

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

STAFF REPORT FOR REGULAR MEETING OF DECEMBER 8, 2016

Prepared on October 18, 2016

ITEM NUMBER: 8

SUBJECT: Waste Discharge Requirements and Water Reclamation Requirements (Producer) for the City of Pacific Grove, Pacific Grove Local Water Project, Monterey County

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KEY INFORMATION

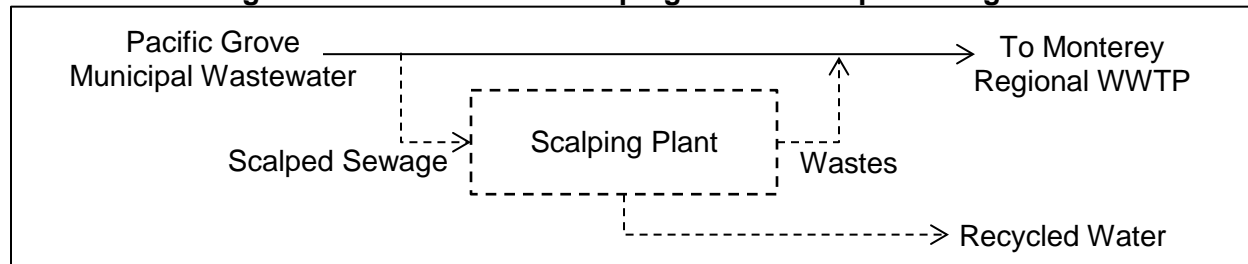
Facility Name: Pacific Grove Local Water Project
Facility Owner: City of Pacific Grove
Location: Pacific Grove Golf Links (Tip of the Monterey Peninsula)
Discharge Type: Recycled municipal sewage
Design Flow: 250,000 gpd
Current Flow: None
Treatment Type: Tertiary
Disposal: Wastes go to Monterey Regional Water Pollution Control Agency
Recycling: Golf Course and Cemetery Irrigation, Toilet Flushing at Crespi Pond and front nine restrooms
Existing Orders: None

This Action: Adopt Order No. R3-2016-0044

SUMMARY

The City of Pacific Grove, which conveys its municipal sewage to the Monterey Regional Water Pollution Control Agency's regional wastewater treatment facility, proposes to make use of decommissioned infrastructure to redirect or "scalp" a portion of its conveyed sewage, produce recycled water, and use the recycled water primarily for golf course and cemetery irrigation. The City of Pacific Grove proposes to discharge its scalping plant wastes back into the collection system tributary to the Monterey Regional Water Pollution Control Agency's treatment system. Figure 1 shows a conceptual depiction of the proposed scalping plant.

Figure 1 – Pacific Grove Scalping Plant Conceptual Diagram



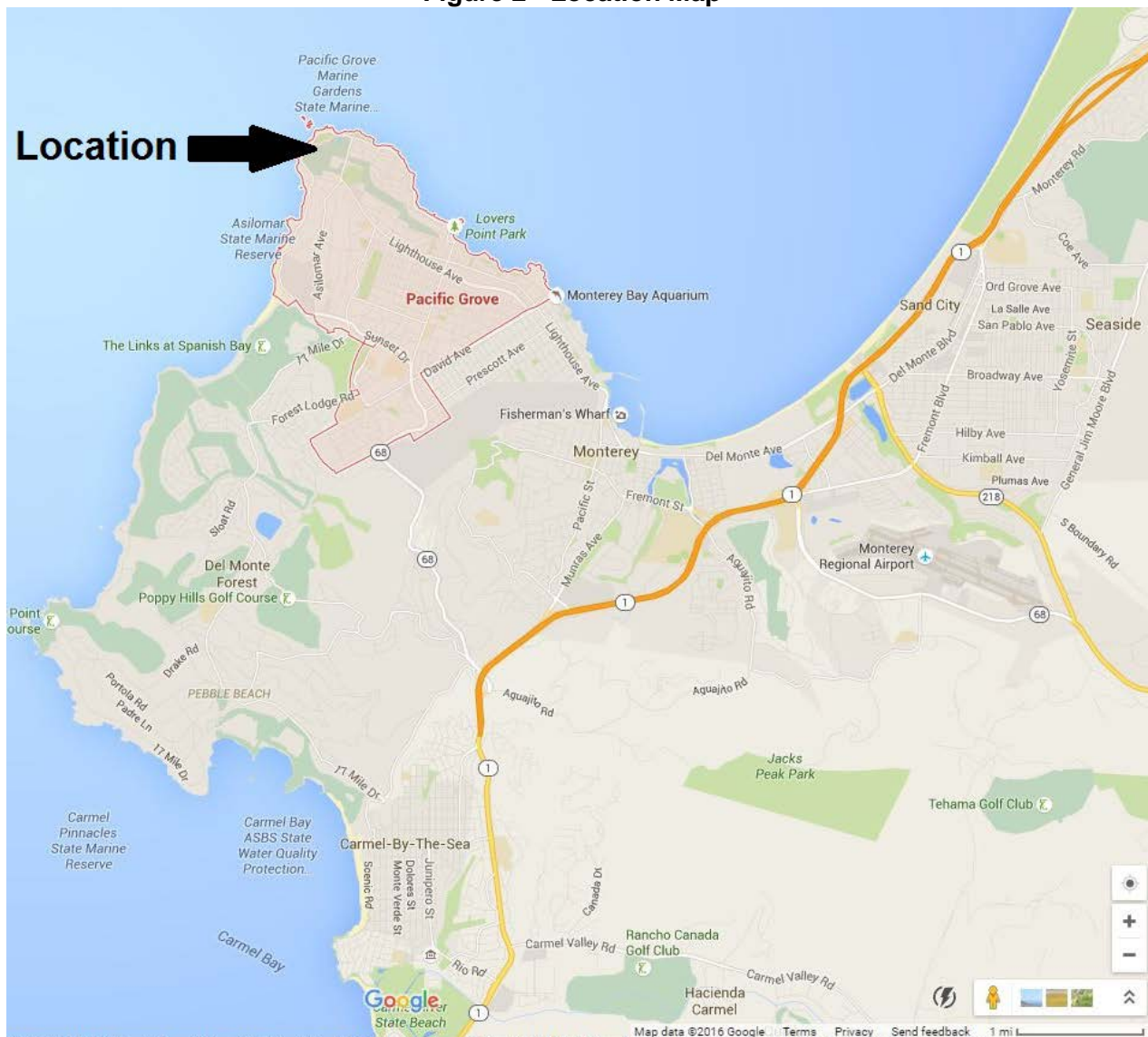
The City of Pacific Grove's proposed recycled water distribution and use has been enrolled under existing general waste discharge requirements (WDRs) for recycled water use. However, the City of Pacific Grove's proposed recycled water production is not covered by the existing WDRs and also must be regulated under WDRs. The proposed order would regulate the City of Pacific Grove's proposed recycled water production.

DISCUSSION

Background

Why: Decades ago, the City of Pacific Grove decommissioned its Point Pinos wastewater treatment plant (located as shown in Figure 2) when it regionalized sewer services with the Monterey Regional Water Pollution Control Agency (MRWPCA).

Figure 2 - Location Map



Now the City of Pacific Grove wants to make use of the decommissioned Point Pinos wastewater treatment plant to “scalp” collected sewage, produce recycled water, and use the recycled water primarily for golf course and cemetery irrigation. While the use of recycled water has been enrolled under general waste discharge requirements (WDRs) for recycled water use, the City of Pacific Grove’s proposed production of recycled water requires individual WDRs.

Facility Description: The City of Pacific Grove plans to produce, as needed, up to 250,000 gallons per day (125 acre-feet per year) of disinfected tertiary water for unrestricted landscape irrigation, public restroom toilet flushing, street sweeping, construction dust control, and sewer flushing uses. The City of Pacific Grove proposes to achieve disinfected tertiary recycled water using membrane bio-reactor (MBR) technology, combined with ultraviolet (UV) disinfection. Scalping plant wastes will be returned to the existing sanitary sewer system tributary to the MRWPCA regional wastewater treatment facility.

Compliance History: This is a proposed, new facility. It has no compliance history.

Proposed Order

The order implements regulations related to recycled water found in the California Code of Regulations, Title 22, referred to as “Water Recycling Criteria.”

Turbidity

The proposed turbidity limits implement the Water Recycling Criteria section 60301.320 definition of “filtered wastewater.” The discharger proposes to use membrane filtration. When membrane filtration is used, Water Recycling Criteria section 60301.320 calls for the following turbidity limits:

95% of the time within a 24-hr period (NTU)	Instantaneous Maximum (NTU)
≤ 0.2	0.5

Biochemical Oxygen Demand (BOD)

The Water Recycling Criteria generally require recycled water to be oxidized, but does not specifically establish numeric BOD levels. Traditionally, BOD limits for activated sludge processes are set at monthly average of 30 mg/L. However, the discharger’s Report of Waste Discharge stated a design objective to produce an effluent BOD of less than 5 mg/L. Recognizing that performance does not always meet design and that reasonable fluctuations can occur, and in order to give the discharger a reasonable limit, staff proposes a monthly average BOD effluent limit of 10 mg/L with a daily maximum of 25 mg/L.

Total Suspended Solids (TSS) and Turbidity

The Water Recycling Criteria do not specifically establish numeric TSS levels. Traditionally, TSS limits for activated sludge processes are set at monthly average of 30 mg/L. However, the discharger’s Report of Waste Discharge stated a design objective to produce an effluent TSS of less than 2.5 mg/L. Recognizing that performance does not always meet design and that reasonable fluctuations can occur, and in order to give the discharger a reasonable limit, staff proposes a monthly average BOD effluent limit of 10 mg/L with a daily maximum of 15 mg/L.

Even though the Water Recycling Criteria does not specify TSS, the criteria specify turbidity levels. TSS decrease turbidity, so there can be a correlation between TSS and turbidity. The proposed order uses Title 22’s water recycling turbidity criteria as effluent limits.

Total Coliform

The proposed order uses Title 22's water recycling total coliform criteria as effluent limits.

Salts

The proposed order is intended to regulate the production of recycled water. The distribution and use of recycled water is regulated under a separate order. The order that regulates the distribution and use of recycled water is the order that controls the water at the point of discharge. It is at the point of discharge where salts need to be regulated; therefore, this proposed order does not include salts limitations.

pH

The pH of water can readily change when that water is exposed to different environmental conditions. For example, the act of storing, conveying, or applying water to land can alter the pH of water. The pH of a wastewater treatment plant effluent is not necessarily equal to the pH of water in storage, and the pH of water in storage is not necessarily equal to the pH of water that percolates through soil. Because specifying effluent pH is not a reliable control for protecting groundwater pH, staff proposes no pH limits.

Although no pH limits are proposed, turf grasses cannot tolerate a highly acidic or basic environment. Because the discharger will primarily recycle the water for turf grass irrigation, the discharger has incentive to keep the irrigation water's pH relatively neutral. Also, soils typically provide a buffering capacity that would naturally insulate groundwater from pH changes. Considering that, imposing a neutral pH requirement on the discharger's effluent (prior to storage, distribution, and use) would impose costs but provide no water quality benefit.

It should also be noted that the Water Recycling Criteria do not establish pH limitations.

Recycled Water Policy

Recycling water helps to fulfill the intent of the California Recycled Water Policy. One component of the California Recycled Water Policy is the development of salt and nutrient management plans to protect groundwater basins' water quality. As mentioned above, the proposed order is intended to regulate the production recycled water. The distribution and use of recycled water is regulated under a separate order. The order that regulates the distribution and use of recycled water is the order that controls the water at the point of discharge. It is at the point of discharge where salts and nutrients need to be regulated. To avoid redundant and conflicting requirements, staff proposes that any California Recycled Water Policy salt and nutrient management plan requirements be contained solely in the order that regulates the distribution and use of recycled water. The proposed order does not include any salt and nutrient management plan requirements.

ENVIRONMENTAL SUMMARY

The City of Pacific Grove is the lead agency pursuant to the California Environmental Quality Act (CEQA) (Pub. Res. Code § 15367). As the lead agency, the City certified an environmental impact report on November 19, 2014, for the project. The environmental impact report did not identify any potentially significant environmental effects with respect to the adoption of this order and within the jurisdiction of the Central Coast Water Board.

The Central Coast Water Board is a responsible agency pursuant to CEQA (CEQA Guidelines section 15096). The Central Coast Water Board will consider the project's environmental impacts that are under the Central Coast Water Board's jurisdiction and the Central Coast

Water Board will make its own conclusions on whether and how to approve the waste discharge requirements for the project.

It is well-documented that the Central Coast Water Board encourages water recycling. The project proposes to recycle water by re-purposing decommissioned infrastructure. Central Coast Water Board staff has reviewed the project and found no compelling, water quality-related reasons to oppose the project. Therefore, Central Coast Water Board staff is proposing waste discharge requirements that implement responsible recycled water production criteria. The proposed order does not allow a wastewater discharge, except to the MRWPCA. The MRWPCA waste discharge is regulated under a separate waste discharge requirement order. Should the Central Coast Water Board adopt the proposed waste discharge requirements, the Central Coast Water Board will have decided whether and how to approve the waste discharge requirements for the project.

COMMENTS

On September 8, 2016, staff distributed this staff report, draft waste discharge requirements, and other attachments to the Discharger and the following known interested parties:

James Brezack, President Brezack & Associates Planning jbrezack@brezack.com	Reena Thomas Brezack & Associates Planning Rthomas@brezack.com
Sherly Rosilela State Water Resources Control Board Division of Drinking Water Sherly.Rosilela@waterboards.ca.gov	Randy Barnard State Water Resources Control Board Division of Drinking Water Randy.Barnard@waterboards.ca.gov
Jan R. Sweigert, P.E., District Engineer State Water Resources Control Board Division of Drinking Water Monterey District Jan.Sweigert@waterboards.ca.gov	Nicole Fowler Monterey County Health Department Environmental Health Bureau fowlerne@co.monterey.ca.us
Steve Hogg, Assistant General Manager Monterey Regional Water Pollution Control Agency stephen@mrwpc.com	Jody Hack State Water Resources Control Board Division of Financial Assistance Jody.Hack@waterboards.ca.gov
Steve Shimek, Executive Director Monterey Coastkeeper/The Otter Project exec@otterproject.org	Luke Coletti ljc@grokn.net
Chris Adair Central Coast Water Board Chris.Adair@waterboards.ca.gov	

Staff requested that all interested parties submit written comments by October 7, 2016. The following entities submitted timely written comments:

- ◆ The City of Pacific Grove
- ◆ Luke Coletti

After receiving written comments, staff engaged the commenters to resolve outstanding issues. The resolved issues necessitated minor changes to the proposed order. A summary of written comments and staff responses follows:

Comment from Daniel Gho, Public Works Director, City of Pacific Grove

The City requested removal of the effluent total nitrogen requirement because the facility was not designed to remove nitrogen. The City said that the predominant recycled water use - landscape irrigation – would remove nitrogen via plant uptake. The City would agree to a maximum ammonia-nitrogen limit in place of a total nitrogen limit.

Staff Response: One goal of the draft order is to protect groundwater from nitrogen. The City states that turf will utilize applied nitrogen and, in so doing, will decrease the City's current fertigation program. A maximum ammonia-nitrogen limit would require the City to perform according to its design. In response to the City's request, staff replaced the proposed order's effluent total nitrogen requirement with a maximum 30-day average ammonia-nitrogen limit of 2.5 mg/L.

Comments from Luke Coletti, concerned citizen

1. In an effort to work through issues before the Water Board hearing, staff shared the City of Pacific Grove's comment (above) with Mr. Coletti. Mr. Coletti did not oppose the changes mentioned in staff's response to the City's comment (see above), as long as the City instituted some receiving-water nitrogen monitoring.

Staff Response: Staff worked with the City to institute some receiving-water nitrogen monitoring. The City revised their Recycled Water Program document to include nitrogen monitoring at:

- ◆ Crespi Pond, which is an environmentally sensitive surface water pond located on the City's municipal golf course and adjacent to the proposed water recycling facility, and
- ◆ A groundwater vault, located on Del Monte Boulevard and Egan Avenue.

When staff informed Mr. Coletti of the City's agreement to institute receiving-water nitrogen monitoring, Mr. Coletti expressed satisfaction that his nitrogen concerns were addressed.

2. The State Water Resources Control Board (SWRCB) has issued a cease and desist order (CDO) requiring California-American Water Company to cease unlawful diversions from the Carmel River. The City of Pacific Grove's proposed water recycling project could help California-American Water Company comply with the CDO. Determining the quantity of water produced by the City of Pacific Grove to reduce diversions from the Carmel River is a condition of the recently amended CDO. Therefore, Mr. Coletti requested an accurate accounting of recycled water produced and used, as well as an accurate accounting of Pacific Grove's water use volumes prior to water recycling.

Staff Response: The proposed order is intended to regulate the quality of Pacific Grove's recycled water. The proposed order includes a flow limit for the express purpose of keeping the recycled water plant within its design parameters. The proposed order's flow limit has no relationship to water rights matters, which are the subject of the SWRCB's CDO (mentioned above). It is well within the Central Coast Water Board's authority to require accurate metering of recycled water used and produced. After discussing the matter, both staff and Mr. Coletti are satisfied that the City of Pacific Grove will accurately meter recycled water used and produced. Also, the City has agreed to meter used water pumped from the groundwater vault that is located on Del Monte and Egan Avenue. That metering satisfies Mr. Coletti's water use accounting concerns.

It should be noted that during the wet season, the vault located on Del Monte and Egan Avenue could

- ◆ fill up
- ◆ create a pond that floods that area of the golf course, then
- ◆ overflow to a storm drain

To avoid golf course wet-season ponding, the City sometimes pumps from the vault and sends that pumped water to the storm drain. So, there are times when the City pumps water from that vault but does not use the water. The City maintains the position that "pumped-but-not-used" water should not be counted as municipal water use.

ATTACHMENTS

Proposed Order No. R3-2016-0044

RECOMMENDATION

Staff recommends adoption of Order No. 2016-0044