



CMSA COMMISSIONERS

John Dupar
President (SD2)

Kathy Hartzell
Vice Chair (Larkspur)

Albert Boro
Secretary (SRSD)

Maribeth Bushey
Commissioner (SRSD)

Frank Egger
Commissioner (SD1)

Patrick Guasco
Commissioner (SD1)

INSIDE:

OPERATIONS & MAINTENANCE

AGENCY PROJECTS

ENVIRONMENTAL SERVICES

FINANCE NEWS

A NACWA Platinum 8 Peak Performance Agency

1301 Andersen Drive
San Rafael, CA 94901
Phone 415.459.1455
Fax 415.459.3971
www.cmsa.us

Jason R. Dow, P.E.
General Manager



FOG/FOOD-TO-ENERGY PROGRAM OFF AND RUNNING

The Fats, Oils, and Grease (FOG) and Food-to-Energy (F2E) programs are a success, with the Agency receiving 10-15,000 gallons of FOG and about four tons of food waste per day for processing, then enhanced energy generation. Since the beginning of the year, biogas production and energy generation has nearly doubled, with the co-generation system running on biogas for approximately fifteen hours per day.



Delivery of the first ceremonial load during the dedication event on March 18th.

The Agency's F2E partner, Marin Sanitary Service (MSS), has enrolled over 40 restaurant and markets in the food collection program, and has plans to expand it over the next two years. In the near future, the restaurants at Northgate in Terra Linda and Montecito in San Rafael will be joining the program, and MSS will be assisting Mill Valley Refuse with development of a F2E program for its service area.

INCREASED USES FOR RECYCLED WATER ON THE HORIZON

With this successful program in place, CMSA has initiated discussions with PG&E on modifying the electrical system interconnection agreement. When completed in about a year, CMSA will then be in a position to deliver energy to the PG&E electricity grid—and sold to PG&E, Marin Clean Energy, or directly to an end-user through a power purchase agreement.

Given the current statewide drought conditions, CMSA and the Marin Municipal Water District (MMWD) are working together to identify feasible and economically viable local uses for CMSA's recycled water. About 10% of CMSA's treated wastewater is recycled for internal uses, such as landscape irrigation, engine cooling, and equipment wash down, leaving a lot for potential off-site uses.



CMSA's recycled water delivery facility.

This spring, CMSA and MMWD will select a consultant to perform a Recycled Water Feasibility Study that will be funded by both agencies, and hopefully with matching funds from the State Water Resources Control Board. The Study will identify potential users of recycled water near CMSA, the infrastructure and water delivery systems needed, and the costs. The study is due by the end of 2014, and initial possible users include San Quentin State Prison, Marin Sanitary Service, Golden Gate Bridge District's ferry terminal and bus maintenance facility, and Marin Country Mart.

CMSA recently built an on-site recycled water delivery system to fill trucks and tanks with recycled water for sewer flushing, street cleaning, dust control, and limited irrigation uses. Prior to delivering the water, it has to be certified by the California Department of Public Health, and MMWD has started that certification process.

OPERATIONS & MAINTENANCE

OLD PUMP SYSTEM UPGRADED TO ENERGY EFFICIENT MODEL

One of the three centrifuge feed pumps that was at the end of its life cycle was converted from a hydrostatic drive system to a variable frequency drive (VFD) system. The two remaining pumps will be converted this year. VFDs are much more energy efficient than the original 28-year old units. All work was completed by staff, and the new system is working well.



New feed pump controls.

DECHLORINATION TRIAL TO RESUME



Temporary diffuser removal.

Last winter staff fabricated and installed a pilot Sodium Bisulfite (SBS) dosing diffuser in front of the outfall sluice gate to demonstrate that by dechlorinating as close to the outfall as possible, instantaneous dechlorination through improved mixing could be achieved, thus reducing the amount of SBS needed. Results showed that the pilot diffuser was dechlorinating with a much lower dosing rate, saving about 4,000 gallons of SBS monthly. The pilot diffuser was removed for the wet weather season, and will be reinstalled later this spring to verify the initial results. The next step will be to design a permanent diffuser for year-round use.

PRIMARY CLARIFIER CHANNEL GATES TO BE REPLACED

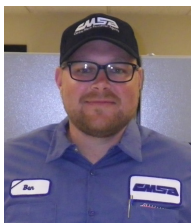
Maintenance staff successfully installed two primary clarifier influent channel gates in the late fall of 2013 and plans are to install four additional gates in late spring or early summer. During the upcoming fiscal year, the remaining ten channel isolation gates will also be replaced.



New influent channel gate.

TRAINING FOR THE NEWBIES

The Agency has always welcomed up-and-coming wastewater professionals interested in gaining the skills and knowledge necessary to succeed in the industry. In 2009, the Agency teamed up with the Santa Rosa Junior College's (SRJC) School of Environmental Technology, where students can apply for 3- or 4-unit programs to gain 180 hours of work experience. Interns meet with staff to develop a training and project plan, and usually spend one day per week rotating between Operations, Maintenance, and Environmental Services departments to gain a broad range of experience. Agency Intern Noel Rafalo has passed the Grade I Wastewater Operator Exam in April and will receive an Associates of Science degree in June.



Intern Noel Rafalo.

Congratulations, Noel!

AGENCY PROJECTS



Digester membrane covers and FOG/F2E facility.

MAJOR 3-YEAR PROJECT SUCCESSFULLY COMPLETED

Construction for the Digester Improvements and Fats, Oils, and Grease (FOG)/Food-to-Energy (F2E) Program project began in April 2011 and was completed on April 7, 2014. Its scope of work included installation of digester membrane covers, a digester pump mixing system, a biogas purification system, and a FOG/F2E facility. The total estimated project cost for design, environmental documentation, construction, construction management, and other miscellaneous expenses is \$7.75 million. CMSA is currently operating the new facilities and they are performing as designed.

COGENERATION COOLING SYSTEM UPGRADED

This project included several improvements to the cogeneration engine cooling system, such as replacing an undersized coolant expansion tank with a larger more accessible tank, installation of automated valves to remove trapped air from the pipelines, and installation of a coolant injection system. These improvements were needed to resolve coolant system operational issues that staff has discovered since the current cogeneration system was installed in 2005. The project began in February 2014 and was successfully completed on April 25, 2014 for a total construction cost of \$67,750.



New installed tank.

STORAGE POND TO BE CLEARED AND REGRADED



Effluent Storage Pond existing condition.

The Effluent Storage Pond is used for temporary storage of disinfected wastewater during outfall and plant maintenance. Over time, the pond bottom

has settled unevenly resulting in poor drainage. Nute Engineering was hired to survey the pond bottom and develop plans to improve drainage. Construction bids were received in February for a contractor to remove vegetation, import and compact dirt fill, and re-grade. Construction was completed in May for \$78,400.

AND INITIATIVES

ENERGY EFFICIENT BLOWERS INSTALLED

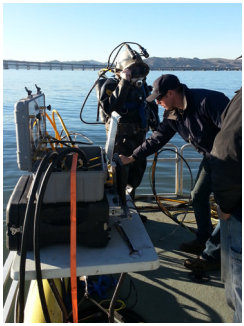
The activated sludge biological treatment process uses compressed air, supplied by blowers, as the oxygen source for the processes' microorganisms. CMSA replaced two original multistage centrifugal blowers with new, high speed turbo blowers in fall 2013. During extended testing and start-up, staff learned that the blowers could not operate through the entire range of the biological treatment system's demands. Staff, the design engineer, and the blower manufacturer attempted several control system programming modifications without success. It was later discovered that the existing air flow meters were inaccurately reporting air flows, and this data was used to size the blowers. Using corrected air flow data, replacement blower cores were installed in early April 2014 and have since been operating successfully. The turbo blowers have shown a measurable reduction in energy usage at similar flow rates compared to the old blowers.



Old blowers on left remain as backup.

OUTFALL PIPELINE SURVEYED AND REPAIRED

The 84-inch diameter outfall pipeline extends approximately 8,000 feet into central San Francisco Bay. Its last 1,000 feet has 176 equally spaced diffuser ports fitted with duckbill check valves to induce mixing between the treated wastewater and the Bay water. In December 2013 a commercial diver performed a survey, inspected the diffuser risers, replaced three diffuser assemblies, and measured and sampled the accumulated solids inside the outfall. As Bay floor mud had covered a number of diffusers, another survey this summer will see if a project is necessary to raise the diffusers.



Diver prepares to enter the Bay water for inspection.

ENERGY EFFICIENCY AND GHG COMMITTEE CREATED

CMSA recently formed a Greenhouse Gas/Energy Efficiency (GHG/EE) Committee including staff from the Operations, Maintenance and Engineering departments to identify energy efficiency and greenhouse gas reduction measures that could be incorporated into future projects, and used in process control decisions. The Committee recently reviewed a CMSA energy audit report performed by San Francisco State University's Industrial Assessment Center (IAC), and submitted comments for the IAC to consider incorporating into the final report. The Committee's upcoming activities include preparing a GHG/EE tracking report for past and future initiatives and projects, collecting historical information to populate the tracking report, and gathering rebate program information that could be used to help fund future projects.



ENVIRONMENTAL SERVICES

LABORATORY TESTING

The CMSA lab testing was in compliance with NPDES permit requirements, with 100% survival in all of our recent bioassays. No priority pollutant organic compounds were detected in our annual comprehensive testing.

CWEA STATEWIDE AWARDS

At the CWEA Annual Conference on May 2, Robert Cole, CMSA's Environmental Services Manager, received the State CWEA Public Education Person of the Year award for 2013, and Abel Villarreal, Mechanical Technician III, received third place for the Mechanical Technician of the Year. Congratulations to Rob and Abel!



Rob Cole and Abel Villarreal

PUBLIC OUTREACH ACTIVITIES

The Wastewater Treatment Agencies of Marin County have staffed booths at the North Bay Watershed Association's Biannual Conference on April 11, Earth Day Marin on April 6, San Rafael Farmer's Market on April 24, and the Mill Valley Community Center the week of April 20. The environmental quiz was given to 571 people.

The elementary school outreach program, *Where Does It Go?*, juggler show was performed at 11 elementary schools in Marin County so far this year, reaching over 3,300 students.

CMSA Environmental Services staff gave a total of 13 treatment plant tours to students from Redwood High School, Marin Waldorf School, Sir Francis Drake High School, and Marin Academy.

LAGOON AND CANAL TESTING

Water testing has begun for the lagoons in Corte Madera to make sure they are safe for recreational purposes, and to assist the Town in maintaining water quality over the warm weather months when the public enjoys a variety of activities in the lagoons.

FOG ORDINANCE CHANGES AND METRICS

CMSA's Board recently adopted the revised Fats, Oils, and Grease (FOG) Ordinance to replace the Agency's 2006 and 2007 FOG Ordinances. Notable revisions include:

- Updated references for the CMSA Sewer Use Ordinance and Uniform Plumbing Code.
- Removal of the \$100,000 Grease Removal Device (GRD) installation trigger event for a kitchen remodel building permit, and changing of all remodel references to kitchen remodel.
- Change of ownership triggers an existing food service establishment to install a GRD.
- Larger self-cleaning grease traps are allowed up to 50 gallons per minute, with discretionary language.

The FOG program has been very successful overall with good participation from restaurants and markets in the CMSA service area.

ADMINISTRATION

ROLL FILM...AND....ACTION!

In January, Indigo Films, with offices in Culver City and San Rafael, asked for permission to use the Agency property for a shooting location. The film company is one of the leading non-fiction production companies in the country, and found our location to be a perfect background to simulate a prison environment.



Over the period of two days, dodging rain drops and make-believe bullets, the crew was able to film segments for one of their programs, "I (Almost) Got Away With It," a crime drama series dealing with murders, drug dealers, bank robbers, and jail escapees. The goal of the series is to drive home the same message: *stay out of prison.*

The episode is scheduled to air this spring on Investigation Discovery channel.



Filming areas included the area below the Chlorine Contact Tanks—which worked well as the prison yard, and the Blower Room, which simulated a guard tower.

Operations staff supervised their activities, as actors walked around menacingly and the film crew scurried about.

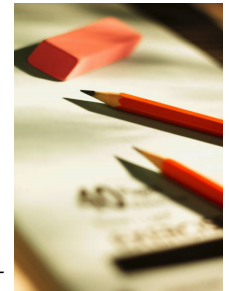
FINANCE RECEIVES BUDGET AWARD



The Government Finance Officers Association of the United States and Canada (GFOA) presented a Distinguished Budget Presentation Award to CMSA for its annual budget for the fiscal year beginning July 1, 2013. In order to receive this award, a government unit must publish a budget document that meets program criteria as a policy document, as an operations guide, as a financial plan, and as a communications device.

EVALUATION IN PROCESS

One of the goals of the Agency's Strategic Business Plan is to attract and retain high quality employees by providing a motivating and professional work environment. To this end, CMSA has initiated a project to improve the Agency's Employee Performance Evaluation process.



The first step was to find and hire an expert consultant. The Agency chose CPS HR Consulting, who has significant experience in this field, to guide CMSA in the performance management improvement process. Since March, CPS has been working with the internal Performance Management Team, made up of eight staff members representing a cross section of departments. The Team developed an online questionnaire for all employees. After the survey results were compiled, CPS held focus group meetings to solicit ways that the Agency can improve its evaluation process.

The Agency sees this as a unique and timely opportunity to receive employee feedback that will confirm what the Agency is doing well, and identify where improvements are needed.

FUN, HEALTH, AND ENVIRONMENT

CMSA's website has been updated section by section over the last year, and is nearly completed. The next sections to watch for are the *Fun and Learning* section and the *Health and Environment* section, both of which are getting a layout and text update.

