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## MONTHLY NEWSLETTER

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July 2005

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### GENERAL

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#### Wet Weather Improvement Program

The Agency's Capacity Management Alternative Study has been completed with Carollo Engineers submitting the final report and final executive summary documents. We have distributed these internally to staff, and provided the executive summary to our member agencies. The study was completed on schedule and at about 5% under budget.

The team of Carollo, Larry Walker, and CMSA staff recommended at the June Board meeting to expand the plant to 125 MGD at a protection level for a 5-year design flow event, and to obtain a pre-design proposal from Carollo. The Board agreed with the recommendations.

The draft pre-design proposal contains 16 individual assessments. These include a facility survey, geotechnical investigation, outfall pressure analysis, new facility layouts, and structural, electrical, and instrumentation evaluations. Our internal team has reviewed the proposal and sent comments to Carollo.

The final pre-design proposal will be presented to the Board at their August meeting. If approved, the next steps include CEQA documentation and financial

planning, both of which will probably commence in early 2006.

#### LGVSD Lateral Replacement Program

Infiltration and Inflow (I/I) from privately owned laterals is the major contributor to the wet weather flows experienced at CMSA, other Marin County treatment facilities, and at most POTWs throughout the Nation. Studies conducted by National and State industry organizations, such as CASA and WEF, have found that up to 50% of I/I can be from laterals. Typically, the miles of private lateral pipeline is double or triple the miles of mains that are owned by the public entity.

Several organizations in the State have adopted ordinances that require homeowners to properly maintain their laterals and have them inspected and rehabilitated when certain criteria are triggered within the ordinance. These programs have been successfully implemented at the Cities of Albany and Burlingame, and at the Truckee Sanitary District.

Our neighbor, the Las Gallinas Valley Sanitary District has developed a draft ordinance to address their excessive I/I, which is modeled after the Truckee ordinance. Their wet weather flows increase from 2.3 MGD to 20 MGD during peak rain events. The ordinance establishes a process where the laterals are inspected by a private company, the District staff review the

inspection report (video or air/hydro test) to determine lateral compliance or deficiency, and if deficient, the homeowner makes the necessary repairs. Two of the ordinance triggers are at the sale of the home or when a remodel exceeds \$50,000. For the home sale trigger, the repair must be completed before the close of escrow under most circumstances.

LGVSD has met significant opposition from the Marin Association of Realtors. The association has sent flyers to the LGVSD constituents and placed full page advertisements in the Marin IJ that state reasons (some misleading) to oppose the ordinance. Our manager recently attended a LGVSD workshop on the matter that was also attended by about 60 homeowners and a dozen realtors, and spoke on the CMSA I/I induced flows and our understanding of the Water Boards perspective on I/I mitigation.

The workshop has two positive outcomes. First, it appeared that most understood the I/I problem, and second, that it needed to be fixed. The manner of fixing was debated as was who pays for it. Some alternate solutions were presented by the attendees that the LGVSD Board said they would consider.

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### CAPITAL/

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## ENGINEERING

### Vactor Station Design

Kennedy/Jenks (K/J) has completed the vactor survey of 18 mid and large POTWs in the Bay Area. The results were that several organizations do not accept vactor loads, a few allow vactors to discharge into a manhole upstream of the plant, and the majority have a concrete pad for vactors to discharge. The pad typically has containment walls and a rinsing system with the solids being transferred to a bin via hand shoveling or skiploader.

The survey also found that there isn't specialized equipment on the market to separate the various size solids contained in a vactor load. K/J recommended that we enlarge out existing concrete receiving station, add containment, improve the washdown system, and purchase a small loader (Bobcat) to transfer the solid material a nearby bin.

We presented the survey findings and K/J recommendation to our member agency managers at the July JPA manager meeting for their comments. The managers agreed with the K/J recommendation. The conceptual cost for the improvement is approximately \$400,000.

Our next step is to meet again with the stakeholder group and discuss the layout and details of the proposed improvements. Ideas from that meeting will be considered in the final design work, which should be wrapped up by December 2005.

### Cogeneration

The cogeneration engine has settled in to reliable operation on natural gas. The full load test was conducted on July 6, and demonstrated that the engine runs at full load – and beyond – on digester gas. That test also clarified what should be the last obstacle to full automatic digester gas operation.

All parties have agreed that the best solution is installation of a second digester gas regulator, and we have ordered the equipment. Once it's installed, Stewart & Stevenson, the engine vendor, will adjust the engine for full dual-fuel operation and tune it for emissions testing. Once the emission testing is done, Stewart & Stevenson's contract will be mostly complete, with only some relatively minor shakedown items remaining, and we expect to wrap up their contract soon.

The CMSA Maintenance crew is building their experience with the new engine, and we have completed two routine oil and spark plug changes so far; now that the engine is broken in, we are able to double the oil change interval (from 500 hours to 1,000 hours), and may be able to extend it further based on our oil monitoring program. Also, mechanics Mike Gardea and Lou Breuer recently spent a week in Wisconsin being trained at the Waukesha factory, so we have resident experts on hand for the more complex periodic maintenance tasks.

### Coatings

The bids for the Secondary Clarifier No. 2 and miscellaneous metal coating contract were opened on July 7. F.D. Thomas, Inc., of

Central Point, Oregon and Sacramento, was the low bidder at \$157,260. The Board accepted our recommendation to award the bid to F.D. Thomas at its July 12 meeting. On July 27, CMSA staff conducted the pre-job walkthrough with F.D. Thomas. The job should start soon.

The scope of the project includes blast cleaning and re-coating the metal equipment in Secondary Clarifier No. 2 and the insides of the dewatered sludge hoppers. As mentioned last month, the waterproof membrane coating on the concrete deck by the secondary clarifiers is worn out and needs replacement. The manufacturer's representative for the waterproof membrane attended the July 27 walkthrough with the intention of helping the team develop a deck coating project that will fit in this year's coating budget. We will present a contract change order for the deck coating to the Board at its August 9th meeting.

The coating projects should start in early August, with the secondary clarifier being returned to service by September 30.

### Polymer Equipment Upgrade

CMSA staff are reviewing the preliminary conceptual design documents from Kennedy/Jenks. The follow-up workshop was rescheduled from July 21 to early August because some early technical questions took longer to resolve than anticipated. Once we have evaluated the high-level designs and cost estimates, and identified the best design alternative, actual design will commence, with the design finalized in November or

December and put out to bid in early January.

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## OPERATIONS & MAINTENANCE

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### Plant Tour for the Board

The Board took a plant tour after their Meeting on July 12<sup>th</sup>. First we looked at our process control system, including the new front gate camera and control. Besides viewing process screens for aeration and disinfection on the SCADA, they also saw the Cogen system screen (producing ~650KW). We also pulled up the Corte Madera pump station overview and checked a couple individual station screens.

Rob Cole lead the Lab portion of the tour, explaining the equipment, multiple tests, quality control, and the recent very successful inspections and recertification by ELAP. We went through the Maintenance Shop to see the machine tools used to fabricate parts (for a 50% savings in cost) as well as the welding shop where repairs can be made or items fabricated (like the front roof beam brace). We also had a quick moyno pump lesson, comparing the worn out pump being disassembled to the rebuilt unit ready to go.

The tour then followed the flow through the plant with Jason Dow describing each process and explaining the equipment. The Board members had many questions and our "hour tour" took two! There were many positive comments about the plant, housekeeping, and landscaping. Your efforts and

teamwork make this possible, thank you.

### Roof Beam Repairs

The investigation and repair of the Administration Building roof beams is completed. The excavation of the rotted material was completed, new wood was placed, and the epoxy treatment was applied. After epoxy treatment, the beam ends were textured and painted to mimic their original appearance. As part of the work, a new "helper" brace was designed by our structural engineer to divert some of the load from the front entry beam, which was the most extensively damaged. The brace was fabricated by CMSA staff and installed by Barry Younkens, the restoration contractor.

### SPARE THE AIR DAYS

The Bay Area Air Quality Management District, BAAQMD, is the regulator that oversees air quality in the Bay Area. During the hot summer days, air quality can be exceeded for ozone. The BAAQMD started the Spare the Air program to educate people about air pollution, and to encourage them to change their behavior to prevent it. This year BAAQMD teamed up with the Metropolitan Transportation Commission, MTC, and between June 1 through October 14, participating transit agencies will offer free commutes between 4 AM and 9AM on Spare the Air Days. Learn more and see a list of participating transit agencies at [511.org](http://511.org)!

Tips to reduce pollutants:

- Drive less. Cars are the major source of air pollution in the Bay Area. Bundle your trips, take transit, walk or ride your bike.

- Refuel in the evening and never top off. Putting gas into your vehicle releases Volatile Organic Compounds (VOCs) into the air.

- Do your garden chores gasoline-free. On an hour-for-hour basis, a gasoline-powered lawn mower produces as much pollution as 40 new cars.

- Other tips to help reduce pollutants are listed on the [sparetheair.org](http://sparetheair.org) website.

Maintenance has put together a Spare the Air SOP with guidelines for staff to reduce pollutants at CMSA.

### BAMI - Bay Area Maintenance Infoshare

CMSA hosted the BACWA Maintenance Committee quarterly meeting on July 27<sup>th</sup>. Seven wastewater agencies attended the meeting that focused on the siloxane problem in digester gas combustion. We had a comprehensive presentation by Paul Tower of Applied Filter Technology, AFT, (the supplier of our biogas filtering system for the cogen).

Siloxanes are silica based compounds that are in most soaps, detergents and personal care products that find their way into wastewater stream and into digester gas. When exposed to high temperatures, the burned remains are silica sand. This can insulate a boiler like the silica tiles on the space shuttle or grind an engine or turbine to a halt (this happened to units in Napa, North San Mateo, and San Francisco). The new close tolerance low emission engines, like our Waukesha are highly susceptible to damage from siloxanes.

AFT is the leader in biogas filtering and the only company to back their systems with a 10 year warranty. They have 85 installations around the world (including ours). FSSD had to shutdown their new cogen engine after only 5000 hours, open up the combustion chambers to scrap off the silica and install a siloxane filter before going back into service.

The meeting ended with a tour of our cogen facility including the siloxane removal system with its refrigerated dryer and carbon graphite filter columns. Since siloxanes are not toxic they are unlikely to be regulated and with their many uses will be an increasing wastewater constituent from now on.

#### **OIT Recruitment**

The Operator in Training, OIT, recruitment closed on June 30<sup>th</sup>. Kathy Britton handled over 200 requests for applications and received almost 90 back. The Operations' Team of Al Fiore, Doug Miller, and Linda Bodwin reviewed the applications for the job announcement requirements: a California Drivers License and a High School diploma or equivalent. Then to further screen for a group to interview, they assessed five areas: work history, waste water experience, certifications, education and application completeness. The team, using their best judgement, rated this information and will interview ten candidates on August 2<sup>nd</sup>. We will then move forward to process a new hire by September.

#### **OPS Personnel and Training**

The shift bid was completed and the changes happened on July 16<sup>th</sup> and 17<sup>th</sup>. Then Operations had to review the bids and adjust choices to cover for the lead position vacated by Chris Finton.

This month's O&M staff training included: completion of the online Sexual Harassment training for Supervisors (required under AB 1825), and annual hearing tests for all staff.

CMSA now has a great summer helper, welcome aboard Chris Magnelli. Chris started July 5<sup>th</sup> and is helping both Maintenance and Operations.

#### **O&M Activities**

Summer is the time of the year for our annual PM'S for the Primary Clarifiers. Maintenance will go through each tank to check shoe wear, slack in the chain, loose chain pins, and lubrication of the idler sprockets. We have ordered new track for Primary Clarifier #1 and will be installing that in August.

We completed the 6 month PM'S for all three Centrifuges and everything checks out ok. After a long struggle the machines are now mechanically reliable, all three units have been available for over two months. Now, O&M are working together to optimize the operation.

There were several leaks in our irrigation system causing some browning of the lawns. Staff found bad connections, pipe cracks and bad sprinkler heads. These were repaired and we shall get that green look back.

All the wet wells at Corte Madera Pump Stations were vacuored out.

This gets out the wet weather sand build up (to protect the pumps) and removes any scum build up that contributes to odors.

The new computer server for the plant information systems has been programmed and tested, the transition from the old server to the new is scheduled for the beginning of August. The new server was needed to support the upgraded accounting software.

As part our Strategic Business Plan (SBP) Goal #4, Operations is evaluating our primary sedimentation process efficiency. We are working out the bugs for our Advanced Primary Treatment study. This consists of chemical addition, ferric and polymer, to enhance settling. We will coordinate with Carollo Engineering so our data can be used in their analysis for the Wet Weather Improvement Project preliminary design. Testing will run about six weeks.

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## **ENVIRONMENTAL SERVICES**

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#### **NPDES Testing**

The NPDES testing we performed at CMSA for July was in compliance with our permit requirements, and we had 100% survival of the fish in our July bioassay.

#### **Public Outreach Events**

Our biggest public outreach event of the year is the Marin County Fair. This was our most successful year ever. We handed out 2500 environmental quizzes to both children and adults. The

purpose of the quiz is to educate the public about pollution prevention. We ask questions about protecting the sanitary sewers, the wastewater treatment plant, and the storm drains. To reward people who get all of the questions correct on the quiz we give out t-shirts, stuffed sharks, water bottles, and beach balls. Based on comments we have received in the past, we now have coloring books for the children that are too young to read. They are educational with an environmental theme to encourage pollution prevention at a young age.

Our logo t-shirts are becoming a collectors item with people attending the fair. Many people have our previous t-shirts and look for us each year to see if we have a new design and a new quiz. The comments we received were very positive from people taking the quiz and they voiced their appreciation for our efforts to reduce pollution and the release of toxic materials to the environment.

This year Novato Sanitary District assisted us and LGVSD by providing staff that worked at the booth. The information we get from the quizzes is used in our pollution prevention annual report to demonstrate to the Regional Board that we have a successful outreach program. They want to see a program that is reaching large groups of people and is increasing the number of people that are being educated every year. This year we were very successful reaching 600 more people than last year. This has motivated staff and will demonstrate the success of our

outreach efforts to the regulatory agencies which review our program.

#### **Green Business Certification**

On August 10<sup>th</sup> we will be recognized at the Marin County Board of Supervisors meeting as a certified Marin County Green Business. Green Businesses are certified for complying with environmental regulations and taking extra steps to conserve energy, water, reduce waste, and prevent pollution. We applied to the Marin County Community Development Agency's Marin Green Business Program and our application was accepted. We were inspected to verify compliance and to review possible areas for improvement or concerns. Our inspection went very well and only a few areas were noticed where we could utilize additional recycled materials for paper products we are currently using.

Our other efforts to reduce waste, reuse paper products, meet or exceed regulatory compliance requirements, conserve electricity, water, and our pollution prevention outreach program were recognized as attributes that demonstrate our environmental stewardship and would make us a responsible Green Business. We will receive a recognition certificate, a Green Business window decal, ongoing publicity as part of the Green Business Program's advertising and events, and the ability to use the green business logo. This is additional recognition of our efforts to demonstrate our community concern, good business practices, and environmental responsibility.

#### **Environmental Compliance**

During our recent inspections we discovered two business that have washing facilities with uncovered washpads that exceed the size allowed by our sewer use ordinance. There is a limitation on the size of an uncovered washpad that is used for vehicle washing in order to reduce the amount of water that we will receive during periods of rainfall. The limitation is for 300 square feet for new structures or 400 square feet for existing washpads.

San Rafael Touchless Carwash has been written two \$500 City of San Rafael Citations for discharging washwater to the storm drains. They installed berms to redirect the water and attempt to solve the problem. The car washing staff were washing cars outside of the bermed area and were warned that they would be receiving another citation if the process did not stop. In order to solve the problem they installed additional sanitary drains prior to the storm drains to prevent washwater from entering the storm drains. By installing the additional drains, the washpad is now larger than allowed by our ordinance. We met with the new owner to discuss the situation and the ordinance requirements. The owner agreed to adjust the bermed area and fill in some of the new drains to reduce the square footage.

Marin Airporter has a 4000 square foot wash pad. It has the capacity to hold at least six buses at a time for washing. We have given them a Notice of Violation requiring a compliance plan and a proposed schedule. They have three options in which to comply with the Notice of Violation. The

options are to no longer wash vehicles at that facility, to recycle all of their washwater so it does not drain to the sanitary sewer or stormdrains, or to cover the existing washpad, or reduce it in size to 400 square feet for an existing facility.

#### **LGVS D FOG Program**

LGVS D has provided their comments on the proposed Fats Oil, and Grease (FOG) Policy, cover letter, and implementation time schedule that was prepared by our environmental compliance staff. Staff incorporated those comments and after a final review we will begin mailing out the cover letter and Draft FOG Policy to the Food Service Establishments(FSEs) within the LGVS D service area. It will inform them of the upcoming workshop to discuss the requirements for Grease Removal Devices (GRD) to control the release of FOG to the sanitary sewer. It will include the implementation schedule which gives restaurants a total of 13 ½ months to implement all of the requirements outlined in the FOG Policy, including the opportunity to submit oral and written comments.

After the comment period and any changes, the Final FOG Policy will be mailed to the FSEs. They will be required to submit an application for a permit, and if they need to install GRDs they will have to submit a GRD compliance plan and then they will have up to six months to install the GRD that is specified in the plan. Starting in fiscal year 06/07 there will be a proposed annual permit fee of \$350. All major aspects of the FOG program have been completed,

now the challenges will involve implementation and the ability of the FSEs to comply with the requirements of the FOG Policy.

## **BUSINESS SERVICES**

#### **Internal Control Audit**

On July 18 & 19, representatives from our financial auditors, Vavrinik, Trine & Day, came onsite to perform an internal control audit. The audit consisted of reviewing our internal controls and requesting documentation in preparation of the financial audit, which is scheduled for the second week of October 2005.

The internal control audit consisted of several exercises. First, the auditors selected approximately 25 entries from our operating account check register and requested supporting documentation, primarily invoices, for those entries. Next, for two employees, the auditors compared the payroll register, a statement of employee payments and deductions, with information provided in their personnel file. The auditor then reconciled the stated salary and benefits documented in the personnel file, with what is documented in the payroll register.

The Agency Accountant and Business Services Manager also participated in a question and answer discussion with the auditors. The primary topic of discussion was fraud and fraud prevention - a likely result of the Enron accounting fiasco. The audit findings from both the internal control audit and financial audit will be presented to the Agency in November 2005 and the Board in December 2005.

#### **CMMS**

Phase Two of CMMS continues to move forward. The collection, collating, delineating and populating of preventive maintenance (PM) procedure data for plant, pump stations and odor control stations has been captured in the CMMS database. With the upgrade to the CMMS software to the current version 1.9, we now have the ability to 'consolidate' PM's in order to reduce the total number of work orders generated.

Staff is currently in the process of consolidating the PM's and we expect to roll-out the PM functionality for our Operations department in the beginning of August. Implementation of the PM functionality for our Maintenance department and SD #2 pump stations is expected to occur later in August. Staff is also developing and testing a process for capturing run-time data from our SCADA system and transferring the data to CMMS, to allow scheduling of PM's based on run time vs. fixed frequency.

#### **Strategic Asset Management Plan**

Phase One of the strategic asset management plan (SAMP) continues to move ahead. The scope of work for the first phase is to evaluate current asset management practices and capabilities, comparing these to industry best practices and developing a tangible strategic asset management plan that compliments the Agency's Strategic Business Plan.

Several Asset Management workshops and focus groups meetings were conducted in June in order to collect information on

existing asset management practices. The information collected was consolidated and documented into the Current Status Assessment Report. The report identifies the Agency's asset management readiness.

During the month of July, the Agency's Asset Management Team, working with the consulting firm of Brown & Caldwell, held two additional workshops. The objective of the first workshop was to draft the Agency's Asset Management vision, incorporating customer service, risk management and life cycle economy principles. The objective of the second workshop was to perform a gap analysis of existing asset management practices vs. industry best practices. Based on the gaps identified, the team then began drafting strategies for improving the Agency's AM practices.

Once the draft strategies are finalized, the Asset Management Team along with the consultants, will begin developing a strategic asset management implementation plan and roadmap.

#### **Asset/Contract Administrator**

Our current Asset/Contract (A/C) Manager, Steve Egbert, announce his resignation from CMSA effective July 28, 2005. Steve began his tenure at CMSA in 1994 as an operator and moved to his current position in 2003. Steve has decided to relocate to Florida to start a private business.

Our standard practice when a vacancy occurs is to evaluate the position's job function and determine if any changes are

needed to better align with the department's and/or organizational future needs. A recommendation was made to the Board and approved during the June 14, 2005 Commission meeting to modify the A/C Managers job description as well as renaming the job title to Asset/Contract Administrator.

With several CMSA staff members inquiring about the position, we decided to perform an internal recruitment. Two CMSA employees applied for the position, and on July 14, 2005, an oral panel interviewed the two candidates. Chris Finton, a lead operator, was identified as the most qualified candidate and subsequently accepted the position of Asset/Contract Administrator. The start date for his new position was July 26, 2005. He is currently in training mode.

#### **Polymer Supply Contract**

We are developing the new polymer supply contract to be advertised beginning in mid-August. We expect product testing to be completed by late September, and we hope to have a recommendation to the Board for its October 11 meeting. This will dovetail nicely with the polymer equipment upgrade project. One area of concern has been recent high rates of polymer price increases, coupled with shortages. One reason for this two-way bind is that the main raw material for dewatering polymer (propylene) is also used to manufacture consumer electronics, which are a much higher return sector that is growing explosively worldwide. Since it's difficult to forecast future costs in such murky conditions, we are incorporating price escalator clauses in our new contract. This approach has been used

successfully by other utilities, including East Bay MUD. It allows vendors to bid more realistically without having to try to account for "what if" scenarios, which in turn produces overall savings for the utilities. We expect a similarly successful outcome with our new contract language.

#### **Nitrate Salt Solution Contract**

The Board recently approved our recommendation to extend the nitrate salt solution contract with US Filter for three years with a one-time rate increase of 13.8%. The rationale staff presented to justify the recommendation instead of binding the contract was:

- Proposed unit pricing is competitive with current market conditions and is 26.8% below the average unit cost of the 15 calcium nitrate users surveyed.
- Locking the unit cost for three years will offer CMSA protection from further price increases driven by escalating fuel and energy costs, and the volatile market supply of raw materials.
- Limited market competition for nitrate salt solutions. Historically, only two vendors have offered competitive pricing for nitrate salt solution.
- USFilter is the only manufacturer/distributor of calcium nitrate solution and as a result, CMSA has only used USFilters calcium nitrate product since the nitrate stations were put in service in mid-1997. The competitor's product is a sodium nitrate solution. The sodium nitrate solution is not an equivalent.

- CMSA would incur an additional estimated cost of \$23,530 to switch to the competitors sodium nitrate product.