

MARSHALL COMMUNITY WASTEWATER SYSTEM

Sewer System Management Plan

Biennial Audit Report
March 2018

The purpose of the Sewer System Management Plan (SSMP) Audit is to evaluate the effectiveness of the Marshall Community Wastewater System's SSMP and to identify whether updates are needed. This document was designed to meet the requirements of State Water Resources Control Board Order No. 2006-0003-DWQ as revised by Order No. WQ 2013-0058-EXEC. These orders call for an internal SSMP audited every two years that is appropriate to the size of sanitary sewer overflows (SSO.) The SSMP must also be updated every five years. When significant updates are made, the SSMP will go to the Marin County Board of Supervisors for re-certification.

Documentation of SSMP audits are kept on file at the Environmental Health Services offices and maintained by the Environmental Health Services Project Manager. An indication is made in the California Integrated Water Quality System (CIWQS) database that the audit was completed. Audits are also posted on-line at the Marshall Community Wastewater website:
<https://www.marincounty.org/depts/cd/divisions/environmental-health-services/marshall-wastewater-district>.

System Overview

The Marshall Community Wastewater Treatment System (Facility) serves approximately 50 homes and a few commercial properties in the community of Marshall, located along the eastern shoreline of Tomales Bay. The Facility is owned and operated by Marin County under the auspices of the Marshall Onsite Wastewater Disposal Zone (Zone). Governance is by the Marin County Board of Supervisors acting as District Directors.

The Facility includes wastewater collection, treatment, and subsurface disposal of effluent. Wastewater is collected from septic tanks serving and located at individual residential and commercial properties, conveyed by approximately two miles of 2 to 3-inch pressurized pipelines to a community treatment system, and then discharged to a community leachfield. The community collection line parallels State Route 1 along the eastern side of Tomales Bay. The system has been designed for a wastewater flow of approximately 15,000 gallons per day.

Phase 1 began operation in 2008 and runs approximately one mile to the north of the community treatment site. Phase 2 came on-line in 2016 and runs one mile south of the community wastewater site. With the Phase 2 expansion, a SSMP became required. The SSMP was certified by the Marin County Board of Supervisors on March 15, 2016. An audit of the SSMP is required every two years, with an update of the SSMP to be performed every five years.

Sanitary Overflow History

There have been no sanitary overflows since the system began service. See Attachment 1 – Collection System Operation Report generated from the CIWQS database that is based on the monthly no-spill certification.

Current Audit Revisions to 2016 Marshall Community Wastewater System SSMP:

- **Element IV:** Operation and Maintenance was updated to reflect current contractor information.
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The questions below follow the audit template provided by the State Water Resources Control Board and refer to the text of the SSMP Elements of the Marshall Community Wastewater System.

ELEMENT 1. GOALS

1. Are the goals stated in the SSMP still appropriate and accurate? Yes No

ELEMENT 2. ORGANIZATION

2. Is the SSMP up-to-date with organization and staffing contact information? Yes No

ELEMENT 3. LEGAL AUTHORITY

3. Does the SSMP reference up-to-date information about legal authority? Yes No
4. Does Marin County have sufficient legal authority to control sewer use and maintenance? Yes No

ELEMENT 4. OPERATIONS AND MAINTENANCE PROGRAM**4.a Map of the Sanitary Sewer System**

5. Does the SSMP reference up-to-date information about maps? Yes No
6. Are collection system maps complete, up-to-date, and sufficiently detailed? Yes No

4.b Preventative Maintenance Program

7. Does the SSMP contain up-to-date information about preventive operations and maintenance activities? Yes No
8. Are the District's preventive maintenance activities sufficient and effective in reducing and preventing SSOs and blockages? Yes No

4.c Rehabilitation and Replacement Plan

9. Does the SSMP contain up-to-date information about the rehabilitation and replacement program? *Not applicable at this time.* NA No
10. Does the SSMP contain up-to-date information about Closed Circuit Television (CCTV) inspections? *Not applicable given size of system.* NA No
11. Are scheduled inspections and the condition assessment system effective in identifying, prioritizing, and addressing deficiencies? Yes No

12. Does the Capital Improvement Plan (CIP) address prioritized projects for collection system assets? *Not applicable for the new system.* NA No

4.d Training

The system is managed by subcontractor with the necessary training. There is no District staff performing operation or maintenance functions.

13. Does the SSMP contain up-to-date information about existing training programs? NA No
14. Do supervisors believe their staff are sufficiently trained? NA No
15. Are staff satisfied with the training opportunities and support offered to them? NA No

4.e Equipment and Replacement Part Inventories

16. Does the SSMP reference up-to-date information about equipment and replacement part inventories? *Not applicable at this time.* NA No

ELEMENT 5. DESIGN AND PERFORMANCE PROVISIONS

17. Does the SSMP contain up-to-date information about design and construction standards? Yes No

ELEMENT 6. SSO & BACKUP RESPONSE PLAN

18. Does the SSMP contain an up-to-date version of SSO Response Plan? Yes No
19. Is the Response Plan effective in handling SSOs? Yes No

ELEMENT 7. FATS, OILS, AND GREASE (FOG) CONTROL PROGRAM

20. Does the SSMP reference or contain up-to-date information about the District's FOG control program? Yes No
21. Is the current FOG program effective in documenting and controlling FOG sources? Yes No
22. Are all public outreach materials for the FOG program current? We routinely remind property owners to avoid putting fats, oils, and grease down the drain. Yes No

ELEMENT 8. SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

Average flows to the treatment plan have been about 25% of design capacity during the past two years of operation. Further, regulations governing the formation of the District effectively limit growth within the wastewater system service area so as not to exceed the design capacity.

23. Does the SSMP reference or contain up-to-date information about the District's capacity assessment activities and documentation? Yes No
24. Is the District's sufficiently addressing hydraulic deficiencies? Yes No

ELEMENT 9. MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS

In addition to SSO history, compliance with the Facility’s General Waste Discharge Order WQ 2014-0153-DWQ is the key performance measure of the system. Annual reports discuss the system’s performance and record of compliance. If non-compliance is identified, corrective actions are taken or planned to bring the discharge into full compliance.

- 25. Does the SSMP reference up-to-date information about the District’s data collection and organization (e.g. use of CMMS, performance indicators, etc.)? Yes No
- 26. Is the District’s data collection and organization sufficient to evaluate the effectiveness of the SSMP? Yes No

ELEMENT 10. SSMP PROGRAM AUDITS

- 27. Will this SSMP Audit be completed by every two years starting in 2016 when the system was completed? Yes No

ELEMENT 11. COMMUNICATION PROGRAM

- 28. Is the District’s website up-to-date, including information related to providing an opportunity for public input on the SSMP? Yes No

Evaluate Effectiveness of the SSMP

The primary performance measure for the effectiveness of the SSMP is the number of SSOs. As noted above there have been no SSOs during the past two years. The systems operation and maintenance program and SSMP are effective in preventing SSOs.

As called for in the Marshall Community Wastewater Treatment System general waste discharge requirements (Order WQ 2014-0153-DWQ), further evaluation of the system’s effectiveness is provided in the Facility’s quarterly and annual reports.

Description of Scheduled Updates/Changes to the SSMP


An audit of the SSMP is required every two years, with an update of the SSMP to be performed every five years.

Directions: *The following items shall be verified in each SSMP audit and update:*

- Verify current operation and maintenance contact information.
- Compare actual flow into the system with design capacity of 14,640 gpd.

SSMP Audit Approval:

SSMP Audit prepared by:


Lorene Jackson, Project Manager
Environmental Health Services

3/15/18
Date

SSMP Audit Approved by:



Rebecca Ng, Legally Responsible Official Date
Deputy Director
Environmental Health Services

SSMP Audit Reviewed by:



Norm Hantzsche, Engineer of Record Date
Questa Engineering Corp

COLLECTION SYSTEM OPERATIONAL REPORT

Please see the [Glossary of Terms](#) for explanations of the search results column headings. [More information about the report is found at the bottom of this page.](#)

General Information  

Region	Place ID	Place Name	CS Category	Place Address	Place County
2	823768	Marshall Community CS	Municipal (Public)	, CA, 94903	Marin



Collection System Spill Summary

Operational Indices: Marshall Community CS

	Spill Rate Indices (#spills/100mi/yr)								
	Category 1			Category 2			Category 3		
	Mainlines	Laterals	Not Specified	Mainlines	Laterals	Not Specified	Mainlines	Laterals	Not Specified
Marshall Community CS	0.0	N/A	0.0	0.0	N/A	0.0	0.0	N/A	0.0
State Municipal (Public) Average	3.61	N/A	1.98	1.88	N/A	2.18	4.87	N/A	1.7
Region Municipal Average	4.54	N/A	1.01	1.86	N/A	3.44	7.52	N/A	2.55

	Net Volume Spills Indices (Net Vol in gallons/1000 Capita/yr)								
	Category 1			Category 2			Category 3		
	Mainlines	Laterals	Not Specified	Mainlines	Laterals	Not Specified	Mainlines	Laterals	Not Specified
Marshall Community CS	0.0	N/A	0.0	0.0	N/A	0.0	0.0	N/A	0.0
State Municipal (Public) Average	4105.46	N/A	111440.81	735.29	N/A	886.45	46.93	N/A	169.99
Region Municipal Average	2409.63	N/A	1757.48	149.39	N/A	354.01	60.8	N/A	13.9

Note: Click on hyperlinks to get comparison charts for CS, Region, and State grouped by 'Miles Of Pipe'.

- (1) The number of Category 1, 2 and 3 SSOs resulting from a failure in the Enrollee sewer system per 100 miles sewer system owned by the Enrollee per year.
- (2) Net Volume (volume spilled minus volume recovered) of SSOs, for which the reporting Enrollee is responsible, per capita (i.e. the population served by your agency's sanitary sewer system), per year.
- (3) Value calculated using miles of force mains and other pressure systems and miles of gravity sewers the agency is responsible for.
- (4) Value calculated using miles of laterals the agency is responsible for (Lower Only, Upper/Lower). For collection systems with no lateral responsibility a N/A is shown.
- (5) Value Calculated using total miles of collection system pipe the agency is responsible for.
- (6) Comparison made between similar collection systems type (e.g. municipal) and lateral responsibility for the entire state over the selected time period. Comparison indices are calculated for all similar collection systems and averaged for comparison.
- (7) Comparison made between similar collection systems type (e.g. Municipal) and lateral responsibility for collection systems in same region (e.g. Region 5S). Collection system indices are calculated for all similar collection systems and averaged for comparison. For airport, hospital, marinas, military, park, port, prison, school, and other collection systems facilities, only state comparison is shown.
- (8) For Criteria used and term definitions refer to the SSO Glossary of Terms.



Percentage of total Number and Volume of SSOs by Spill Cause

Collection System: Marshall Community CS



Percentage of total Volume of SSOs by Spill Cause

Operational: Debris from Construction, Debris from Lateral, Debris-General, Debris-Rags, Grease Deposition (FOG), Root Intrusion, Non - Dispersible Wipes

Condition: Flow Exceeded Capacity (Separate CS Only), Natural Disaster, Rainfall Exceeded Design, I&I (Separate CS Only)

Structural: Air Relief Valve (ARV)/Blow-Off Valve (BOV) Failure , Pipe Structural Problem/Failure, Pipe Structural Problem/Failure - Installation, Pump Station Failure-Controls, Pump Station Failure-Mechanical, Pump Station Failure-Power, Siphon Failure



Marshall Community CS



Region 2



State of California



Percentage of total Number of SSOs by Spill Cause

Operational: Debris from Construction, Debris from Lateral, Debris-General, Debris-Rags, Grease Deposition (FOG), Root Intrusion, Non - Dispersible Wipes

Condition: Flow Exceeded Capacity (Separate CS Only), Natural Disaster, Rainfall Exceeded Design, I&I (Separate CS Only)

Structural: Air Relief Valve (ARV)/Blow-Off Valve (BOV) Failure , Pipe Structural Problem/Failure, Pipe Structural Problem/Failure - Installation, Pump Station Failure-Controls, Pump Station Failure-Mechanical, Pump Station Failure-Power, Siphon Failure



Marshall Community CS



Region 2



State of California



Collection System Questionnaire Data(*)

Collection System Information: Marshall Community CS

Status	Active
Last Updated On	2017-07-05 09:37:04.0
Population Served	100
Miles of Force Main	1.6
Miles of Gravity Sewer	0
Miles of Laterals	0
Portion of Laterals Responsible	none
Miles of Laterals Responsible	0
Number of Service Lateral Connection	53
Sewer Constructed 2000 Current	100
Sewer Constructed 1980 1999	0
Sewer Constructed 1960 1979	0
Sewer Constructed 1940 1959	0
Sewer Constructed 1920 1939	0
Sewer Constructed 1900 1919	0
Sewer Constructed Before 1900	0
Inaccessible Sewer (Miles)	0
Sewer Clean Production (Miles/Yr)	0
Gravity Sewer Inspection (Miles/Yr)	1

(*) The information presented above was provided by the Enrollee in the Collection System Questionnaire. Enrollees are required to update the questionnaire information at least once a year; therefore, the information presented above may not be the most current.



Sewer System Management Plan (SSMP) Completion (*)

SSMP Information: Marshall Community CS

Task and Associated Section	Completed
Development Plan and Schedule	Yes
Section I - Goal	Yes
Section II - Organization	Yes
Section III - Legal Authority	Yes
Section IV - Operation & Maintenance Program	Yes
Section V - Design & Performance Provisions	Yes
Section VI - Overflow Emergency Response Plan	Yes
Section VII - FOG Control Program	Yes
Section VIII - System Evaluation & Capacity Assurance Plan	Yes
Section IX - Monitoring, Measurement, and Program Modifications	Yes
Section X - SSMP Program Audits	Yes
Section XI - Communication Program	Yes
Complete SSMP Implementation	Yes

(*) Under the Statewide General WDRs for Sanitary Sewer Systems, WQO No. 2006-0003, enrollees are required to develop and implement a written Sewer system Management Plan (SSMP) and must make it publicly available. The SSMP must be approved by the deadlines in the SSMP Time Schedule presented in the Sanitary Sewer Systems WDR.

Additional Information:

- Data used for the Operational report is reported by the enrollees through the CIWQS (California Integrated Water Quality System) SSO module.
- Indices are calculated for the date range specified (default is past 4 months) and using data available since reporting was required for all enrollees as specified in the Sanitary Sewer Systems WDR. Reporting was required to begin for Regions 4,8,9 on 1/2/2007, Regions 1,2,3 on 5/2/2007, and, Regions 5,6,7 on 9/2/2007.
- Comparisons are made between similar collection systems type (e.g. Municipal), and lateral responsibility for the entire state and region. Indices are calculated for all similar collection systems and averaged for comparison.

- Category 1 and 2 spills are required to be fully certified 15 calendar days after SSO response conclusion and Category 3 spills are required to be fully certified 30 Calendar days after end of calendar month which SSO occurred. Therefore, spill records for the past approximately 60 days may be incomplete.
- Average Number of Spills per 100 miles: Measures the number of sewer overflows per 100 miles of sewer lines. Notice that these indices are strongly influenced by the length of collection system owned by the enrollee.
 - For instance, an enrollee that owns and operates a collection system of one (1) mile in length having only one (1) spill (analyzing data for ONE year) will have a Operational indice of 100.0 spills/100mi/yr. On the other hand, an enrollee that owns and operates a collection system of one hundred (100) miles in length having only one (1) spill (analyzing data for ONE year) will have a Operational indice of 1.0 spills/100mi/yr.
- Average Net Volume (volume spilled minus volume recovered) of Spills per Capita: Measures the volume in gallons of SSOs, for which the reporting Enrollee is responsible, per capita (the population served by your agency's sanitary sewer system). Where the volume recovered is greater than the volume spilled, the net volume will be considered to be zero.
- The "agency" or Enrollee listed on a SSO report is responsible for the data presented in this report and should be contacted directly for questions related to their Data.
- More information on the Sanitary Sewer Overflow Reduction program is available at:
http://www.waterboards.ca.gov/water_issues/programs/sso/index.shtml
- The Sanitary Sewer Overflows Incident Map is available at:
http://www.waterboards.ca.gov/water_issues/programs/sso/sso_map/sso_pub.shtml
- The Interactive SSO report: https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/PublicReportSSOServlet?reportAction=criteria&reportId=sso_main

The current report was generated with data as of: Tuesday, February 13, 2018