

**NAPA RIVER RECLAMATION DISTRICT NO. 2109**

**SANITARY SEWER SYSTEM**

**MANAGEMENT PLAN**

Final

April 2017

**Napa River Reclamation District No. 2109**  
**Sanitary Sewer System**  
**Sewer System Management Plan**

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## **Introduction**

The Napa River Reclamation District No. 2109 (NRRD) is a reclamation district founded in 1984, which owns and operates a hybrid/alternative wastewater treatment plant and its associated collection system. The NRRD services 136 homes, a significant portion of which are part-time residences.

The District has been in operation for 33 years. During that period of time there have been an estimated 9 to 10 minor (10 to 20 gallons) overflows.

NRRD is a small, isolated rural community with 136 houses and 18 vacant lots. There is no adjacent community and growth is limited to the possible build out of the vacant lots.

NRRD's collection system is approximately 1.6 miles in length and sees an average wet weather flow of 18,000. The entire flow is solely domestic waste; there are no industrial or commercial hookups. The only storm water influence is due to infiltration. There is no storm water collection system per se.

The collection system is made up of fifteen 2 part septic tanks. Each tank consists of a primary chamber and a pump chamber. The pump chamber houses a 1 HP submersible effluent pump whose operation is controlled by a TESCO LIQ III panel. Active tank level sensing is by air bubbler. Alarms indicate low level, high level and are both audible and visual. Hours and pump cycles are recorded by counters.

Each of the 15 collection tanks serve 8 to 9 houses with independent gravity sewers. The 15 effluent pumps discharge to a 3 and 4 inch force main which conveys effluent to a dosing siphon located at the treatment plant site.

The treatment plant, located within the boundaries of the district, has a capacity of 0.04 MGD (40,000 GPD) and consists of a dosing siphon, an 8 acre mound, and 3 evaporation ponds (4 acres total).

The NRRD was set up with an NPDES permit which is currently in defacto status pending issuance of a DWR.

## **I. Goals**

The Napa River Reclamation District mission statement is as follows:

We are dedicated to serving the needs of our citizens by:

- Offering excellent professional services to all residents.
- Establishing, improving and maintaining District infrastructure.

- Creating an environmentally sustainable community.

## II. Organization

The District's organization chart identifies agency staff responsible for implementing, managing and updating the SSMP.

NRRD Board

of Trustees

Chief Plant Operator

District Secretary/

Assistant Manager

Wastewater Treatment Plant Operators

**Board of Trustees.** The Board of Trustees represent the residents of the District, review district policy and adopt policies responsive to the community. The Board of Trustees meets one evening each month.

- The Board of Trustee's role in the SSMP is as follows:
  1. Look to the District Manager for reports on an SSOs.
  2. Make decisions regarding resolution of collection system problems.

**District Manager/Chief Plant Operator.** The District Manager/Chief Plant Operator is responsible for the implementation of the policies and procedures of the Board of Trustees and for the overall management of District staff. He/she establishes policy, plans strategy, leads staff, allocates resources, delegates responsibility, authorizes outside contracts to perform services, and may serve as public information officer.

**Treatment Plant Operators.** The Treatment Plant Operators perform inspections of pipelines and associated equipment, respond to SSO's, and clean, maintain, and repair the sanitary sewer collection system.

- The Treatment Plant Operators role in the SSMP is as follows:

1. Perform preventative maintenance
2. Respond to SSOs
3. Report equipment needs to District Manager/Chief Plant Operator

### **III. Legal Authority**

Legal Authority for the NRRD was established in 1984 by adoption of NRRD's Ordinances #101 and #102.

### **IV. Operation & Maintenance Program**

#### **4.1 System map - Blueprint**

#### **4.2 Routine Preventive Maintenance:**

1. Read, track and record pump hours and cycles. Changes in station data are used to program maintenance.
1. Primary tanks are pumped proactively to remove the blanket and sludge buildup.
1. Pumps and screens are changed as required and/or as indicated by changes in pumping frequency, pump time and /or pump amperage variance.
1. Plant operators are licensed Wastewater Treatment Plant Operators Grade I and are fully trained for this specific plant.

### **V. Design & Performance Provisions**

System evaluation and capacity plan are not necessary. This system has operated satisfactorily for 28 years without any hydraulic overload problems.

## **VI. Overflow Emergency Response Plan**

**Notification and Response:** The entire collection system is adjacent to the single road that passes through the community and as such is highly visible. The emergency response phone number is located at each station in bold signage.

If an alarm and/or spill is reported, the plant operator on call responds and evaluates the problem.

If a spill occurs the system is shut down immediately, which stops any overflow, the spill contained using the districts inventory of wattles.

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If a tank needs to be pumped to effect a repair the on call septic tank pumper is called. Any overflow is cleaned up.

The incident is reported to management and reported as required.

## **VII. Fats, Oils and Grease (FOG) Control Program**

An extensive FOG plan is not required as all influent is strictly domestic. We do conduct community awareness, advising hazards of inappropriate use of the sewer (i.e. grease, garbage disposal use, sanitary and contraceptive disposal, etc.) Tanks are pumped proactively as needed to eliminate blanket and sludge buildup.

## **VIII. System Evaluation and Capacity Assurance Plan**

System evaluation and capacity plan are not necessary. This system has operated satisfactorily for 28 years without any hydraulic overload problems.

## **IX. Reporting**

The Chief Plant Operator is responsible for completing, or overseeing the completion of the Regional Water Boards SSO Reporting Forms. If the overflow is greater than 1,000 gallons, the Senior Plant Operator notifies the Regional Water Board and the State Office of Emergency Services within 24 hours, if possible, and no later than 3 business days from the date of the spill with a report (using Long Form) documenting the cause of the spill, the method of cleanup, and the proposed corrective action. If the overflow is less than 1,000 gallons, the incident is documented (using Short Form) and reported to the Regional Water Board.

Appropriate forms and actions are selected using the following criteria:

### **Over 1,000 gallons:**

1. Prepare 24-hour Form, if SSO is > 1,000 gallons.
  
1. Notify State Office of Emergency Services, **within 24-hours**, to obtain an OES *control number*
  - Phone (916) 262-1621, or (800) 852-7550
  - Fax (916) 262-1677 (follow-up, only)
  
1. Submit 24-hour Form, **within 24-hours**, to Regional Water Board using one of the following methods:
  - Online (preferred)
  - Fax: (510) 622-5633
  - Email: [mchee@waterboards.ca.gov](mailto:mchee@waterboards.ca.gov); [jlam@waterboards.ca.gov](mailto:jlam@waterboards.ca.gov)
  - Voicemail: (510) 622-2460

1. Prepare SSO Long Form, **within 3 days**, if SSO
  - Is > 1,000 gallons

Submit 24-hour Form, **within 24-hours**, to Regional Water Board using one of the following methods:

- Online (preferred)
- Fax: (510) 622-5633
- Email: [mchee@waterboards.ca.gov](mailto:mchee@waterboards.ca.gov); [jlam@waterboards.ca.gov](mailto:jlam@waterboards.ca.gov)
- Voicemail: (510)622-2460

**Less than 1,000 gallons:**

1. Prepare SSO Short Form, **within 30 days after the month when the SSO occurs**, if SSO
  - Is < 1,000 gallons

1. Submit Short Form to Regional Water Board using one of the following methods:

- Online (preferred)
- Backup methods:
  1. Fax: (510) 622-5633
  2. Email: [mchee@waterboards.ca.gov](mailto:mchee@waterboards.ca.gov); [jlam@waterboards.ca.gov](mailto:jlam@waterboards.ca.gov)
  3. Voicemail: (510) 622-2460

Log-on to eReporting system ([https://www.r2esmr.net/sso\\_login2.asp](https://www.r2esmr.net/sso_login2.asp)) and enter appropriate Form information.

**Annual Reports:**

Annual reports are to be submitted to the Executive Officer of the San Francisco Bay Regional Water Quality Board by March 15 each year.

**X. Impact Mitigation**

Three times each week the Plant Operators read the roadside pump stations and collect the control panel data. Most potential flow problems are prevented by this tri-weekly inspection.

When an SSO results in release of sewage into the street, the following procedures are used to remove the wastewater and clean the affected area:

1. Entire collection system is shut down.
2. Wattles are deployed to corral the spill.

3. If necessary, the tank(s) are pumped by the pumper company.
4. Repairs are complete.
5. Spill site is cleaned up.

Note: All water service in the district is by local wells. Therefore any power failure that would affect the collection system also stops all input to the collective system.

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If an SSO results in release of sewage into a surface water, the following procedures are used to minimize negative impact on the affected area:

1. Immediately stop additional flows from entering the waterway.
2. Commence notification.

## **XI. Training**

Formal training related to the Emergency Response Plan is scheduled annually. All employees are required to attend. Other formal training sessions take place throughout the year as needed. These informal sessions are not logged.



## APPENDIX A

### ROAD STATION LOCATIONS

(As Indicated by Latitude & Longitude)

**ROAD STATION LOCATIONS**  
**(As Indicated by Latitude & Longitude)**

<b>LATITUDE</b>		<b>LONGITUDE</b>
<b>N-1</b>	38° 12.646' N	122° 18.650' W
<b>N-2</b>	38° 12.748' N	122° 18.651' W
<b>NORTH CONTROL BOX N1 TO N-4</b>	38° 12.745' N	122° 18.602' W
<b>N-3</b>	38° 12.83' N	122° 18.682' W
<b>N-4</b>	38° 13.008' N	122° 18.71' W
<b>CONTROL BOX S-1 TO S-3</b>	38° 12.503' N	122° 18.53' W
<b>S-1</b>	38° 12.445' N	122° 18.490' W
<b>S-2</b>	38° 12.373' N	122° 18.582' W

<b>S-3</b>	38° 12.291' N	122° 18.645' W
<b>S-4</b>	38° 12.221' N	122° 18.733' W
<b>S-5</b>	38° 12.146' N	122° 18.806' W
<b>S-6</b>	38° 12.039' N	122° 18.872' W
<b>S-7</b>	38° 11.966' N	122° 18.924' W
<b>GRAVITY DRAIN</b> <b>1800 Milton</b>	38° 11.966' N	122° 18.924' W
<b>PUMP HOUSE</b> <b>1814 Milton</b>	38° 11.936' N	122° 18.940' W
<b>CONTROL BOX</b> <b>S-4 TO S-11</b>	38° 11.871' N	122° 18.968' W
<b>S-8</b>	38° 11.875' N	122° 18.970' W
<b>S-9</b>	38° 11.778' N	122° 18.967' W
<b>S-10</b>	38° 11.722' N	122° 18.945' W

<b>S-11</b>	38° 11.675' N	122° 18.923' W
<b>END OF DISTRICT</b>	38° 11.626' N	122° 18.982' W