

THE HERON

Las Gallinas Valley Sanitary District

Summer 2017

Treatment Plant Upgrade Addresses Critical Issues

The District's Wastewater Treatment Facility—which is over 60 years old—has continually provided its growing customer base with effective wastewater treatment through a variety of processes. In 2013, the District started producing recycled water by further treating plant effluent to recycled water standards with its newly-constructed Recycled Water Facility.

Numerous upgrades and improvements to the facility have been implemented over the years. However, even with these improvements, the current treatment process cannot provide full secondary treatment when plant flows exceed 8 million gallons per day (MGD), which occurs regularly during large storm events. When that happens, the plant must “blend” fully treated and partially treated wastewater prior to disinfection and discharge.

The District is facing ongoing pressure from the Regional Water Quality

Control Board to eliminate the practice of blending, and must meet increasingly stringent requirements on the quality of the effluent discharged to Miller Creek. Further, it's clear that the existing secondary biological process equipment is at the end of its useful life. To address these issues, the District is embarking on a project to upgrade the secondary biological treatment process and expand the Recycled Water Plant.

When complete, the Secondary Biological Treatment and Recycled Water Plant Upgrade Project will deliver full secondary biological treatment capacity for flows of up to 18 MGD, provide short-term storage for flows of 18 to 25 MGD, and raise the elevation of the secondary biological treatment facilities to make the plant more resilient against flooding and the impacts of sea level rise.

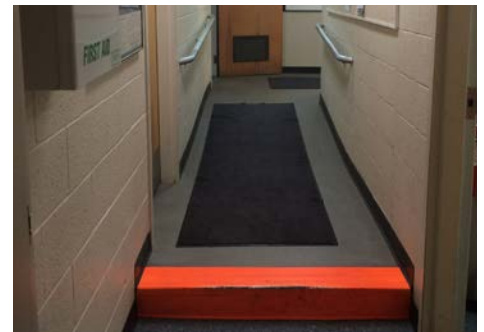
Turn to “Treatment Plant Upgrade” on page 4



LGVSD's secondary biological process equipment, including trickling filter shown above, are over 60 years old and at the end of their useful life.

Dilapidated Building Needs Urgent Revamping

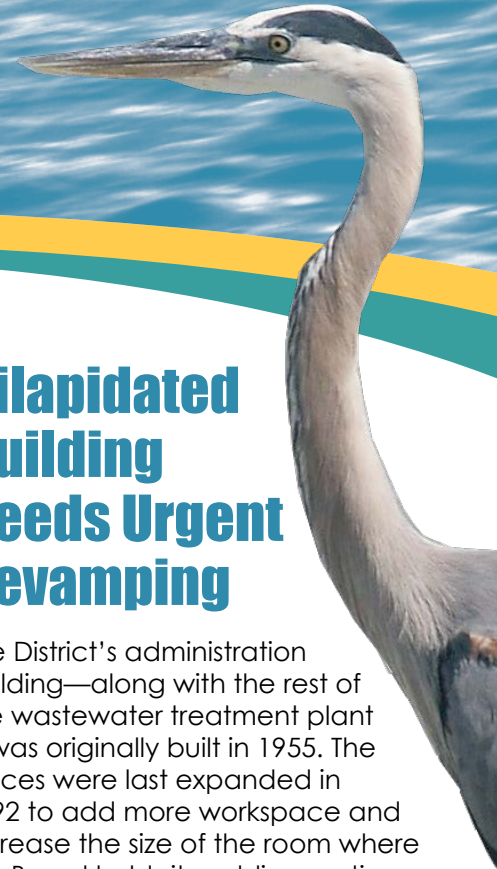
The District's administration building—along with the rest of the wastewater treatment plant—was originally built in 1955. The offices were last expanded in 1992 to add more workspace and increase the size of the room where the Board holds its public meetings. In the 25 years since then, it's become clear that the current office facilities are not only inadequate to accommodate the full complement of staff who work there, but also in great need of upgrade or rebuilding in order to be fully compliant with earthquake and other safety standards.



Orange tape is used to warn of danger of step in an effort to prevent falls.

Over the years many areas have been modified, but are simply not sufficient. Among the issues are an outdated and insufficient electrical supply; difficulty supporting new technology; unheated/unventilated office spaces; narrow hallways and other areas where potential for tripping and falling is high; weather related leaks; and other problems.

Turn to “Dilapidated Building” on page 4





Free Service: Bulky Item Removal

Plus, Curbside Clean-up Coming this Fall

LGVSD worked with Marin Sanitary Service to establish programs to help residents dispose of debris in an environmentally safe manner and eliminate illegal roadside dumping in the community by establishing regularly scheduled curbside clean-up **and** twice yearly on-call bulky item collection service for residential customers in its service district. These areas include San Rafael and unincorporated Las Gallinas.

To schedule a bulky item pickup (like mattresses, appliances and furniture), call the customer service department at 415-456-2601. Marin Sanitary Service will remove two bulky items at no charge, twice a year. Any item over 60 lbs or 6 feet will be subject to an extra fee to cover special equipment or an additional helper.

Curbside clean-ups will be available August through November. You can put out up to 14 extra bags of trash on your normal service day at no extra cost! The preset dates are determined by the town you live in and your billing cycle. Visit marinsanitaryservice.com/special-residential-services/ to find your scheduled date. If you miss your scheduled curbside collection date, you may be able to arrange a separate pickup.

Miller Creek Dredging Resumes

The Lower Miller Creek Channel Maintenance project is about to resume construction. The project began in September 2016, but was forced to stop due to unforeseen storm events in late October 2016.

Permits and approvals from state and local agencies have been obtained. The dredging is being done to protect existing operations and facilities from the progressive accumulation of sediment, which is reducing discharge efficiencies along Miller Creek and at LGVSD outfalls. We do not want this problem to worsen as existing and planned road construction and bridge modifications on adjacent properties are reducing overland flow areas and concentrating flows in the creek channel. In addition, sea level rise will gradually raise the base level of Miller Creek, which will decrease the capacity for creek and outfall discharge.

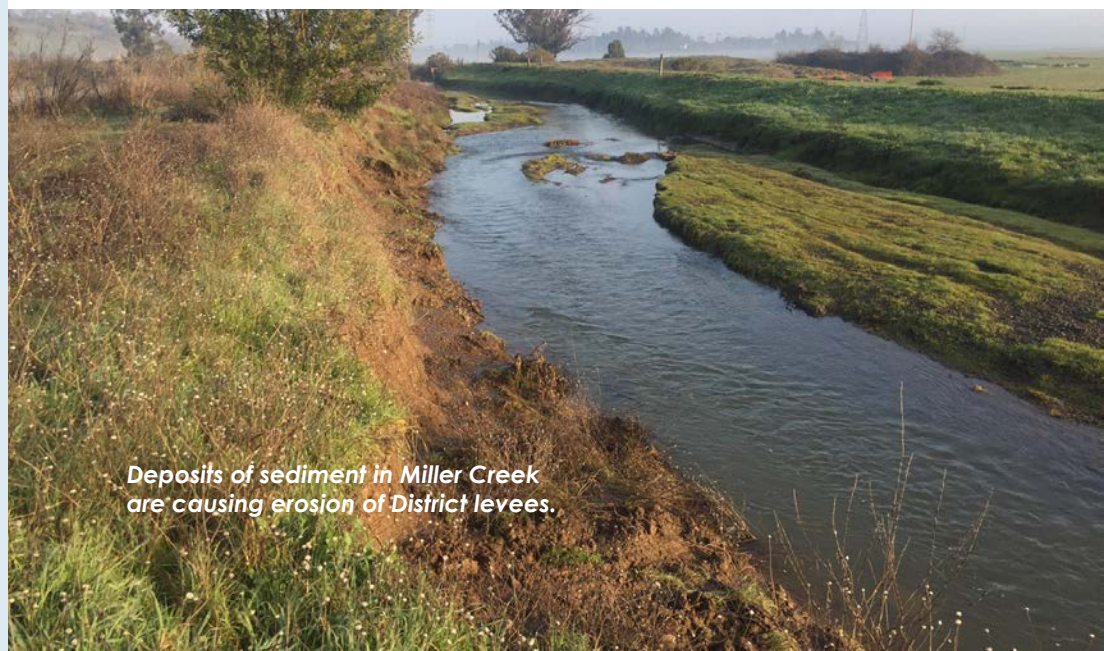
LGVSD recognizes that Miller Creek supports a population of federally listed Steelhead and adjacent wetland/marsh areas that potentially support other state and federally listed special status species. Therefore, project objectives include minimizing the extent and frequency of channel excavation/maintenance that may adversely impact habitats in the channel, while maximizing the extent and value of adjacent wetland. Approximately 2,655 feet

of Lower Miller Creek adjacent to the LGVSD Treatment Plant and upstream of Reclamation Bridge will be dredged.

Dredging will protect District facilities by removing the accumulation of sediment.

The construction period for in-water activities is limited to September 1 to October 31 per permitting requirements. Approximately 70% of the earthwork was completed prior to the shut down. The remaining 30% will be dredged this fall. Fencing and other improvements outside the water may happen through November. We anticipate the entire project to be completed by December 2017.

The District has applied for assistance funding from the California Governor's Office of Emergency Services (CalOES) for damages to public utilities suffered during the storm events which occurred in January 2017 (a federally declared disaster). LGVSD submitted a request for reimbursement totaling \$27,300 for the miscellaneous storm-related emergency repairs along Miller Creek and in the plant, including a request for funding of future projects directly related to the storm event totaling approximately \$675,000.



Deposits of sediment in Miller Creek are causing erosion of District levees.



LGVSD has installed the first of a series of treatment processes that can produce advanced purified water once regulations are in place. For now, the dual purpose water treatment plant produces tertiary recycled water.

All water is recycled. Don't judge water by its history but by its quality.

The impact of climate change and population growth will be one of the most critical issues facing our state. Discussions about how to achieve a sustainable water supply continue at the highest levels of California government and among water agencies. One of the key topics is the reuse of advanced purified water, also known as potable reuse. Recycled water and advanced purified water are part of a multi-faceted effort to diversify California's water supplies and increase long-term resilience.

It's important for our customers to be aware of the concept of potable reuse. This is done by directly or indirectly adding advanced purified water upstream of a drinking water treatment plant so that it receives the same standard of treatment as drinking water. Las Gallinas Valley Sanitary District continues to carefully monitor the progress of regulatory actions that ensure public health and safety in developing this new source of clean water. Advanced purified water worldwide is being used more frequently as an important part of water supply reliability.

The concept of implementing purified water as a drinking water source has already generated

rigorous, exacting guidelines and new regulations. Additional regulations are being considered to ensure that:

- appropriate technology is safely used
- there are redundant treatment steps
- appropriate monitoring systems are used to ensure water quality, and
- treatment system operators are fully trained

Potable reuse is the addition of advanced purified water, either indirectly or directly, into a drinking water system.

Regulations Being Developed

In late December, 2016, the State Water Resources Control Board released a report concluding that it is feasible to develop and adopt regulations for the use of purified recycled water in California. The report was delivered to the state Legislature, completing a key step toward fulfilling Governor Brown's goal of developing additional sustainable water resources to support the people who live and work in the state. Adoption of regulations related to the safe use of direct potable

reuse of recycled water will not take place until knowledge gaps are addressed and additional research is conducted related to its safe use.

There are over 40 potable reuse projects being considered by communities in California. In addition to offering a sustainable source of water, the use of advanced purified water is also good for the environment as it allows us to leave more fresh water in rivers, lakes, and streams for fish, plants, and wildlife, while reducing discharges to these water bodies and the ocean.



To help maintain the momentum toward a more sustainable and safe water supply, Assembly Member Bill Quirk (D-Hayward), Chair of the Assembly Environmental Safety and Toxic Materials Committee, recently introduced AB 574 (co-sponsored by California Coastkeeper Alliance and WaterReuse California), a bill which will see that potable reuse regulations are developed in a timely manner. Sean Bothwell, Policy Director for California Coastkeeper Alliance praised Assembly Member Quirk for his leadership in introducing this legislation, stating, "It is critical that California creates a pathway for potable reuse as a sustainable water supply. We are glad to see Chairman Quirk help ensure the regulatory framework for potable reuse is completed in a responsible manner that ensures the protection of public health."

Here at the District, we will continue to track such bills and discussions related to potable reuse, and continue to participate in similar conversations at the local and regional level, while improving and upgrading our technology and equipment to prepare for the future.



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“Dilapidated Building Needs Urgent Revamping” continued...

After exploring the options of either adding on to the existing structure, or building a new administrative facility, the District Board recognized that replacing the existing building was the best solution. They also reviewed the most cost-effective and innovative ways to build the new structure.

The design for the new Operations and Control Center has begun as part of the more broad treatment plant upgrade, which will address general safety concerns, operational issues, and sea level rise (see *Treatment Plant* article). The planned design for the Operations and Control Center will allow the majority of District staff to remain in the existing administrative building during construction, and provide for building into the hillside without having to construct a large retaining wall, thus generating significant cost savings.

The new Operations and Control Center will provide a more professional, safe, and productive work environment, where employees can most effectively carry out the important work of serving all District customers.

“Treatment Plant Upgrade” continued...

Major components of the Project include:

- Construct a 1.2 million gallon flow Equalization Basin (for temporary storage)
- Replace the secondary treatment process with a hybrid fixed-film activated sludge biological process, with 18 MGD capacity
- Build two new secondary clarifiers to accommodate the increased secondary treatment flow and provide redundancy for this critical process
- Replace the existing chlorination process with an ultraviolet disinfection process for improved effluent quality and reliability
- Rehabilitate and upgrade the existing solids gravity thickening process by adding dissolved air floatation thickeners, to improve solids processing efficiency and increase energy production from the anaerobic digesters
- Install an odor control system at targeted odor-producing locations in the treatment process
- Expand the Recycled Water Plant's treatment filtration capacity from 1.4 MGD to 5.4 MGD; this will be funded primarily by the Marin Municipal Water District (MMWD) which will then retire its recycled water plant, creating

much needed space for elements of the Project. This will reduce MMWD's capital, operations and maintenance costs for providing recycled water.

This upgrade is one of the largest projects in the District's history with a preliminary cost estimate of \$41 million. It is expected to start in late 2017 and be completed in 2020. Because of major space constraints at the treatment plant site, the project will be carried out in multiple phases, utilizing all the skills and resources of the plant operations staff as they continue operation of existing processes while transitioning to the operation of new facilities. It will be a challenge to maintain continuous operations of the treatment plant during demolition of existing and construction of new facilities—but our professional, dedicated staff is ready and excited to meet that challenge head-on.

The Secondary Biological Treatment and Recycled Water Plant Upgrade Project is designed to ensure that the District can continue to protect the environment and public health and meet new regulations.