B, C and E, Standard Methods for the Examination of Water or Wastewater, 21<sup>st</sup> Edition

3. Enterococcus (saline water)

- Discussion: See Section 7A.2
- Sample Container: Plastic (sterile)
- Sample Type: Grab
- Sample Volume Required: 250 ml.
- Hold Time: 8 hours
- Preservative: None if waters are not chlorinated
- Analytical Method: IDEXX Enterolert<sup>®</sup> Test Kit, Method 9230D, Standard Methods for the Examination of Water or Wastewater, 21<sup>st</sup> Edition

4. pH (doesn't currently apply)

- Discussion: Just as "degree" is a measure of temperature, pH is a measure of how acidic or basic the water is. Water pH is critical to fish habitat because it can affect fish egg production and survival, aquatic insect survival and emergency, and the toxicity of other pollutants such as heavy metals or ammonia. Like water temperature, pH naturally varies both daily and seasonally.

Most daily cycles in pH occur as a result of the photosynthesis of aquatic plants. Through photosynthesis, plants convert the sun's energy into chemical products they need to live and grow. During daylight hours, aquatic plants consume carbon dioxide (an acid), and produce hydroxide (a base). As a result, water becomes more basic during the day (pH values get higher) and usually peaks mid- to late-afternoon. Virtually all aquatic organisms product carbon dioxide (an acid) through



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their normal metabolism of food (respiration). As a result, water becomes more acid during the night (pH values drop) and usually is lowest just before sunrise.

- Sample Container: None, in-field measurement
- Sample Type: Grab
- Hold Time: 15 minutes
- Preservative: None
- Analytical Method: Direct read pH meter, calibrated per manufacturer's instructions prior to use.

5. Temperature (doesn't currently apply)

- Discussion: Water temperature is a key factor affecting the growth and survival of all aquatic organisms. The effect of stream temperature on fish, amphibians, macroinvertebrates, etc. varies between species and within the life cycle of a given species (Armour 1991; Beschta et al. 1987; Bjornn and Reiser 1991; Lantz 1971; DEQ 1995). As stream temperatures increase, the amount of dissolved oxygen (DO) available to aquatic biota decreases. As a result, even if food is abundant at higher temperatures, decreases in DO may metabolically stress aquatic organisms, further increasing their susceptibility to disease.

- Sample Container: None, in-field measurement
- Sample Type: Grab
- Hold Time: None
- Preservative: None
- Analytical Method: Direct read temperature meter, calibrated per manufacturer's instructions prior to use.

6. Dissolved Oxygen (doesn't currently apply)

- Discussion: The dissolved oxygen concentration is an indication of the potential impacts of the spill on the biological community of the receiving water. The dissolved oxygen concentration of <2 mg/L downstream or at the site of the spill is an indication of serious biological impacts including potential fish kill. Generally, the dissolved oxygen at the downstream should not drop below 5 & 7 mg/L for warm and cold water, respectfully.
- Sample Container: None, in-field measurement
  - Sample Type: Grab
  - Hold Time: 15 minutes
  - Preservative: None
  - Analytical Method: Direct read temperature meter, calibrated per manufacturer's instructions prior to use.

## 8. SAMPLING EQUIPMENT AND CALIBRATION

### A. Sampling Equipment Used At East Bay Regional Parks District

The following are the sampling equipment used by the District, and is detailed in Section 9G. on page 22.

- Sampling pole with removable container
- Portable pH and temperature probe
- Sampling pail and rope
- Sample Equipment Kit containing:
  - Ice pack
  - Waterproof pen
  - Sample labels
  - Camera
  - Sample bottles
  - Personal Protective Equipment (PPE) – life jacket, gloves, hip waders &/or rubber boots, etc.
  - Etc.

### B. Calibration and Record Keeping

Each piece of equipment is required to have an up-to-date calibration and maintenance logbook. The logbook will be maintained to have consecutively numbered pages and shall contain at least the following:

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

Each instrument must be clearly identified (*e.g.*, the make, model, serial and/or ID number) to differentiate among multiple meters.

The appropriate calibration procedure must be followed pursuant to the manufacturer's recommended standard calibration operating procedure and if the instrumentation does not have an electronic program that maintains a running calibration log, then the results must be recorded in the logbook each time a piece of field equipment is used, along with the date and name/initials of the person performing the calibration.

If difficulty is encountered in calibrating an instrument, or if the instrument will not hold calibration, this information must also be recorded. Malfunctioning equipment should not be used to collect data. Steps should be taken to correct the problem as soon as possible. All equipment maintenance should be recorded in the logbook indicating what was done to correct the problem, along with the date and signature/initials of the staff person that corrected the problem.

## 9. Sampling Procedures

### A. Sample Location and Identification Procedures:

Samples will be collected by Water Management Staff. All other sampling activity will be performed by contracted personnel, and shall conform with the guidelines below. The most precise and accurate analytical measurements are worthless and even detrimental if performed on a sample that was improperly collected and stored, or was contaminated in the process. The purpose of sampling and analysis is to provide data that can be used to interpret the quality or condition of the water under investigation.

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

1. Representative of the material being examined;
2. Uncontaminated by the sampling technique or container;
3. Of adequate size for all laboratory examinations;
4. Properly and completely identified;
5. Properly preserved, and
6. Delivered and analyzed within established holding times.

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

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

1. The sampling locations should be far enough upstream or downstream of confluences or point sources so that the surface water and SSO volume is well mixed - - usually 50 feet upstream and downstream, in addition to one discharge point (close to) sample. Natural turbulence can be used to provide a good mixture.
2. Samples should be collected at a location where the velocity is sufficient to prevent deposition of solids, and to the extent practical, should be in straight reach having uniform flow. All flow in the reach should be represented, so divided flow areas should be avoided and samples should be taken towards the middle of the reach where feasible and six inches below the water surface where and when possible. Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.).
3. Sampler must always stand downstream of the collection vessel, and sample "into the current". Care must be taken to avoid introducing re-suspended sediment into the sample.

### B. Sample Types:

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

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

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

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

Field Blanks are used to evaluate the potential for contamination of a sample by site contaminants from a source not associated with the sample collected (e.g., airborne dust, etc.). Sterile, deionized water is taken into the field in a sealed container. This is the stock water. The stock water is then poured into the sample container. The containers and sample submission forms are labeled as "Field Blank". The same template selected for the test samples should be used. Field blanks are subject to the same holding time limitations as samples. The appropriate FIELD QC box on the sample Chain of Custody form should be checked.

#### C. Decontamination Procedures

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

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

The decontamination procedure described above may be summarized as follows:

1. Physical removal
2. 10% chlorine solution wash
3. Tap water rinse
4. Air Dry
5. Distilled/deionized water rinse

#### D. Sample Labeling and Chain of Custody Procedures

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

1. The method of sample identification depends on the type of measurement or analyses performed. When in-situ measurements are made, the data are recorded directly in Field

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Data Worksheets with identifying information, field observations, and remarks. Examples of in-situ measurements are:

- pH
- Temperature
- Dissolved Oxygen
- Stream Flow Measurement

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

2. At a minimum, the following grab samples will be collected, in duplicate:
  - Field Blank: See Section 9.B for discussion.
  - Upstream: This sample will be collected far enough upstream of the SSO's point of entry into the surface water as to be free of contaminants from the SSO. Typically, 50-feet is sufficient, but this may vary on circumstances of the spill.
  - Source: Immediate vicinity where the SSO entered the surface water. This point will actually be downstream of the actual SSO entry point for SSO's that have stopped entering the surface water to be sampled. If the SSO has stopped, calculate the approximate downstream distance from the original SSO location by dividing the time since the SSO occurred by the estimated velocity. This is the approximate downstream distance from the SSO discharge point to the "source" sampling location.
    - Due to possible tidal action in the surface water or other factors, another method may be used to determine the "source" location at the discretion of the Water Management Staff.
    - See Section 9.F for information on determining velocity of the surface water in order to determine the Source sample location.
  - "Downstream" of SSO: This sample will be collected far enough downstream to be representative of the water quality of the surface water after adequate mixing of the surface water and the SSO have occurred. Typically, this location will be 50-feet downstream of the Source sample, but this may vary on the size and velocity of the surface water to be sampled.
    - NOTE: The terms "upstream" and "downstream" may depend on the tidal cycle if the water body is tidally influenced. Check the tide chart(s) and table at the following link:
    - <https://tidesandcurrents.noaa.gov/noaatidepredictions.html?id=9414632>
3. Sample labels shall be completed for each sample, using waterproof ink. The information recorded on the sample tag/label includes:
  - Date: a six-digit number indicating the year, month, day of collection
  - Time: a four-digit number indicating military time of collection (e.g., 0954)

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- Sample Location: sampling location description as either Upstream, Source, or Downstream
  - Samplers: each sampler is identified
  - Parameter/preservative: the analysis to be conducted for the sample /sample preservation
4. Photos or video of each sample location will be taken, properly labeled with date, time, and view direction and a map of the photo locations completed. Photos and videos shall include relevant landmarks to identify sampling locations and their surroundings.

Due to the evidentiary nature of samples collected during enforcement investigations, possession must be traceable from the time the samples are collected until they are analyzed. To document sample possession, a Surface Water Sample Chain of Custody Record (Attachment C) must be completed. A sample is under your custody if:

- It is in your possession, or
  - It is in your view, after being in your possession, or
  - It was in your possession and under your control to prevent tampering, or
  - It is in a designated secure area.
5. As few people as possible should handle samples. The person taking the samples is personally responsible for the care and custody of the samples collected until they are transferred or dispatched properly.
6. Samples are accompanied by a chain of custody record. When transferring the possession of samples, the individuals relinquishing and receiving will sign, date, and note the time on the record. This record documents sample custody transfer from the sampler, often through another person, to the analyst at the laboratory. The samples are typically transferred to the sample-receiving custodian at the laboratory.

#### E. Safety Considerations

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

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

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not dismiss any person's spoken concerns that field conditions are too hazardous to complete the work assignment.

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

When in a boat or wading in a stream, a personal flotation device shall be worn at all times. Other protective measures shall be taken in accordance with West Valley Sanitation District safety procedures.

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

The following guidelines apply to all fieldwork by District staff.

- No sample or measurement is worth the risk of injury.
- All staff shall use proper personnel protective gear as appropriate for the incident (e.g., life preservers, gloves, goggles, etc.)
- Field sampling crews should consist of at least two members unless otherwise approved by a supervisor.
- Be conscious of the whereabouts of rattlesnakes, mountain lions, and other dangerous animals.
- Open body wounds are entry sites for infection; take the necessary precautions for self-protection using appropriate PPE.
- If there is storm activity in the work area, wait for safer conditions to develop or postpone the sampling.
- Do not sample at night without approval from your supervisor.
- Do not trespass on private property or posted restricted public lands without prior permission and or written approval from property owner or administrator.
- If strange or suspicious looking people are in the work area, either wait for them to leave or postpone the work to a later time. Do not force confrontations with strangers and back away from any confrontations with the public. Be courteous and understanding of public concerns of the situation.
- Take the necessary precautions against exposure to harmful weather conditions such as heat, wind, snow, cold, rain, etc.
- Carefully evaluate a given on-site situation to determine if the task can be performed safely.
- Wear protective footwear when entering streams.
- Do not enter the stream if the water is flowing too fast.
- When sampling in the Pacific Ocean, one person should always face the Ocean (never turn their back) to watch for rip currents, hazardous surf and waves. Never enter the surf to sample if it is hazardous to do so &/or if beach is posted as unsafe due to hazardous surf or other conditions - sample only when safe to do so.

#### F. Stream Velocity Measurements

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If sampling is performed after the SSO has stopped, the velocity of the impacted surface water must be determined in order to estimate SSO travel time and select an accurate Source sample location. One way to measure the SSO travel time is to use a velocity probe (such as a Global Water FP111-S Flow Probe or similar in-stream flow measurement device) or float estimation method to determine the rate of flow in the water body. In cases where a water velocity probe is used, the manufacturer's instructions will be followed. In cases where a probe is not available, velocity may be estimated by observation of the movement of materials (e.g., leaves, small sticks, etc.) in the affected watercourse.

#### G. Sampling Equipment

The District maintains sampling equipment located in the Tilden Water Management/Fisheries Field Equipment Room and at the Tilden Water Management Office. The kit is inspected quarterly and documentation of findings prepared and filed by the Water Management Supervisor or their designees. Additionally, any District staff utilizing the kit is responsible for informing the Water Management Supervisor of the need for decontaminating sampling equipment and field monitoring devices and or if the supplies need to be replenished.

##### SSO Sample Collection Equipment Inventory:

- Cooler
- Surface Water Sampling SOP (Attachment B)
- Ice Pack (stored in freezer at the Tilden Water Management Office or from ice maker at the Tilden MAST Ice Room)
- 5 Ammonia sample bottles, preserved (3 for samples, 1 for Field Blanks and 1 extra in the event of contamination, spillage of the preservative or other contingency)
- 9 Coliform sample bottles (6 for samples, 1 for Field Blanks and 2 extra in the event of contamination, or other contingency)
- Field monitoring device(s) for DO, pH, and temperature (calibrated on regular basis) and extra batteries for each device
- Digital camera, with extra batteries
- Latex gloves
- Safety glasses/goggles
- Surface Water Sampling Worksheet (Attachment D)
- Sampling Pole
- Field Lights
- Waterproof Pen
- Minimum of 20 blank sample bottle labels
- Chain of Custody form (Attachment C)
- Velocity probe, if available
- Boat and personal floatation device (if applicable)
- Hip Waders, rubber boots, life jacket
- Decontamination items: Non-phosphate detergent, distilled/deionized water, 10% nitric acid, solvent rinse.

#### H. Surface Water Maps

Maps of surface waters in each of the four (4) enrolled Parks service area that may be impacted by an SSO are located in Attachment F.

#### I. Follow Up Sampling

1. Sampling will be repeated every 24 hours, or as directed by the RWQCB, Alameda Environmental Health Services, until such time as one of the following criteria have been met:



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- The County Environmental Health Services or the RWQCB indicates follow up sampling is no longer required, or
- Both the ammonia and bacteria levels downstream are approximately equal to or less than the upstream levels; or
- The concentration of ammonia is at or below that of the upstream sample, or the un-ionized ammonia is below 0.025 mg/L as N; and the concentration of bacteria or total coliform levels are below the applicable acute water quality objective for the appropriate beneficial use listed in the table below.

<b>Table 9.1 Excerpt of Table 3-1 of the June 2013 SF Bay Area Basin Plan</b>					
Beneficial Use	Fecal Coliform (MPN/100mL)	Total Coliform (MPN/100mL)	Enterococcus Bacteria (MPN/100mL)		E. coli (MPN/100m)
			Estuarine and Marine*	Fresh Water	Fresh Water*
Water Contact Recreation	90th percentile < 400	no sample > 10,000	Max of 104 Max of 124 Max of 276 Max of 500	Max at 89	Max at 235 Max at 298 Max at 406 Max at 576
Shellfish Harvesting	90th percentile < 43	90th percentile < 230	--	--	--
Non-contact Water Recreation	90th percentile < 4,000	--	--	--	--

\* Designated Beach, Moderate, Light, and Infrequent Use Areas

Table 3-2 of Basin Plan, US EPA Bacteriological Criteria for Water Contact Recreation (MPN of 235, 298, 406, and 576 respectively (fresh water))

J. Surface Water Sampling SOP

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

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**10. NOTIFICATIONS OF SENSITIVE RECEPTORS AND REGULATORY AGENCIES**

Table 10.1 describes regulatory and other notifications that must be made in accordance with the triggers indicated:

<b>Table 10.1 Notifications of Sensitive Receptors and Regulatory Agencies</b>				
Contact	Trigger	Deadline	How	Person(s) Responsible
OES	If SSO is greater than or equal to 1,000 gallons <b>and</b> reaches or has potential to reach surface waters.	2 hours after awareness of SSO	Call Cal OES at (800) 852-7550.	LRO
County Environmental Health	SSO reaches Surface Water or Storm Drains & not fully contained	2 hours after awareness of SSO	Call (831) 755-4505	LRO
SWRCB	If 50,000 gal or more were not recovered.	45 days after SSO end time, Submit SSO Technical Report.	CIWQS*	LRO,
DWR (Del Valle spills only)	Any SSO into Del Valle Reservoir	2 hours after awareness of SSO	Area Control Center (ACC): 209-833-2180	Park Supervisor
Zone 7 (Del Valle spills only)	Any SSO into Del Valle Reservoir	2 hours after awareness of SSO	Main Plant Operator: 925-447-6704	Park Supervisor
ACWD (Del Valle spills only)	Any SSO into Del Valle Reservoir	2 hours after awareness of SSO	Plant #1: 510-668-6645 Plant #2: 510-668-6636	Park Supervisor
Valley Water (Del Valle spills only)	Any SSO into Del Valle Reservoir	2 hours after awareness of SSO	Raw Ops 408-630-2120	Park Supervisor
EBMUD (Anthony Chabot spills only)	Any SSO into Lake Chabot Reservoir	2 hours after awareness of SSO	EBMUD Dispatch 510-287-0600	Park Supervisor

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

**Beach and Park Warnings and Closures**

1. District staff is responsible for posting beach and/or park warning or closure signs when there is a beach or park advisory or closure due to a SSO.
2. The beach and park advisory or closure pertains to the area where the SSO discharged into the applicable water body and 1000 yards in each direction along the beach, stream or pond from the SSO entry point.

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3. The signs are posted at all beach, stream or pond public access points within this 2,000-yard window.
4. When County informs the District staff that the beach is no longer under an advisory or closure, staff is responsible for removal of the signs and barricades.

**11. TECHNICAL REPORT**

This MRP requires that in the event of a 50,000 gal or greater overflow spilled to surface waters, the District must prepare and submit an SSO Technical Report that includes a description of all water quality sampling activities conducted, a location map of all water quality sampling points, and the analytical results and evaluation of the results, pursuant to Section B.5 of the MRP. In addition, this report must be submitted to the CIWQS Online SSO Database within 45 days of the end of the SSO and must be certified by the District's Legally Responsible Officer (LRO). This report will be prepared under the direction of the Chief of MAST and certified by the MAST Maintenance Superintendent.

**12. RECORDKEEPING**

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

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

The District shall maintain all records including records from service contractors associated with this WQMP as part of the file records required of the MAST Maintenance Superintendent for an SSO as required by the WDR and MRP. These records shall be maintained for a minimum period of five-years from the end date of the SSO unless required by regulatory enforcement action, request of the State or Regional Board or as support for claims litigation resulting from the SSO. All records associated with the SSO shall be destroyed upon reaching the end of the file retention period or as otherwise required by the Regional or State Board.

Samples of all District forms and records used in this WQMP are included as attachments.

East Bay Regional Parks District  
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**13. TRAINING**

Training will be provided in accordance with Table 13.1.

Table 13.1 East Bay Regional Parks District surface water sampling training program	
Who Is Trained To Collect Surface Water Samples?	HAL MACLEAN ANJA BREY, SABRINA SEXTON,
Trainer Qualifications	The trainer shall, by virtue of training, experience, education or a combination thereof demonstrate expertise in surface water sampling science, techniques and documentation.
Training Curriculum	at a minimum, training shall include: <ul style="list-style-type: none"> <li>• The District's Water Quality Monitoring Plan</li> <li>• Sampling technique, including hands on practice</li> <li>• Sampling equipment calibration, use and decontamination procedures, including hands on practice</li> <li>• Sampling safety</li> <li>• Completion of the Sampling Equipment Calibration/Maintenance Log, Surface Water Sampling Report and Chain of Custody</li> </ul>
Training Documentation	Attendees shall be required to sign-in to all training on the appropriate forms used by the District.
Refresher Training Frequency	Annual
Who is Responsible for Ensuring Training Occurs?	Environmental Services Manager
Required Training Records	Employee training sign in log
Who is Responsible for Maintaining Records?	LRO

**14. INTERNAL REVIEW AND UPDATE OF THE WQMP**

The WQMP is a requirement of the WDR and MRP regulations and therefore the WQMP must be adopted by the District governing board when completed and thereafter at the same time as the new adoption of the SSMP every five years or when major changes to the SSMP are required. Internal reviews of the WQMP should be conducted at a minimum with District SSMP audits or with a failure analysis following a SSO event requiring the use of this WQMP. This latter evaluation should be used to determine if any procedures or program changes would improve the WQMP.

The internal review of the WQMP must include a thorough review of the then existing WQMP against actual performance by the agency staff and testing laboratory during and after the event. All documents associated with the water quality sampling should be reviewed and included in the SSO file and compared to the requirements in this Plan. Particular attention should be given to all dates and times associated with the monitoring, proper tests in support of the Regional Board Basin Plan, proper completion of the Chain of Custody, equipment calibration documentation of all equipment used for sampling and available photographs or video of the sampling processes, review and sign-offs by all responsible parties, review of the sampling locations map, final lab results and the certification report that the Technical Report was submitted within 45 calendar days of the end of the SSO to the CIWQS system.

In addition, the District should also conduct regular reviews of the WQMP at least bi-annually along with the bi-annual SSMP Audit required by the WDR. The review should be undertaken to determine that all information in the Program is current, that all classification responsibilities have not changed, that all forms are still appropriate and that all contract relationships with testing laboratories, if not associated with the agency, are still current and available 24 hours per day and 7 days per week. The review should also include a review of the San Francisco Regional Board Basin Plan to assure continuing conformance with the Basin Plan.

This internal review should be conducted by senior management of the Stewardship Department personnel, laboratory management and any outside contract laboratory services subsequent to any event or once per year if the WQMP has not had to be invoked during the preceding year.

Finally, a schedule and assignment of responsibility for completion of the recommended changes should be prepared along with additions to the SSMP Change Log for these changes and modifications of the WQMP.

**CHANGE LOG**

The current MRP, Section E.3 requires that all changes to the Sanitary Sewer Management Plan (SSMP) be recorded and documented using an SSMP Change Log indicating what section is being changed, a description of the changes, and the person or persons authorizing the changes. Because the WQMP is required by the WDR and MRP, it is also necessary that changes to the WQMP be included in the documentation of changes to the SSMP. Any changes resulting from Section 14 above should be added to the WQMP and SSMP Change Log (see Attachment A, WQMP Change Log - similar log is used for the entire SSMP) upon implementation and adoption of the changes as required by the WDR.

East Bay Regional Parks District  
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**ATTACHMENT A**  
**WQMP Change Log**

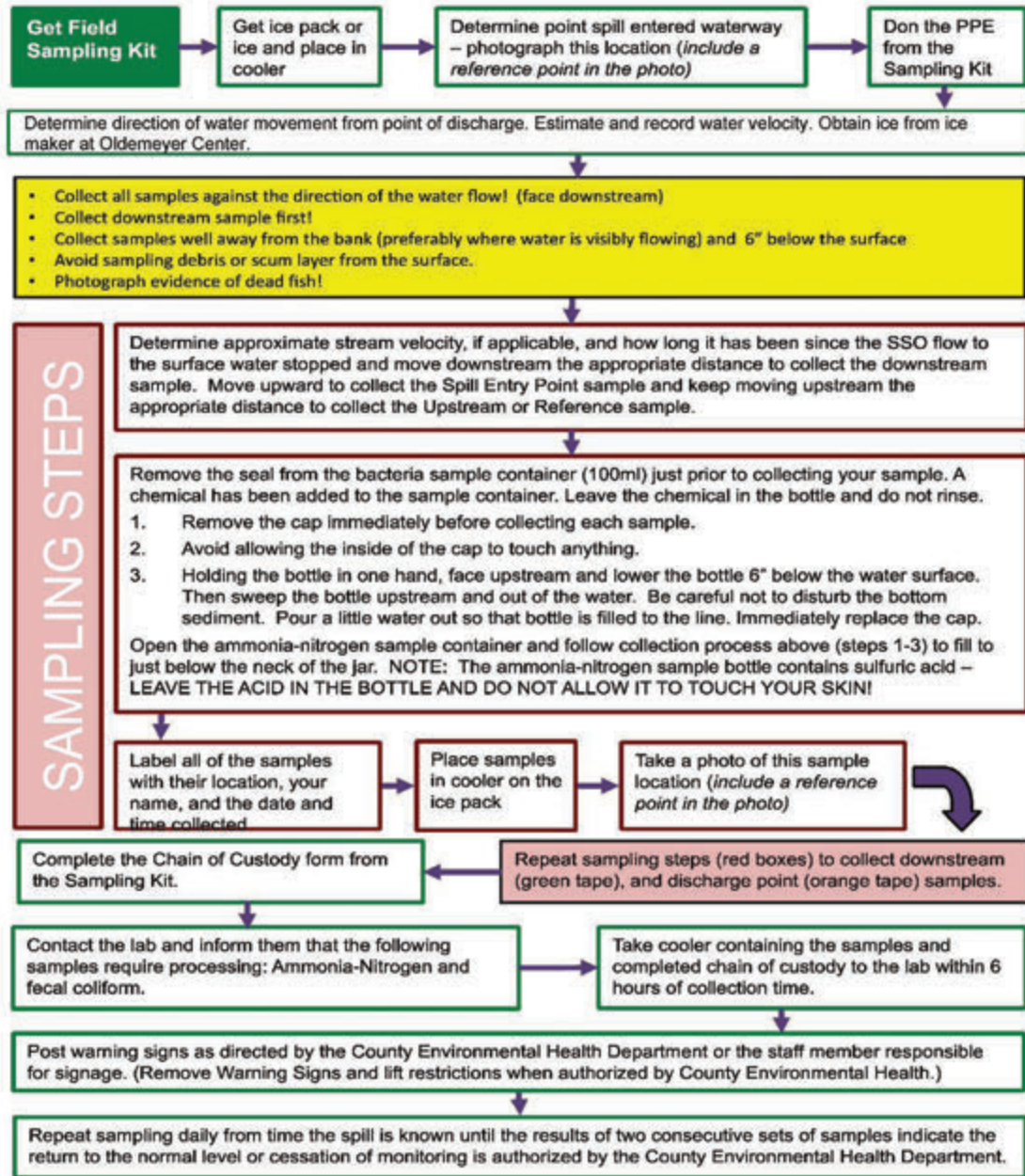




**ATTACHMENT B**  
**Surface Water Sampling SOP**

East Bay Regional Parks District  
Water Quality Monitoring Plan

Surface Water Sampling Standard Operating Procedure



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

**Surface Water Sample Collection Chain of Custody Record**

<b>Customer Name</b>	East Bay Regional Parks District	<input type="checkbox"/> Hazardous Waste	<b>PO#</b>	
<b>Customer Address</b>	2950 Peralta Oaks Court, Oakland, CA 94605	<input type="checkbox"/> Unknown Material	<b>WO#</b>	
<b>Customer Telephone</b>	(510) 544-2328	<b>Mail Code</b>	<b>CONTRACT LAB INFORMATION</b>	
<b>Program Name</b>		<b>Ship to:</b>	<b>Turnaround Requirement</b>	
<b>Lab Program Coordinator</b>		<b>Ship Date:</b>	<input type="checkbox"/> Normal (21 days) <input checked="" type="checkbox"/> Rush: 3 days <input type="checkbox"/> Other:	
<b>Sampled By</b>		<b>Courier:</b>		

LIMS# (Issued by Lab)	SAMPLE COLLECTION INFORMATION							Analysis Requested			QA/QC Requirements		Remarks/Notes		
	Date	Time	Type		Sample Location	Field pH	Field Temp	# Containers	Matrix*	Ambient	Total Coliform (E. coli)	Enterococci		<input checked="" type="checkbox"/> Lab Standard	<input type="checkbox"/> Special (see attached)
			Composite	One										<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input checked="" type="checkbox"/>	Upstream			3	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input checked="" type="checkbox"/>	Entry Point			3	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input checked="" type="checkbox"/>	Downstream			3	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input checked="" type="checkbox"/>	Field Blanks**			2	O	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Distilled Water
			<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	** Only used for					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	≥50,000 gal SSO					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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

<b>Relinquished</b>	<b>Date</b>	<b>Time</b>	<b>Relinquished to</b>	<b>Date</b>	<b>Time</b>	<b>Transport/Shipping Information</b>		
						<input type="checkbox"/> USPS	<input type="checkbox"/> UPS	<input type="checkbox"/> FedEx
						Tracing #:		
						<input type="checkbox"/> Other:		

**Sample Receiving Documentation**

Container intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	Correct container? <input type="checkbox"/> Yes <input type="checkbox"/> No	Field preserved? <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody tape intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Cooled? <input type="checkbox"/> Yes <input type="checkbox"/> No	Temp. Blank? <input type="checkbox"/> Yes <input type="checkbox"/> No ( °C)	Comments:	
Sample distribution: <input type="checkbox"/> Lab bench <input type="checkbox"/> Ice chest <input type="checkbox"/> Walk-in cooler shelf #		Disposal Date:	Disposed by: (init.)

**Surface Water Sample Collection Chain of Custody Record**

C-O-C Distribution courier	Date:	By:	<input type="checkbox"/> Lab Admin File	<input type="checkbox"/> Proj/proj Mgr.	<input type="checkbox"/> Lab Prog. Coord.	<input type="checkbox"/> Delivery courier	<input type="checkbox"/> Pick-up
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**ATTACHMENT D**  
**Surface Water Sampling Worksheet**

**Surface Water Sampling Worksheet**

East Bay Regional Parks District  
**Water Quality Monitoring Plan**

Sample Date:	Sample Time: <input type="checkbox"/> AM <input type="checkbox"/> PM	Sample Location:
Sampler(s) Name(s):		
Sampler(s) Signature(s):		
What is being sampled? <input type="checkbox"/> Stream <input type="checkbox"/> Pond <input type="checkbox"/> Lake <input type="checkbox"/> Lagoon <input type="checkbox"/> Bay/Estuary <input type="checkbox"/> Ocean <input type="checkbox"/> River <input type="checkbox"/> Other:		If the SSO was not actively entering the surface water during sampling: A. Stream Velocity: _____ Feet/Second B. How Long Has the SSO <b>NOT</b> Been Entering the Surface Water? _____ minutes X 60sec/min = _____ seconds C. How Far Downstream Did You Travel To Collect The SOURCE Sample? (A X C = Feet): _____ feet D. Explain why you travelled a different distance, if you did, to collect the source sample:
Weather at time of sampling: <input type="checkbox"/> Sunny <input type="checkbox"/> Overcast <input type="checkbox"/> Sprinkling <input type="checkbox"/> Raining <input type="checkbox"/> Snowing		
Was the SSO actively entering the surface water during Sampling? <input type="checkbox"/> YES <input type="checkbox"/> NO If no, complete A-D in the gray box to the right →		

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



**Surface Water Sampling Worksheet**

East Bay Regional Parks District  
**Water Quality Monitoring Plan**

<input type="checkbox"/> All Sampling Equipment Collected	
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**ATTACHMENT E**  
**Technical Report**

**Technical Report  
Outline**

1. Introduction
  - Agency/system description
2. SSO Technical Report - Contents and Responses
  - a. Causes and Circumstances of the SSO
    - i. Detailed explanation of how and when SSO was discovered
    - ii. Diagram indicating SSO "Cause point", appearance point, and final destination (use attachments, maps and diagrams as needed)
    - iii. Detailed description of methodology employed and available data used to calculate the SSO volume and any volume recovered
    - iv. Detailed description of the cause(s) of the SSO
    - v. Copies of the original field crew records used to document the SSO (attachment)
    - vi. Historical maintenance records for the lines involved in the cause of the SSO (attachment)
  - b. Agency's Response to the SSO
    - i. Chronological narrative description of actions taken by agency to terminate the SSO
    - ii. Description of how the OERP was implemented to respond to and mitigate any impacts of the SSO
    - iii. Final corrective action(s) completed and/or planned, including a schedule for actions not yet completed
  - c. Water Quality Monitoring
    - i. Description of all water quality sampling activities conducted, including analytical results and evaluation of the results
    - ii. Detailed location map illustrating all water quality sampling points
3. Conclusions
4. LRO Certification and Placement into CIWQS