

SEWER AUTHORITY MID-COASTSIDE  
Staff Report

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**Subject / Title**

Receive Update on Recycled Water Pilot Plant Project

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**Staff Recommendation:**

Receive Update on Recycled Water Pilot Plant Project

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**Fiscal Impact:**

None.

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**Discussion/Report:**

SAM and SRT Consultants will provide oral updates as follows.

- Rental period
  - The Board authorized three months rent of the pilot plant. This three-month time period ends in early December. Consequently, the pilot test program will be brought to a conclusion in early December. However, early December would give us a maximum of about six weeks of application - short of what we originally anticipated. This will not be a problem if it starts raining, but we lose an opportunity if weather remains dry. At the November Board Meeting, SAM staff may ask the Board to consider allowing a week-to-week extension.
- Operation of the pilot plant
  - The plant continues to operate well and consistently produces tertiary treated water compliant with Title 22 requirements.
  - SAM, Ocean Colony Partners, and Coastside County Water District have been taking samples of the pilot plant effluent to check for other, non-Title 22, constituents of concern.
- Water deliveries
  - 4 water deliveries to the Ocean Colony golf course have taken place since permit to operate and distribute recycled water was received from the Regional Board totaling over 5,000 gallons.
- Permitting progress
  - SAM obtained its recycled water permit on October 14. A copy of the permit and the Department of Public Health comment letter are attached.
  - SAM has applied for and received an additional permit from the Regional Board to include usage of Recycled Water by Nurserymen's Exchange. The same truck rented by the Coastside County Water District will be delivering 50 gallons of recycled water per day to Nurserymen's Exchange and the water will be hand-applied to selected plants. The first delivery was scheduled for October 22, 2009.
  - SAM is considering applying for additional permits for other test locations – time permitting.

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**California Regional Water Quality Control Board  
San Francisco Bay Region**



Linda S. Adams  
Secretary for  
Environmental Protection

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Arnold Schwarzenegger  
Governor

OCT 14 2009

**SEWER AUTHORITY ID-COASTSIDE  
HALF MOON BAY, CA**

Date: October 8, 2009  
WDID No: 2 417068002  
CIWQS Place No.: 745504

Mr. John F. Foley III, General Manager  
Sewer Authority Mid-Coastside  
1000 N. Cabrillo Highway  
Half Moon Bay, CA 94019

{ Sent via email to: [john@samcleanswater.org](mailto:john@samcleanswater.org) }

**SUBJECT: Sewer Authority Mid-Coastside 2009 Recycled Water Pilot Study with  
Temporary Distribution to Ocean Colony Golf Course, Regulated Under  
Regional Water Board Order No. 91-042**

Dear Mr. Foley:

This letter is to follow up on the recent exchange of information about the Sewer Authority Mid-Coastside's (SAM) Recycled Water Pilot Study and to clarify our understanding of this project. The purpose of the project is to evaluate the feasibility of larger scale recycled water production distribution and use in the SAM service area. The project is permitted under Water Board Order No. 91-042, *Water Reuse Requirements for Municipal Wastewater Treatment Producers in Region 2*. Our understanding of the project is summarized below.

Under this project, SAM will operate treatment processes to produce recycled water; Coastside County Water District (CCWD) will distribute recycled water by truck hauling from the SAM production facility to the Ocean Colony Golf Course (OCGC) reuse site; and OCGC will use the recycled water for irrigation by non-fixed irrigation system of a small area of the existing golf course, for a few months between now and the end of 2009.

The recycled water will be produced at the SAM Wastewater Treatment Plant through the use of temporary auxiliary treatment processes including an ultra filtration membrane module and ultraviolet disinfection. The recycled water produced will meet or exceed at all times the specifications and monitoring requirements for Disinfected Secondary-2.2 Recycled Water given in California Code of Regulations Title 22 Division 4 Chapter 3 *Water Recycling Criteria* (Title 22 WRC). This project will include sampling and analysis of the recycled water stream for Total Coliform, at least daily on each and every day that the recycled water is produced.

The recycled water will be distributed by CCWD by means of a 2,000 gallon capacity tanker truck dedicated to this project. Recycled water distribution will typically be in the amount of 2,000 gallons per day. CCWD will also provide a temporary storage tank of 4,500 gallons capacity to be located near the OCGC reuse site.

October 8, 2009

The recycled water will be applied to existing golf course grounds within an identified pilot study use area of about 8,000 square feet at the western ends of the 11<sup>th</sup> and 15<sup>th</sup> golf course fairways. The recycled water application will be done by spray irrigation using a hose connected directly to either the tanker truck or the storage tank, and will be conducted by OCGC personnel trained and knowledgeable of proper recycled water handling procedures.

The pilot project distribution and reuse of recycled water is anticipated to occur for up to several months during the remainder of the 2009 dry weather season, between now and the 2009-2010 wet weather season, and ending no later than the end of the 2009 calendar year.

This project is permitted under this Water Board's Order No. 91-042, *Water Reuse Requirements for Municipal Wastewater Treatment Producers in Region 2*. The project will be managed by SAM in accordance and compliance with: The applicable requirements of Order No. 91-042; Applicable specifications of the Title 22 WRC; SAM's September 2009 *Recycled Water Pilot Study Engineering Report*; and Comments provided by California Department of Public Health (CDPH) in response to technical review of that report, given in a September 30, 2009 letter from CDPH to the Water Board with subject line, "Engineering Report on the Recycled Water Pilot Study for Sewer Authority Mid-Coastside, System No. 4190005, Project 701".

We further understand that the project is ready to proceed. Given the above understandings of the project and its regulation, we have no objections to implementation of the project.

Please keep us informed of the progress outcomes and findings of this pilot study project.

If you have any questions about these matters, please contact me at:

Phone: (510) 622-2305; Fax: (510) 622-2460; or e-mail: [ballen@waterboards.ca.gov](mailto:ballen@waterboards.ca.gov).

Sincerely,



Blair Allen, P.E.  
Water Resources Control Engineer  
Watershed Management Division

cc via email:

Mr. Mike Williams, Construction Manager, Ocean Colony Partners LLC, 2450 Cabrillo Highway South, # 2000, Half Moon Bay, CA 94019 { [mwilliams@kenmark.com](mailto:mwilliams@kenmark.com) }

Mr. Eric Lacy, P. E., District Engineer, Santa Clara District, Drinking Water Field Operations Branch, California Department of Public Health, 850 Marin a Bay Parkway, Building P, 2<sup>nd</sup> Floor, Richmond, CA 94804 { [eric.lacy@cdph.ca.gov](mailto:eric.lacy@cdph.ca.gov) }

Mr. David Dickson, General Manager, Coastside County Water District, 766 Main Street, Half Moon Bay, CA 94019 { [DDickson@coastsidewater.org](mailto:DDickson@coastsidewater.org) }

Ms. Tanya Yurovsky, P. E., SRT Consultants, 792 Bay Street, San Francisco, CA 94109 { [tanya@srtconsultants.com](mailto:tanya@srtconsultants.com) }



State of California—Health and Human Services Agency  
California Department of Public Health



MARK B HORTON, MD, MSPH  
Director

ARNOLD SCHWARZENEGGER  
Governor

September 30, 2009

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Mr. Blair D. Allen  
Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

OCT 5 2009

SEWER AUTHORITY ID-COASTSIDE  
HALF MOON BAY, CA

Dear Mr. Allen:

**ENGINEERING REPORT ON THE RECYCLED WATER PILOT STUDY FOR SEWER  
AUTHORITY MID-COASTSIDE  
SYSTEM NO. 4190005, PROJECT 701**

The California Department of Public Health, Drinking Water Field Operations Branch (Department) has reviewed the submittal of an engineering report on the Recycled Water Pilot Study (Project) for Sewer Authority Mid-Coastside (SAM), dated September 2009. The Recycled Water Pilot Study (Project) consists of installing and operating temporary unit processes, membrane filtration and ultraviolet disinfection, for the purpose of verifying feasibility of complying with Water Recycling Criteria to provide recycled water for irrigation purposes in the Midcoast Region. The Department reviewed the submittal, consistent with Section 13523 of the California Water Code (CWC), other applicable sections, and applicable sections of Title 22 and Title 17 of the California Code of Regulations (CCR), and offers the following recommendations and comments:

Engineering Report

Title 22, Division 4, Chapter 3, Section 60323, California Code of Regulation requires the submission of an engineering report before recycled water projects are implemented. This report is to be prepared by a properly qualified engineer registered in California and experienced in the field of wastewater treatment. The report is to contain a description of the design of the proposed recycled water treatment system, clearly indicating the means for compliance with criteria and other features specified by the regulatory agency, and contain a contingency plan which will assure that no untreated or inadequately treated wastewater will be delivered to the use area.

The Department reviewed the engineering report and pilot study plan titled Recycled Water Pilot Study, dated September 2009. The engineering report indicates that SAM intends to product tertiary recycled water for delivery to and use on the Ocean Colony Golf Course (OCGC). The proposed recycled water use is irrigation of a small limited

area on the golf course. Based on the project's intended recycled water usage, the Department finds that the Engineering Report adequately addresses the pilot project's capability to produce disinfected secondary-2.2 recycled water by Sewer Authority Mid-Coastside.

#### Ultra Filtration Membrane Pilot Unit

The ultra filtration (UF) membrane module to be used for the pilot study is a DOW ultrafiltration membrane, a CDPH approved technology for recycled water applications. For the purposes of the pilot study, the ultra filtration membrane pilot unit is capable of producing recycled water which meets and exceeds the disinfected secondary-2.2 recycled water criteria. According to Section 3.4 Trans-membrane Pressure Testing of the pilot study plan and proposed SAM sampling plan, trans-membrane pressure testing will be conducted continuously to determine the integrity of the UF membranes. The Department highly supports the use of regular and frequent trans-membrane pressure testing as a diagnostic tool for ensuring adequate unit operations.

#### Contingency Plan

As outlined in the engineering report, a contingency plan was designed to prevent inadequately treated wastewater from being delivered to the User by diversion. Inadequately treated wastewater will be diverted to the SAM wastewater treatment plant primary clarifier for retreatment and all truck deliveries will be terminated until the pilot plant demonstrates meeting Title 22 water recycled water criteria. The Department finds the contingency plan and contingency plan criteria sufficient for the protection of public health.

#### Order No. 91-042, Water Reuse Requirements and Title 22 Water Recycling Criteria

Article 3 of Title 22 specifies recycled water criteria based on use. Based on the engineering report and pilot study plan, the proposal involves recycled water used for surface irrigation of a small limited area of the golf course. The golf course is located adjacent to residential areas. To maintain the highest level of public health protection, the Department recommends that the recycled water produced **shall be at least disinfected secondary-2.2 recycled water**, which concurs with the Section B.1.b Unrestricted Water Reuse of Order No. 91-042. To meet the definition of disinfected secondary-2.2 recycled water the recycle water produced must be oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 2.2 per 100 mL utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 23 per 100 mL **in more than one sample in any 30 day period**. Please note that the Title 22 definition differs from the water reuse requirements of Order No. 92-042.

#### Distribution and Use of Recycled Water

The engineering report and pilot study plan indicates that the distributor and user of recycled water will be conducted by Coastside County Water District (CCWD) and Ocean Colony Golf Course (OCGC), respectively. CCWD will utilize one dedicated 2,000-gallon truck for recycled water deliveries. Additionally, CCWD will also provide temporary storage of 4,500 gallons at OCGC. Irrigation areas at OCGC will be equipped with public warning signs to increase awareness and minimize contact by persons not

sufficiently trained to handle recycled water. Contact by the public is also limited by irrigating only in the morning prior to the golf course's access hours. All employees involved in the pilot project will receive training on worker and public protection practices. The Department finds these measures to adequately comply with Title 22 water recycling criteria.

Please be aware that Section 13554.2 of the CWC authorizes the Department to recover its costs for review of recycled water projects. Our invoice for reimbursement of services rendered will be submitted to Sewer Authority Mid-Coastside, the person or entity proposing the recycled water project, which means the producer or distributor of recycled water submitting a proposal to the Department. If you have any questions concerning this letter, please contact myself at (510) 620-3453.

Sincerely,



Eric Lacy, P.E.  
District Engineer  
Santa Clara District  
Drinking Water Field Operations Branch

cc: Ms. Tanya Yurovsky, P.E.  
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