STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING OF MAY 15-17, 2019
Prepared on April 15, 2019

ITEM NUMBER: **16**

SUBJECT: **Revision of Waste Discharge Requirements, Mission Hills Community Services District Wastewater Treatment Plant, Santa Barbara County, Order No. R3-2019-0042**

STAFF CONTACT: **Howard Kolb 805/549-3332 or howard.kolb@waterboards.ca.gov**

KEY INFORMATION:

Facility Name/Owner:	Mission Hills Community Service District
Location:	1550 East Burton Mesa Boulevard, Lompoc, Santa Barbara County
Type of Discharge:	Domestic wastewater
Design Capacity:	400,000 gallons per day (gpd)
Current Capacity:	400,000 gpd
Disposal Capacity:	570,000 gpd
Treatment:	A headworks facility, two lined facultative lagoons (Pond 1 with baffles and Pond 2 without baffles) with surface aeration and mixing
Disposal:	Eight unlined disposal ponds used for effluent polishing and evaporation/percolation (La Purisima Canyon site = five ponds, Rucker site = three ponds)
Treatment Objectives:	<u>Average Concentrations</u> Biochemical Oxygen Demand = 80 milligrams per liter (mg/L) Total Suspended Solids = 80 mg/L Total Nitrogen = 10 mg/L (May-September) Total Nitrogen = 15 mg/L (October-April) <u>Median Concentrations</u> Chloride = 250 mg/L Sodium = 200 mg/L Total Dissolved Solids = 990 mg/L
Recycling:	No
Existing Orders:	Order No. 97-35
This Action:	**Adopt Waste Discharge Requirements, Order No. R3-2019-0042 and Monitoring and Reporting Program No. R3-2019-0042 for Mission Hills Community Services District Wastewater Treatment Plant. Terminate Order No. 97-35.**

SUMMARY

Mission Hills Community Services District (MHCSD) owns and operates a 21-acre wastewater treatment plant (WWTP) that currently discharges approximately 250,000 gallons per day (gpd) of treated wastewater to the Lompoc Plain groundwater sub-basin, in Santa Barbara County. The WWTP is located at 1550 East Burton Mesa Boulevard, Lompoc, California in Santa Barbara County. MHCSD is currently regulated through Waste Discharge Requirements Order No. 97-35 (Order No. 97-35) and was previously regulated through Waste Discharge Requirements Order No. 84-76. This action will update and replace existing Order No. 97-35.

Existing Order No. 97-35 requires the MHCSD discharge to meet the Water Quality Control Plan for the Central Coastal Basin (Basin Plan) water quality objectives for the Lompoc Upland sub-basin. MHCSD has ongoing effluent violations of total dissolved solids, chloride, and total nitrogen that date back more than 15 years. MHCSD contends that it is not discharging into the Lompoc Upland sub-basin but rather into the Lompoc Plain sub-basin. The water quality objectives for the Lompoc Upland sub-basin are more stringent than the water quality objectives for Lompoc Plain sub-basin.

MHCSD hired Rick Hoffman and Associates (Engineering Geologists and Hydrogeologists) to conduct an extensive groundwater evaluation of the Lompoc Upland and Lompoc Plain sub-basins. The groundwater analysis confirms that the MHCSD wastewater discharge percolates to the Lompoc Plain sub-basin, not the Lompoc Upland sub-basin. Staff proposes updated waste discharge requirements and an updated monitoring and program to address, among other things, the discharge into the Lompoc Plain sub-basin.

The proposed Waste Discharge Requirements Order No. R3-2019-0042 (Order)[1] for MHCSD's WWTP and Monitoring and Reporting Program No. R3-2019-0042 include:

- Groundwater limitations based on groundwater quality objectives for the Lompoc Plain sub-basin instead of the Lompoc Upland sub-basin;
- Revised effluent limits in alignment with the groundwater quality objectives for the Lompoc Plain sub-basin that will significantly reduce total dissolved solids and chloride violations;
- Documentation of upgrades to the WWTP and improved system management strategies to reduce total nitrogen violations;
- Documentation and clarification of the treatment capacity, disposal capacity, and discharge locations of the WWTP; and
- Revised monitoring and reporting requirements.

DISCUSSION

MHCSD owns and operates a WWTP located at 1550 East Burton Mesa Boulevard in Lompoc in Santa Barbara County. MHCSD collects and treats wastewater from approximately 1,265 residences with plans to increase to 1,700 residences by 2025. The facilities and treatment plant are on a 21-acre lot shown in Figures 1 and 2 of the proposed Order.

MHCSD currently discharges approximately 250,000 gpd of treated wastewater to the Lompoc Plain groundwater sub-basin in Santa Barbara County. The WWTP includes a headworks facility

[1] Note, Order No. R3-2019-0042 found in Attachment 1 uses a new format that Central Coast Water Board staff is piloting with this Order. The intent of the new format is to highlight the Order requirements, provide an easier format for locating the specific requirements, and facilitate MHCSD's compliance with requirements of the Order.

(e.g. screen and comminution[2]), two lined biological treatment facultative[3] ponds with aerators (Pond 1 with baffles[4] and Pond 2 no baffles) and eight evaporation/percolation ponds (La Purisima ponds 3 through 7 and Rucker ponds[5] 8 through 10) shown in Figures 3 and 4 of the proposed Order.

The proposed Order discusses, revises, and clarifies treatment capacity, disposal capacity, discharge locations (geologically and physically), pond performance (e.g., total dissolved solids, nitrogen, and total suspended solids treatment), water quality objectives, effluent limits, biosolids, and monitoring and reporting program.

Treatment and Disposal Capacity

The MHCSD WWTP is designed to treat up to 400,000 gallons per day gpd of domestic wastewater. This treatment capacity is consistent with the WWTP design proposed in the May 1985 Operation and Maintenance Manual for the MHCSD. Although the May 1985 Operation and Maintenance Manual for the MHCSD states the treatment capacity is 400,000 gpd, the total disposal capacity for the WWTP's eight evaporation/percolation ponds is estimated to be approximately 570,000 gpd. Based on the current annual average flows, the WWTP is operating at approximately 68 percent of the available treatment capacity and at approximately 48 percent of the available disposal capacity. The proposed Order has been revised to explicitly state that the WWTP has a treatment capacity of 400,000 gpd and a disposal capacity of 570,000 gpd.

Discharge Locations

MHCSD has eight unlined disposal ponds available for effluent evaporation/percolation (five ponds at the La Purisima Canyon site and three ponds at the Rucker site). Currently, MHCSD discharges to five ponds at the La Purisima Canyon site. At times, MHCSD submits written requests to Central Coast Regional Water Quality Control Board (Central Coast Water Board) staff to allow MHCSD staff to maintain the pipeline between the WWTP and the Rucker ponds. To maintain the pipeline, MHCSD uses potable water to flush the line and the flush water is discharged into the Rucker ponds.

On May 15, 2018, MHCSD staff informed Central Coast Water Board staff of their intention to develop a long-term operation and maintenance program incorporating the use of the Rucker ponds. MHCSD will submit an operation and maintenance program for review and approval by the Central Coast Water Board Executive Officer prior to discharging treated wastewater to the Rucker ponds.

---

[2] Comminution is mechanical reduction of solid materials by grinding solids found in wastewater into smaller average particle sizes.

[3] A facultative lagoon is used to treat wastewater. The upper layer of a facultative pond is aerobic (aerobic = available dissolved oxygen), while the lower layer is anaerobic (anaerobic = no available dissolved oxygen). Each pond layer supports different types of biologic organisms used to process the wastewater.

[4] Baffles are similar to floating curtains and are designed to create serpentine hydraulic flow patterns, increase hydraulic retention time (the time it takes wastewater to travel from the inlet of the pond to the outlet of the pond), enhance flow characteristics to eliminate dead zones, and create biologic conditions in that improve treatment efficiency.

[5] The Rucker pond site is on a separate parcel from the 21-acre WWTP site and is located approximately 1.5 miles southwest of the treatment facility and is approximately 15 acres in size

The proposed Order allows MHCSD to discharge potable water to the Rucker ponds without prior approval. Discharges of potable water to the Rucker ponds will be documented in monthly self-monitoring reports.

Performance of the Treatment Ponds for Biochemical Oxygen Demand and Total Suspended Solids Reduction

Previous Order No. 84-76 set technology-based effluent limits for biochemical oxygen demand and total suspended solids at 80 milligrams per liter (mg/L) based on four effluent samples collected in 1984. Existing Order No. 97-35 includes the same biochemical oxygen demand and total suspended solids effluent limits. The proposed Order maintains the technology-based biochemical oxygen demand and total suspended solids limits of 80 mg/L established in previous Order No. 84-76.

Existing Effluent Limits for Chloride, Sodium, and Total Dissolved Solids

Staff reviewed available reports and previous orders and determined that the 1985 design for the WWTP did not include treatment considerations for chloride, sodium, or total dissolved solids. The effluent limits in previous Order 84-76 are based on the groundwater quality objectives for the Lompoc Upland sub-basin as set forth in Central Coast Water Board Resolution No. 84-05,[6] and the effluent limits in existing Order No. 97-35 appear to be based on a combination of groundwater quality objectives from Resolution No. 84-05 and a 1996 Central Coast Water Board water quality analysis[7]. However, the effluent limits in existing Order No. 97-35 are not consistent with the Basin Plan's current groundwater quality objectives for either the Lompoc Uplands sub-basin or the Lompoc Plains sub-basin.

Revised Effluent Limits for Chloride, Sodium, and Total Dissolved Solids

The proposed Order includes revised effluent limits for chloride, sodium, and total dissolved solids to implement the water quality objectives for the Lompoc Plain sub-basin. To assess potential impacts from these constituents to groundwater from the MHCSD wastewater discharge, Central Coast Water Board staff evaluated wastewater influent, wastewater effluent, groundwater (MHCSD monitoring well MW#1), and water supply data. In addition to minerals concentration data, MHCSD analyzed wastewater and groundwater samples for the presence of sucralose and acesulfame potassium (ace-K), considered to be conservative tracers associated with domestic and municipal sources of wastewater. Central Coast Water Board staff also evaluated the sucralose and ace-K data.

To interpret the groundwater data in context, the MHCSD also conducted a hydrologic evaluation and provided this analysis to Central Coast Water Board staff. The hydrogeologic evaluation considered 14 water supply wells and water monitoring wells located in or directly adjacent to the MHCSD WWTP. The hydrogeologic evaluation documents a layer of blue clay found at approximately 200 feet that "sits" over the Lompoc Upland sub-basin and is considered an

[6] Resolution No. 84-05, Concerning Revisions and Amendment of Water Quality Control Plan, Central Coastal Basin, (Lompoc Basin Objectives and Management)

[7] Order No. 97-35, Item 9 describes a six-month study of nitrogen levels in the percolation ponds that concluded in October 1996. The study identified the total nitrogen levels in the percolation ponds and measured total nitrogen discharged to groundwater.

"aquitard"[8] that restricts the flow of groundwater between the Lompoc Plain sub-basin (upper basin) and the Lompoc Upland sub-basin (lower basin). The hydrogeologic evaluation documents that the MHCSD WWTP is located above both the Lompoc Plain sub-basin and the Lompoc Upland sub-basin (See proposed Order No. R3-2019-0042, Figures 6 and 7).

The water quality data analysis shows that both sucralose and ace-K were detected in the evaporation/percolation ponds. Neither sucralose or ace-K were detected in the upgradient water supply wells or the downgradient monitoring well MW#1. Monitoring well MW#1 data also shows that groundwater is at times influenced by the MHCSD discharge, with slightly elevated sodium concentrations measured in MW#1.

The hydrologic evaluation, monitoring well data, and water supply data, coupled with the sucralose and ace-K data, provides multiple lines of evidence that the MHCSD wastewater discharge is not significantly affecting groundwater quality being sampled and analyzed at monitoring well MW#1. Based on the various lines of evidence, it is appropriate to set median groundwater quality objectives in the proposed Order for the MHCSD effluent consistent with the median groundwater quality objectives for the Lompoc Plain sub-basin. Table 7 of the proposed Order includes 25-month rolling median effluent limits and single sample maximum effluents for chloride, sodium, and total dissolved solids.

Effluent and Groundwater Nitrogen Concentrations

Central Coast Water Board staff evaluated total nitrogen concentrations in the WWTP effluent and in the downgradient monitoring well MW#1. The average, median, and range of total nitrogen concentrations measured in the effluent from the WWTP are 16 mg/L, 15 mg/L, and 5-54 mg/L respectively. Review of 2016/2017 data documents 15 of 24 samples exceeded the effluent total nitrogen limits of existing Order 97-35.

The groundwater data shows that the total nitrogen median concentrations measured in monitoring well MW#1 (1.8 mg/L) are below the groundwater objective of 2.0 mg/L for the Lompoc Plain sub-basin. The total nitrogen data from monitoring well MW#1 implies that the MHCSD wastewater discharge is not significantly impacting groundwater quality.

Existing and Proposed Nitrogen Effluent and Groundwater Limits

Existing Order No. 97-35 includes effluent limits for total nitrogen (as N). For the months of May through September, the effluent limits are 10 mg/L and 20 mg/L (monthly average and sample maximum respectively) and for the months of October through April, the effluent limits are 15 mg/L and 30 mg/L (monthly average and sample maximum respectively). The proposed Order retains these limits.

Existing Order No. 97-35 includes groundwater limits for total nitrogen of 8 mg/L (as N). This limit is inconsistent with our current water quality objectives. The proposed Order (Table 8) includes a 2 mg/L median groundwater objective for total nitrogen (as N) consistent with the 2017 Basin Plan for the Lompoc Plain sub-basin.

[8]Aquitard = a geologic formation or stratum that lies adjacent to an aquifer and that allows only a small amount of liquid to pass (Merriam-Webster).

Biosolids

The proposed Order includes revised requirements specifying that MHCSD is responsible for ensuring that all biosolids produced at its WWTP are used or disposed of in accordance with title 40 Code of Federal Regulations part 503 biosolids regulations, whether MHCSD uses or disposes of the biosolids itself or transfers them to another party for further treatment, use, or disposal.

CHANGES INCLUDED IN PROPOSED ORDER NO. R3-2019-0042

The following sections describe the changes contained in the proposed Order.

WWTP Capacity

The proposed Order includes an updated description of the WWTP treatment capacity at 400,000 gpd and a disposal capacity of 570,000 gpd.

Rucker Ponds

The proposed Order includes the option for MHCSD to discharge both potable and treated wastewater at the Rucker ponds site. The proposed Order requires MHCSD to submit a proposed operation and maintenance program for the Rucker ponds for review and approval by the Central Coast Water Board Executive Officer prior to discharge of treated wastewater to these ponds.

Effluent Limits

The proposed Order, Table 7, includes revised effluent limits for sodium, chloride, and total dissolved solids based on the water quality objectives for the Lompoc Plain sub-basin.

Groundwater Quality Objective

The proposed Order, Table 8, includes a revised groundwater quality objective for total nitrogen (as N) for the Lompoc Plain sub-basin.

Biosolids

The proposed Order includes revised requirements for biosolids disposal.

REVISED MONITORING AND REPORTING PROGRAM NO. R3-2019-0042

The following sections describe the proposed revisions to the monitoring and reporting program.

Water Supply

Water supply monitoring is revised to include flow volume (gpd), boron, sulfate, magnesium, potassium, bicarbonate, and carbonate. Flow is metered and recorded daily. Boron, sulfate, magnesium, potassium, bicarbonate, and carbonate samples are collected and analyzed semi-annually.

Influent Monitoring

Influent monitoring is revised to include total dissolved solids, sodium, chloride, total nitrogen, total Kjeldahl nitrogen, ammonia, boron, sulfate, magnesium, calcium, potassium, bicarbonate, and carbonate. Total nitrogen is calculated quarterly. Total dissolved solids, sodium, chloride, total Kjeldahl nitrogen, and ammonia samples are collected and analyzed quarterly. Boron, sulfate, magnesium, calcium, potassium, bicarbonate, and carbonate samples are collected and analyzed semi-annually.

Effluent Monitoring

Effluent monitoring is revised to include settleable solids, biochemical oxygen demand, boron, sulfate, magnesium, calcium, potassium, bicarbonate, and carbonate. Settleable solids samples are collected and analyzed weekly. Biochemical oxygen demand samples are collected and analyzed quarterly. Boron, sulfate, magnesium, calcium, potassium, bicarbonate, and carbonate samples are collected and analyzed semi-annually.

Groundwater Monitoring

Groundwater monitoring was not included in previous Order No. 97-35. The proposed groundwater monitoring includes depth to groundwater, total nitrogen, total Kjeldahl nitrogen, ammonia, nitrite, nitrate, total dissolved solids, sodium, chloride, boron, sulfate, magnesium, calcium, potassium, bicarbonate, and carbonate. Depth to groundwater is measured quarterly. Total nitrogen is calculated quarterly. Total Kjeldahl nitrogen, ammonia, nitrite, nitrate, total dissolved solids, sodium, and chloride samples are collected and analyzed quarterly. Boron, sulfate, magnesium, calcium, potassium, bicarbonate, and carbonate samples are collected and analyzed semi-annually.

Biosolids Monitoring

The proposed Order requires MHCSD to monitor biosolids/sludge consistent with a Central Coast Water Board Executive Officer approved sampling plan.

Rucker Ponds Operation and Maintenance Program

Within **36 months** from the date of adoption of the Order and prior to discharging to Rucker ponds, the proposed Order requires MHCSD to submit a proposed operation and maintenance program for the Rucker ponds for review and approval by the Central Coast Water Board Executive Officer.

Quarterly Self-Monitoring Reports

The proposed Order requires self-monitoring reports to be submitted quarterly instead of monthly.

Annual Performance Monitoring

The proposed Order requires MHCSD to evaluate and discuss the WWTP performance in terms of system design parameters, operational measures, changes in system water quality, and increase/decrease of load discharged to the environment.

Electronic Submittal

The proposed Order requires MHCSD to electronically submit all reports/documents and laboratory data to the State Water Resources Control Board's GeoTracker database.

COMPLIANCE HISTORY

On December 2, 2010, the Central Coast Water Board issued a Notice of Violation (2010 NOV) to the MHCSD. The 2010 NOV cited MHCSD for multiple effluent violations of total dissolved solids, chloride, and total nitrogen. The 2010 NOV directed the MHCSD to take immediate actions necessary to ensure compliance with existing Order No. 97-35. The 2010 NOV required the MHCSD to submit a report addressing the violations and deficiencies described in the 2010 NOV and a summary of actions to ensure future compliance with discharge specifications and monitoring and reporting requirements.

On February 28, 2011, MHCSD submitted a corrective action plan with an implementation schedule to be completed by May 2011. After submittal of the corrective action plan, MHCSD encountered several issues that extended the implementation of management actions beyond May 2011. On June 19, 2017, MHCSD submitted information documenting implementation of management actions necessary to address the conditions of the 2010 NOV. Table 1 summarizes the actions implemented by MHCSD in response to the 2010 NOV.

Table 1 – MHCSD Implementation Actions

Implementation Action	Date Completed
Review and implement pond management strategies	February 2011
Replace Pond 2 liner	May 2011
Install the downgradient groundwater monitoring well	October 2011
Develop and adopt self-regenerating water softener ordinance	September 2013
Evaluate nitrogen control actions and testing protocols	October 2016

On August 30, 2017, the Central Coast Water Board sent a letter to MHCSD confirming that it had satisfied the conditions of the 2010 NOV.

The effluent discharged to the evaporation/percolation ponds has been out of compliance for chloride since 1997 (Boyle 2004, Application for Amending RWQCB [Regional Water Quality Control Board] Waste Discharge Permit No. 97-35). The 2010 NOV documents chloride violations eight out of eight months reviewed. Monitoring reports for the period of January 2016 through December 2017 document an additional 24 (24 of 24 samples evaluated) chloride violations.

The effluent discharged to the evaporation/percolation ponds has been out of compliance for total dissolved solids since 2001 (Boyle 2004, Application for Amending RWQCB Waste Discharge Permit No. 97-35). The 2010 NOV documents total dissolved solids violations seven out of eight months reviewed. Monitoring reports for the period of January 2016 through December 2017 document an additional 21 (21 of 24 samples evaluated) total dissolved solids violations.

The 2010 NOV documents effluent total nitrogen violations six out of eight months reviewed. From 2011 through 2013, MHCSD erroneously reported total Kjeldahl nitrogen as total nitrogen in both monthly and annual reports. Review of monitoring reports for the period of January 2016

through December 2017 documents an additional 15 (15 of 24 samples evaluated) total nitrogen violations.

In 2011, MHCSD added 56,000 gallons of well water to Pond 1 to reduce the concentrations of total dissolved solids, sodium, chloride, and total nitrogen. This addition of well water occurred for approximately one week and then stopped once the MHCSD understood this practice was a violation of the conditions of the waste discharge requirements.

On February 17, 2017, MHCSD reported two split seams in Pond 1 resulting in a discharge of untreated wastewater directly to the ground below Pond 1. This is a violation of existing Order No. 97-35, Section A, Discharge Prohibitions, Item 1 “Discharge of treated wastewater at disposal areas other than as shown on Attachments "B" and "C" is prohibited.” Order No. 97-35, attachments “B” and “C” show the locations of the evaporation/percolation ponds which are after treatment in Ponds 1 and 2. MHCSD replaced the liner in Pond 1 and started using the pond again in November 2017.

POTENTIAL COMPLIANCE ISSUES

Although the WWTP is now treating wastewater as designed, the biology in Pond 1 is still maturing and there continues to be violations for total nitrogen. In May 2017, the MHCSD seeded Pond 1 with 500 gallons of mature wastewater (500 gallons of activated sludge from the City of Lompoc). The MHCSD staff are monitoring the bacterial growth and the total nitrogen concentrations. The MHCSD will continue to implement operational changes to achieve compliance with the total nitrogen effluent limit.

The MHCSD WWTP continues to be in violation of the total dissolved solids and chloride effluent limits. Revision of the waste discharge requirements to include effluent limitations implementing the water quality objectives for the Lompoc Plain sub-basin will help MHCSD achieve compliance. MHCSD staff will also implement additional management strategies to achieve compliance with the limits in the proposed Order.

ENVIRONMENTAL SUMMARY

In February 1982, MHCSD approved an Initial Study and Negative Declaration for improvement and expansion of the WWTP in accordance with the California Environmental Quality Act (CEQA, Public Resources Code, Section 21000, et seq). This action to update waste discharge requirements for an existing WWTP is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resource Code section 21000, et seq., and the CEQA guidelines, in accordance with title 14, section 15301.

CLIMATE CHANGE ADAPTATION

The MHCSD WWTP is situated approximately 9.5 miles inland from the Pacific Ocean and 325 feet above sea level. The WWTP is not susceptible to sea-level rise or flooding hazards from rising sea levels. In addition, the treatment plant is not located near any major rivers that may be subjected to increased flooding from highly variable precipitation as a result from climate change. However, the three Rucker ponds are located approximately 120 feet from the Santa Ynez River and could be susceptible to river flooding associated with extreme rain events. Currently, the ponds do not pose a risk of discharging treated wastewater into the river during extreme rain events as no treated wastewater is disposed at the Rucker pond site. Additionally, prior to the

discharge of any treated wastewater, the proposed Order requires MHCSD to submit a proposed operation and maintenance program for the Rucker ponds for review and approval by the Central Coast Water Board Executive Officer. Any proposed operation and maintenance program for the Rucker ponds would need to address flooding potential at the site.

DISADVANTAGED COMMUNITY

The Mission Hills service area and the ponds are not located in areas identified as a disadvantaged community (DAC) on the California Department of Water Resources DAC Mapping Tool[9] as either a place, tract, or block group per 2016 census data.

HUMAN RIGHT TO WATER

California Water Code section 106.3, subdivision (a): It is a policy of the State of California "that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitation purposes." The proposed Order incorporates the human right to water policy by requiring MHCSD to comply with effluent limits that will protect the drinking water beneficial use.

TIME SCHEDULE ORDER

MHCSD's compliance history indicates it cannot achieve immediate compliance with the existing chloride and total nitrogen effluent limits prescribed in the proposed Order. In January 2019, MHCSD staff developed a draft plan to upgrade its operations and WWTP.

The draft plan describes WWTP upgrades designed to ensure compliance with the proposed Order's effluent limitations, improve effluent quality, improve existing facilities, and provide redundancy for some existing operations. Phased implementation of the plan is scheduled to begin in 2019 with estimated completion in 2025.

After Central Coast Water Board adoption of proposed Order No. R3-2019-0042, the Central Coast Water Board Executive Officer will issue Time Schedule Order No. R3-2019-0015. The Time Schedule Order will require MHCSD to submit a MHCSD Board-approved plan by May 2019 for review and approval by the Central Coast Water Board Executive Officer to upgrade MHCSD's operations and WWTP. The Time Schedule Order will also contain interim effluent limits for chloride and total nitrogen.

COMMENTS

The draft Order was posted for a 30-day public comment period on February 8, 2019. Central Coast Water Board staff received two comment letters:

Timothy Smith, Retired Resident of Lompoc and Former Superintendent of Lompoc Regional Wastewater Treatment Plant

I think it would be beneficial to change the effluent sampling method for salt and nutrient parameters (sodium, chloride, boron, sulfate, nitrogen species, etc.) to 24-hr composites rather

[9] The DAC Mapping Tool (https://gis.water.ca.gov/app/dacs/) is used to inform statewide Integrated Water Resources Management (IRWM), Sustainable Groundwater Monitoring Act (SGMA), and California Water Plan implementation efforts.

than grab samples. This should help reduce the wide range that appears in previous data, thus improving the quality of data for regulatory purposes.

Staff Response: In May 2019, the MHCSD will submit a *Wastewater Treatment Plant Five Year Optimization Plan for Total Nitrogen and Chlorides* for the Central Coast Water Board Executive Officer review and approval. This plan will evaluate water quality using both grab and composite sampling methods. Central Coast Water Board staff will propose modifications to the monitoring and reporting program based on the results and our review of the data collected.

John Linn, Former Mayor of the City of Lompoc

1. *The concept in the permit that effluent from the MHCSD wastewater treatment plant percolates into the Lompoc Plain sub-basin rather than the Lompoc Uplands sub-basin is a new concept. I believe that the hearing should be postponed and the comment period extended.*

Staff Response: MHCSD first proposed a hydrogeologic analysis in 2014 and produced a draft report on July 14, 2014. The report was amended June 15, 2015, and again March 3, 2016. The initial draft and subsequent amendments were publicly noticed by MHCSD and discussed at several MHCSD public meetings. Central Coast Water Board staff recognizes that although the hydrogeologic information may be considered new, it has been publicly available since 2014.

Central Coast Water Board staff agrees that the hydrologic analysis documents that the MHCSD treated wastewater percolates into the Lompoc Plain sub-basin rather than the Lompoc Uplands sub-basin.

Central Coast Water Board staff does not recommend postponement of the hearing for proposed Order No. R3-2019-0042 or extension of the comment period.

2. *Rucker Ponds should only be used for emergency storm overflows.*

Staff Response: The proposed Order includes the option for MHCSD to utilize additional treated wastewater disposal area by integrating the Rucker ponds for treated wastewater disposal. On May 15, 2018, MHCSD staff informed Central Coast Water Board staff of their intention to develop a long-term operation and maintenance program incorporating the use of the Rucker ponds. MHCSD will submit an operation and maintenance program for review and approval by the Central Coast Water Board Executive Officer prior to discharging treated wastewater to the Rucker ponds.

The proposed Order does allow MHCSD to discharge potable water to the Rucker ponds without prior approval. Discharges of potable water to the Rucker ponds will be documented in monthly self-monitoring reports.

Please note that the Rucker ponds are located on the north east side of the Santa Ynez River, approximately 120 feet from the river, and approximately 2,350 feet northeast of the closest public water supply well.

3. *The report shows that wastewater flows are about 62 percent of the wastewater treatment plant capacity. Another report shows that the wastewater flows are about 64 percent of the wastewater treatment plant capacity.*

Staff Response: Central Coast Water Board staff agrees that flows to the MHCSD wastewater

treatment plant are variable within the 60 to 65 percent range of the WWTP flow capacity.

4. *The sampling method used to determine total dissolved solids, salt, and sodium, with the range shown, is not accurate enough to determine the actual pollutants in the effluent stream percolated to the ground water basin.*

Staff Response: For the analysis of potential impacts to groundwater, Central Coast Water Board staff did not rely exclusively on effluent data to determine the actual pollutants percolated to the groundwater basin. In addition to effluent data, Central Coast Water Board staff analyzed groundwater data, influent data, and water supply data. Central Coast Water Board staff reviewed wastewater and groundwater data for total dissolved solids, chloride, and sodium concentrations along with nitrogen, sucralose, and ace-K.

Water quality data from evaporation/percolation Pond 3 showed concentrations of sucralose and ace-K of 6.8 µg/L and 21 µg/L, respectively. Water quality samples analyzed from MHCSD water supply wells (MHCSD #5 and #7) upgradient of Pond 3 and monitoring well MW#1 downgradient of Pond 3 did not have detections of either sucralose or ace-K. The sucralose and ace-K data implies that the sucralose and ace-K detected in the evaporation/percolation ponds is not reaching the water supply wells or monitoring well MW#1.

Similarly, monitoring well MW#1 data (2011 through 2018) shows that groundwater is at times influenced by the MHCSD discharge. The total dissolved solids concentrations measured in MW#1 (average, median, and range) are similar to those measured in the water supply. For chloride in MW#1, the average, median, and range of concentrations are similar to the water supply concentrations. For sodium in MW#1, the average, median, and range of concentrations are elevated when compared to the water supply concentrations, but the median concentration is below the water quality objective of 250 mg/L.

Overall, the hydrologic evaluation, monitoring well data, and water supply data, coupled with the sucralose and ace-K data, provides multiple lines of evidence that the MHCSD wastewater discharge is not significantly affecting groundwater quality.

5. *In 1997 and again in 2012, the City of Lompoc conducted in-depth studies on the effects and costs for treatment of total dissolved solids and other constituents in their well water. The potential impacts from the MHCSD wastewater effluent was never considered.*

Staff Response: Central Coast Water Board staff is not familiar with the constituents considered by the City of Lompoc in their 1997 and 2012 studies. However, based on Central Coast Water Board staff review of the MHCSD hydrologic evaluation, monitoring well data, and water supply data, coupled with the sucralose and ace-K data, Central Coast Water Board staff concludes that there are multiple lines of evidence that the MHCSD wastewater discharge does not significantly affect groundwater quality at monitoring well MW#1, which is within 1,000 feet of the discharge.

6. *For the City of Lompoc groundwater wells, the average sodium concentration is 90 mg/L and chloride concentration is 105 mg/L. The MHCSD wastewater effluent sodium and chloride concentrations are higher than concentrations in the City of Lompoc groundwater wells.*

Staff Response: Central Coast Water Board staff agree that the MHCSD wastewater treatment plant effluent concentrations for sodium and chloride are greater than the City of Lompoc concentrations for sodium and chloride.

7. *I have been informed that MHCSD has frequently been over their permitted levels for total dissolved solids, sodium, and chloride, that sampling has been minimal, and that reports not filed in a timely manner.*

Staff Response: Central Coast Water Board staff shares your concerns. We are aware that MHCSD has frequently been over their permitted effluent limits for total dissolved solids, sodium, and chloride. The proposed Order includes revised water quality objectives, revised effluent limits, and increased monitoring requirements. In conjunction with the proposed Order, the Central Coast Water Board Executive Officer will issue MHCSD a Time Schedule Order with interim effluent limits and designated milestones that require MHCSD to reduce the concentrations of chloride and nitrogen in their effluent. The Time Schedule Order will create the framework for MHCSD to comply with the conditions of the proposed Order and for MHCSD to comply with the proposed effluent limits for total dissolved solids, sodium, and chloride.

Central Coast Water Board staff is aware that MHCSD has not always collected all samples required as a condition of the existing Order. Central Coast Water Board staff has documented those conditions of non-compliance with the existing monitoring conditions and entered those violations into the California Integrated Water Quality System. The proposed Order clarifies monitoring requirements and should eliminate future issues of non-compliance.

Central Coast Water Board staff is aware that some MHCSD reports have not been submitted in a timely manner. Since 2014, all reports have been submitted and 12 of 60 reports were late. Central Coast Water Board staff continues to work with MHCSD to ensure timely submittal of their monitoring reports.

8. *The City of Lompoc operates two wells on the north side of with elevated levels of manganese and arsenic. It is not known what causes these divergent chemical levels but the MHCSD flow should now be reviewed.*

Staff Response: Central Coast Water Board staff encourages analysis of all potential sources of manganese and arsenic that could be possibly influencing the City's water supply wells. However, it should be noted that these constituents are commonly detected in groundwater supply wells that are associated with naturally occurring geochemical conditions.

9. *The Lompoc Regional Water Treatment Plant discharges higher levels of salt than desired. The MHCSD hydrogeologic study indicates that the MHCSD effluent is discharging into the Lompoc Plain sub-basin rather than the Lompoc Uplands sub-basin. The City of Lompoc did not consider the potential impacts associated with the MHCSD discharge in their previous studies. Please continue this permit until accurate testing can be conducted at the MHCSD to determine to determine their actual effluent contents and that information can then be used to determine the impact on the ground water for the City of Lompoc.*

Staff Response: Central Coast Water Board staff recognizes that the MHCSD hydrogeologic information developed in 2014 through 2016 was not available for consideration in the 1997 or 2012 reports developed by the City of Lompoc. Central Coast Water Board staff review of the MHCSD hydrologic evaluation, monitoring well data, and water supply data, coupled with the sucralose and ace-K data, concludes that the MHCSD wastewater discharge is not significantly affecting groundwater quality within 1,000 feet of the MHCSD discharge. Central Coast Water

Board staff does not recommend postponing adoption of proposed Order No. R3-2019-0042 or extension of the comment period.

ATTACHMENTS

1. Proposed Waste Discharge Requirements Order No. R3-2019-0042 for Mission Hills Community Services District Wastewater Treatment Plant. This document contains these attachments:
    I. Proposed Monitoring and Reporting Requirements Order No. R3-2019-0042 for Mission Hills Community Services District Wastewater Treatment Plant
    II. Standard Provisions and Reporting Requirements for Waste Discharge Requirements, December 2013

RECOMMENDATION

Adopt Waste Discharge Requirements, Order No. R3-2019-0042 and Monitoring and Reporting Program No. R3-2019-0042 for MHCSD WWTP. Terminate Order No. 97-35.

HEK
WDR Program
Charge Code = A32000
ECM Subject Name = Mission Hills CSD Staff Report for Order No. R3-2019-0042
ECM/CIWQS Place ID = 240951
GeoTracker No. = WDR100033210
\\ca.epa.local\RB\RB3\Shared\WDR\WDR Facilities\Santa Barbara Co\Mission Hills CSD WWTP\R3-2019-0042 Word Format for Theas Review\Final for Tammie\Staff Report _MHCSD R3-2019-0042-4-24-2019.docx