STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING OF FEBRUARY 2, 2012
Prepared on January 3, 2012

ITEM NUMBER: **16**

SUBJECT: **Reissuance of Waste Discharge Requirements for the Nipomo Community Services District, Southland Wastewater Treatment Facility, San Luis Obispo County (Order No. R3-2012-0003)**

KEY INFORMATION

Facility Name	Southland Wastewater Treatment Facility
Facility Owner:	Nipomo Community Services District
Location:	509 Southland Street, Nipomo, CA 93444
Discharge Type:	Municipal/Domestic
Design Capacity:	0.9 MGD Annual Average
Treatment Type:	Aerated Ponds, with a proposed upgrade to extended aeration (Biolac®)
Disposal:	Infiltration Basins (percolation)
Recycling:	Discharger does not produce, distribute, or use recycled water
This Action:	Adopt Order No. R3-2012-0003

SUMMARY

The Nipomo Community Services District (Discharger or District) owns and operates the Southland Wastewater Treatment Facility. Wastewater that is collected, treated, and disposed of is currently regulated by Waste Discharge Requirements Order No. 97-75. The District submitted a report of waste discharge application on August 3, 2011, which includes the District's proposal to upgrade the treatment facility to include extended aeration and clarification. The purpose for the upgrade is to improve effluent water quality, which will address historical water quality compliance issues.

DISCUSSION

The Setting – The Southland Treatment Facility is owned and operated by the District and located southeast of the intersection of South Frontage Road and Southland Street (509 Southland Street). The District's population is 12,148 and the facility currently provides wastewater treatment to 2,465 connections in the Nipomo system and 519 connections within San Luis Obispo County Services Area 1.

Treatment and Disposal Facilities - The Southland Treatment Facility currently treats wastewater via two grinders, four aerated lagoons and eight infiltration basins. Solids are dried in two sludge drying beds. The proposed upgrades will include primary solids removal via shaftless screw screen and grit classifier, extended aeration via a Parkson Biolac ® system, secondary clarifiers, and percolation via infiltration basins. Current design capacity of the facility is 900,000 gallons per day. Anticipated facility upgrades will

improve effluent quality while maintaining the permitted monthly flows of 900,000 gallons per day. Treatment upgrades will specifically improve biochemical oxygen demand (BOD), total suspended solids (TSS), and total nitrogen (TN) effluent concentrations. According to the District's report of waste discharge, the following design goals were used to develop facility improvements.

Table 1 – Effluent Quality Design Goals

Parameter	Design Goal (mg/L)
BOD	20
TSS	20
TN	10

Note: Design goals are not considered nor proposed as effluent limitations.
mg/L – milligrams per liter

Solids handling will include a polymer system for sludge conditioning and gravity belt thickener. After thickening, the sludge will be sent to lined sludge drying beds. Dried sludge will be hauled to a designated off-site location.

General Groundwater Characteristics - According to recent geotechnical investigations, a mound of perched treated effluent beneath the infiltration ponds is at an approximate depth of 35 feet below ground surface. An aquitard or confining layer reduces the amount of treated effluent percolating to the deeper aquifer (located approximately 180 to 200 feet below ground surface). According to the most recent groundwater modeling study, the perched groundwater is restricted from moving laterally to the southwest due to the Santa Maria River Fault. As a result, the perched groundwater may be moving laterally in a northeast direction, resulting in an egg-shape perched groundwater aquifer. Groundwater monitoring results from upstream monitoring wells appear to be in the influence of the egg-shaped perched groundwater aquifer (refer to Order Attachment E and Table 2 below).

Studies indicate that the perched groundwater level is stable with the existing disposal practices. However, increased disposal volumes may increase the perched groundwater levels, which would minimize the infiltration basins' separation to groundwater. Existing average daily flows are approximately 0.57 MGD. Modeling studies demonstrate that a maximum of 0.58 million gallons per day could be disposed of without increasing the perched groundwater level.

Groundwater Quality - The primary source of the District's water supply is produced from the Nipomo Mesa groundwater aquifer with a small portion pumped from the Nipomo Valley groundwater sub-basin. Current groundwater quality (upgradient and downgradient) is not consistent with median groundwater quality objectives identified in Table 3-8 of the Basin Plan.

Table 2: Groundwater Quality

Monitoring Well [1]	Depth to Groundwater (feet)	TDS (mg/L)	Sodium (mg/L)	Chloride (mg/L)	Total Nitrogen (mg/L)	Sulfate (mg/L)	Boron (mg/L)
MW-1	37	940	144	208	16	270	0.3
MW-2	38	770	158	181	17	195	0.4

MW-3	37	850	169	199	12	255	0.3
Groundwater Sub-Area	**Median Groundwater Quality Objectives[2]**						
Lower Nipomo Mesa	No Information	710	90	95	5.7	250	0.15

1 - Nipomo CSD Semiannual Self-Monitoring report July 2011
2 - Section II.A.5, Table 3-8 of the Basin Plan
TDS – Total Dissolved Solids
mg/L – milligrams per liter

According to available water supply well data (average of eight active water supply wells), source water quality has the potential to impact the treated effluent quality. As a result the District has been designing, negotiating and funding a supplemental water project to deliver water from the City of Santa Maria via intertie pipeline over Santa Maria River. The supplemental project will significantly reduce the amount of water supply pumping and result in an overall improvement of water quality and subsequent treated effluent quality.

Furthermore, the District developed the *Southland Wastewater Treatment Salts Minimization Plan* (October 1, 2008). This plan projects a 10 to 20 percent reduction in average total dissolved solids as a result of the supplemental water project.

PROPOSED REQUIREMENTS

This proposed Order is consistent with the California Water Code, Basin Plan requirements and recommendations, and staff's professional judgment. The Order is also consistent with discharge requirements for similar facilities within the Central Coast Region and designed to protect water quality for existing and anticipated beneficial uses of surface waters and groundwaters in the vicinity of the discharge.

Prohibitions and Effluent Limitations – The proposed prohibitions require full treatment of the discharge and limit the disposal at the designated disposal depicted on Attachment B of the Order. Effluent limitations are based on the design capacity of the treatment facilities (0.9 million gallons per day) and constituent concentrations common for percolation basins (settleable solids, suspended solids and biochemical oxygen demand, dissolved oxygen, pH) to ensure long-term function of the disposal system.

Monitoring Requirements – The proposed Order includes a monitoring and reporting program to ensure protection of water quality and compliance with specified requirements. Requirements include daily, weekly, and semiannually effluent monitoring and semiannual groundwater monitoring. Submittal of self-monitoring reports is required monthly with an annual summary report due January 30th of each year.

ENVIRONMENTAL SUMMARY

The District developed and certified a final EIR on November 16, 2011, for the proposed facility upgrades. In the final EIR, the District determined that the upgrades will not have any significant impacts to surface water or groundwater quality.

COMPLIANCE HISTORY

Since the adoption of Waste Discharge Requirements Order No. 97-75, the District has accumulated 122 effluent violations[1]. Approximately 48 percent are total suspended solids violations, 41 percent are biochemical oxygen demand violations, and 9 percent are other effluent violations (i.e., settleable solids). Central Coast Water Board staff issued a notice of violation on February 7, 2006. The notice of violation identified numerous biochemical oxygen demand and total suspended solids violations. The District was expected to submit a report that identified immediate actions necessary to comply with Order No. 97-75. In response, the District submitted its *Technical Memorandum for Immediate Improvements at Southland WWTP* on July 5, 2006. The memorandum identified immediate improvement actions, such as additional aeration, contracting with a certified analytical laboratory, removing Pond No. 4 from service, and ensuring better management and maintenance for Pond No. 3. Subsequently, effluent quality improved with minimal biochemical oxygen demand exceedances. The District's proposed facility upgrades are expected to improve effluent quality and provide compliance with all effluent limitations.

PUBLIC NOTIFICATION

On November 21, 2011, Central Coast Water Board staff notified the Discharger and all known interested parties of its intent to revise waste discharge requirements for the Nipomo Community Services District Southland Wastewater Treatment Facility. The notice provided interested agencies and individuals with a copy of the proposed order and an opportunity to submit written comments by December 21, 2011. The only comments received were submitted by the Discharger. The Discharger provided the following three comments.

- "Page 1 of the Discharge Order, Purpose of Order, Paragraph 1, Part of sentence 1 states"…which serves approximately 2,465 residents in the community of Nipomo…" This is incorrect. Suggest changing 'residents' to 'connections' and add "and 519 connections from the San Luis Obispo County Services Area 1 in the community of Nipomo…"

- Attachment B should be re-titled to 'District Service Area,' as it represents both the water and sewer service area. Paragraph 4 of the Order should be reworded accordingly. Suggest adding sentences between 1st and 2nd sentence: 'The District provides water and sewer service to the Nipomo area (Attachment B of this Order).' And delete subsequent reference."

- Attachment D, Facility Flow Diagram (Upgraded), does not highlight the grit removal system that the district is installing. The District suggests lengthening the box entitled 'screw screen' to include the adjacent grit removal system and tile 'Screenings and grit Removal."

Staff has incorporated the District's suggestions into the proposed Order as they provide clarity and do not alter the regulatory intent.

[1] California Integrated Water Quality System database, Place No. 244361

ATTACHMENTS

1. WDR Order No. R3-2012-0003 with Monitoring and Reporting Program
2. December 19, 2011 – Nipomo CSD Comments on Draft Order No. R3-2012-0003

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