



Where Does Your Money Go?

Mt. View Sanitary District (MVSD) was formed in 1923. Our core function is to protect public health and the environment by collecting wastewater in the sewer system, safely delivering it to the treatment plant and effectively treating and discharging compliant clean water. In order to perform this task the MVSD must spend money to maintain, renew, refurbish and extend the useful life of our facilities. Some of the pipes in our sewer system

date back to 1900. Engineers commonly use 50 years as the life expectancy of sewer pipes. Most of the MVSD's sewer pipes are older than that. Before this most recent rehabilitation effort, the last new construction in the treatment plant occurred before 1997. Additionally, we are facing an ever-increasing regulatory burden. The table below provides a summary of the MVSD's recent capital improvement expenditures.

Project	Description	Completion Date	Cost
Influent Pump Station (IPS) Rehabilitation	Replacement of two pumps with submersible pumps, associated valves and piping and coating of the wet well. Purchase of trailer mounted pump and addition of manhole for connection. New motor control center (MCC) and supervisory control and data acquisition (SCADA) upgrades. Project provides firm pumping capacity during a 10 year storm.	June 2016	\$ 1,693,000
Server Upgrade	Server upgrade	November 2014	\$ 71,000
Ferrous Chloride Tank Replacement	Replace corroded tank with double walled poly tank. Install new secondary containment, safety shower and eye wash station, new fill station with above ground supply and discharge lines and emergency spill drains.	July 2016	\$ 451,000
Wet Weather Connection	Installation of gate valve, check valve and construction of manhole	July 2017	\$ 189,000
Treatment Plant Manhole Repair	Repair corroded manhole	October 2016	\$ 9,000
Biosolids Alternatives & Codigestion Study	Evaluation of biosolids reuse and disposal options. Identification of feedstock opportunities, receiving facility needs and beneficial use of biogas.	March 2017	\$ 85,000
Primary & Secondary Digesters Rehabilitation	Clean, inspect, and recoat digesters. Replace mixing pump, boiler, flare and multiple valves.	June 2017	\$ 1,664,000
Electrical System Study	Load analysis, evaluation of existing electrical systems, recommend instrumentation updates. Plan and prioritize electrical upgrades with project estimates.	July 2017	\$ 94,000
Recycled Water Feasibility Study	Coordination with CCWD and Shell and investigation of the feasibility of providing recycled water for cooling towers.	July 2017	\$ 29,000
McNabney Marsh Management Plan & Improvement Projects	Develop marsh management plan, installation of level monitoring devices, investigation of aeration installation.	July 2017	\$ 203,000
IPS JIB Crane Installation & UV I-Beam Replacement	Install articulating arm JIB crane for IPS pump maintenance and replacement of corroded I-beams in the UV disinfection system.	September 2017	\$ 168,000
Biotower and Biofilter Rehabilitation	Replace distributor arms and center columns. Replace biofilter MCC and add biotower motor drive.	September 2018	\$ 2,113,000
Moorhen Marsh Improvements	Drain and dredge ponds and peyton slough, rehabilitate levies, protect wildlife during construction, add native plantings and habitat enhancements.	October 2018	\$ 3,900,000
Collection (Sewer) System Investigations	Electroscan, smoke testing, pipe TV video, hydraulic modeling.	On-going: July 2013-June 2018	\$ 450,000
Collection (Sewer) System Improvements	Manhole repair, pipe replacement, pipe lining, equipment repair and replacement.	On-going: July 2013-June 2018	\$ 1,276,000
Household Hazardous Waste Facility	Contribution for financing and operational support of the facility.	On-going: July 2013-June 2018	\$ 643,000
Total			\$ 13,138,000

Anaerobic Digestion

From time to time, we like to share information with our customers about how our primary mission of treating and disposing of wastewater is performed. Anaerobic digestion is a key component used in this regard. MVSD operates a primary and a secondary anaerobic digester. A digester is a large tank in which concentrated wastewater solid, also called sludge, is degraded by anaerobic bacteria. The anaerobic condition exists when free or dissolved oxygen is unavailable. The organic material is broken down by the bacteria into inert solids, water, carbon dioxide and methane gas.

The water is returned to the treatment process and further cleaned before discharge to the Moorhen Marsh constructed wetland. This treated water provides drought proof fresh water habitat for many plants and animals.

The methane gas is collected and used to fuel the boiler, which heats the sludge to maintain the digester temperature at approximately 105°F, the optimum temperature for the anaerobic bacteria to thrive.

The inert solids are called biosolids, which MVSD further dries with the use of a dewatering centrifuge and drying beds. Dry biosolids are currently being transported to a landfill for disposal as alternative daily cover (vector control for the landfill). This disposal option will become unavailable due to changing regulations and MVSD is investigating alternatives.

Recently, MVSD completed a digester maintenance and rehabilitation project that included replacing equipment that has exceeded its useful life. This



A view inside the empty Anaerobic Digester

project included cleaning and removal of grit and indigestible solid matter, which accumulated at the bottom of the digesters for approximately 20 years since the last cleaning. Removal of the solids returns the digesters to their full volume, maximizing their efficiency and generating more methane gas. The interior of the digesters were resurfaced and coated with a material to resist corrosion. The digesting sludge is corrosive to the digester interior concrete surface and over time causes pitting to the interior surface. Additionally, the 16 year old boiler was replaced along with the 47 year old flare. The gas digester domes, where methane gas collects, and multiple valves were also replaced.

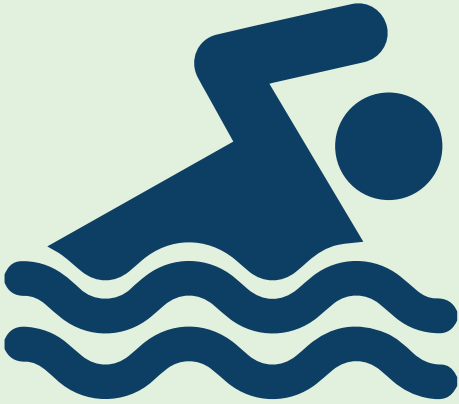
This three year digester rehabilitation project including all equipment replacement cost MVSD \$1.6 million.



Dispose of your Sharps Properly and Safely!

Medical sharps should never be flushed down the toilet or tossed in the garbage! You can properly dispose of used home medical sharps in the collection kiosk at the Administration Building of MVSD. Proof of residency in the District's service area is required. Sharps must be contained in a puncture proof receptacle. For more information, please call **(925) 228-5635** or visit www.mvsd.org.

Did You Know?



Water from pools, spas and fountains should never be drained into the storm drain. This can pollute creeks, the Delta, and the Bay with copper, chlorine, sediments and other contaminants. Storm drains flow directly into our local waterways without receiving treatment to remove pollutants. Pools, Spas and fountains should only be discharged into the sanitary sewer. However, even partially draining your spa could overflow your sewer line, causing a sewer back up onto your property. Before you discharge into your sewer line, please contact MVSD at **925-228-5635, ext. 10** for a no cost discharge permit.

Why Doesn't MVSD Offer Lifeline Rates?

Utilities such as phone service often are able to provide their low income customers with what is usually called a "Lifeline" rate. These are rates charged by a utility company for the low income, the disadvantaged and senior citizens. The rates provide a discount for minimum necessary utilities. These rates are generally lower than those paid by the majority of customers and are subsidized by other rate payers. However, not all utilities are able to offer this type of subsidized rate to low income or disadvantaged customers; this is true for MVSD. Under Proposition 218 we are prohibited from treating one user different than another. However, there is proposed legislation {Senate Constitutional Amendment 4 (SCA4)} moving forward that addresses that issue and would allow sanitary districts to provide something along those lines. This legislation is currently just proposed and will have to make its way through the legislative process and come before the public for a vote.

MVSD has been advised the state of California has a property tax deferment program that was recently reinstated. Now, qualifying senior citizens can apply for a deferment of all charges collected on the tax roll including the Sewer Service Charge at the County Assessor's office.

The State Controller's Property Tax Postponement Program returned in 2016 after being suspended by the Legislature in 2009. The program allows homeowners who are seniors, are blind, or have a disability to defer current-year property taxes on their principal residence if they meet certain criteria including 40 percent equity in their home and an annual household income of \$35,500 or less.

Applications for 2017-18 will be available in September 2017. If you feel you would qualify for this assistance, please call **(800) 952-5661** or email postponement@sco.ca.gov for more information about the State Controller's Property Tax Postponement Program.



Where Did all the Water Go?

Understanding Water Management in McNabney Marsh

For those who travel along I-680 in Martinez you may have noticed that water levels in McNabney Marsh were much lower this spring and summer than in recent years. There are three primary water sources for McNabney: 1) MVSD's treated effluent, 2) storm water/runoff, and 3) tidal water from the Carquinez Strait. Tidal action is controlled via a 5-gate structure on Peyton Slough which is operated by Eco Services. When the tide gates are open, water flows in and out of McNabney. When the tide gates are closed, water only flows out of the marsh.

To allow dewatering of Ponds C, D, and E in Moorhen Marsh earlier this year MVSD requested that the tide gates be closed to keep water levels down in Peyton Slough. With the heavy rain year the ponds weren't successfully dewatered until late April. Unfortunately, April, May and June represents

the height of nesting bird season for waterfowl and shorebirds. These species are protected under the Migratory Bird Treaty Act that prohibits "take" (killing or harming) of birds, chicks, eggs or nests. To keep ground nests in McNabney from flooding which would kill eggs and nestlings, the California Department of Fish & Wildlife (CDFW) Warden ordered the tide gates to remain closed until the end of nesting bird season.

Although McNabney and other marshes associated with Peyton Slough have seen a reduction of open water, more stressed vegetation, and an increase in dried mudflats, nesting birds in McNabney saw their most successful year since the tide gates were opened in 2009 with 69 active nests documented during MVSD's nesting bird surveys. The nesting season concluded in late July and the tide gates were opened to bi-directional flow on July 27.

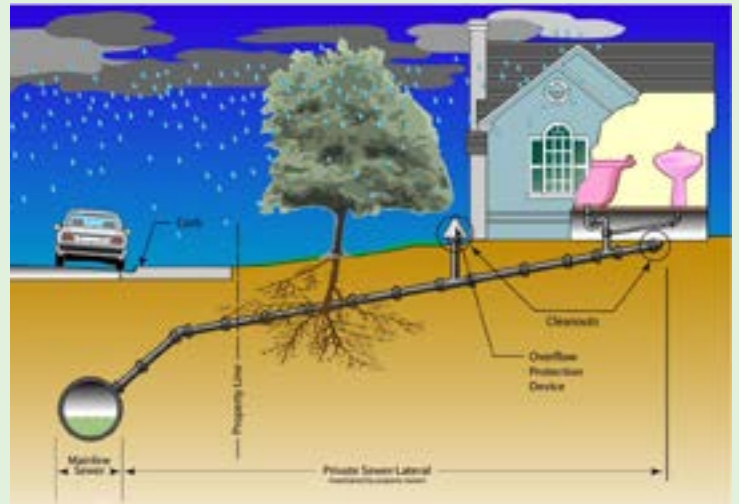
This photo shows what McNabney Marsh looked like in July.



Did You Know?

Sewer Lateral

Do you know where your private sewer lateral is? The private sewer lateral is the part of the sewer that runs from the house to the public sewer main under the street, alley, or in an easement alongside the house. The property owner also owns the sewer lateral and is responsible for its maintenance. It's a good idea to know where your sewer lateral is located. Don't plant trees or shrubs with deep roots near your sewer lateral, as the roots can damage the pipes. Leaky sewer laterals are a source of increased flows to the treatment plant during the rainy season and can cause the need to fund treatment plant capacity increases. Damaged laterals can also cost homeowners large plumbing



Do you know where your private sewer lateral is?

and repair bills. If you are planning to purchase a home, asking your realtor to include an inspection of the sewer lateral may save you from costly repairs post purchase.

The Moorhen Marsh Western Pond Turtle Habitat Enhancement Project Breaks Ground!

Phase A of the Moorhen Marsh Western Pond Turtle Habitat Enhancement Project (Project) broke ground on June 20th and the crew from Water Rock Construction is busy dewatering and excavating ponds. Construction will continue through October or November 2017 and will culminate in planting of native wetland and riparian plants through the construction area.

Phase B is currently planned to start in May 2018. During construction for both Phase A and B, Moorhen Marsh will be closed to all visitors. MVSD has created a new webpage to provide the public with frequent updates: <http://www.mvsd.org/wetlands/the-moorhen-marsh-western-pond-turtle-enhancement-project/>. If you

have any questions about the Project that the webpage does not answer, you can reach the MVSD Biologist at Kdavidson@mvsd.org.



Pond E undergoing vegetation removal.

Get to Know the Pygmy Blue Butterfly

Some folks say that this lovely lepidopteran is the smallest butterfly in the world. We aren't completely sure that is true but it is safe to say that this is the smallest butterfly in California and possibly in North America! The wingspan of the western pygmy blue (*Brephidium exilis*) is only about 13 mm or about 1/2 inch. The wings of this alluring creature are a shimmering copper, marked with dusky blue on the inside and edged in white.

Although it is relatively common in alkali habitats such as salt marshes, the species can be hard to find because of its diminutive size and flying habits. Look for this tiny flutterer along the plant access road near McNabney Marsh July through early October. The males fly low over favorite host plants like *Suaeda* or *Atriplex* where females lay eggs (and caterpillars feed) looking for receptive females. If you spot one you will likely find dozens or even hundreds within a few square meters of habitat!



This western pygmy blue alights on a sprig of dried pickleweed in McNabney Marsh. (Photo by Kelly Davidson)

Please Make Work Zone Safety a Priority

MVSD Operators spend a significant amount of time on local streets and roadways cleaning and maintaining sewer lines. While doing this, they put their safety in the hands of drivers and other users of the roadways. When you see the bright orange

cones blocking off part of the street please slow down, keep an eye out for workers, and be prepared to stop if necessary. MVSD appreciates drivers prioritizing safety in or near these designated work zones.



Our crews are often working in the local streets- please use caution when driving near active work zones!

Ecological Scent Detection Dog Visits Moorhen Marsh!

Earlier this summer, the MVSD Biologist invited a specially trained dog from H. T. Harvey Associates to visit Moorhen Marsh to practice detecting western pond turtle (WPT) nests in the wild. George is an ecological-scent detection dog who is part of the Harvey Dog program. Harvey Dogs are trained to detect specific species and give their handlers, who are experienced ecologists, a cue when the species is present. Using their superb noses, dogs can learn to detect a target species by smelling the live animal or particulates such as scat, nests, or feathers in an area of up to 30 acres in a day.

On June 5th, George and his trainer, Lauralea Oliver, visited Moorhen Marsh to conduct the final stages of his WPT nest scent detection training. As George investigated the marsh, he practiced finding WPT nests without disturbing the sensitive habitat. By supporting the development of more efficient and effective methods to detect the hard-to-find WPT nests, MVSD hopes to more accurately and efficiently identify nests for ongoing monitoring and management of this species of special concern. To see more photos of George training in Moorhen Marsh, visit the MVSD website at: www.mvsd.org.



Lauralea Oliver and George train in Moorhen Marsh on June 5, 2017. (Photo by Kelly Davidson)



George working along the Shell Martinez Refinery security fence in Moorhen Marsh looking for WPT nests. (Photo by Kelly Davidson)

Fall 2017 Weekend Programs:

COAST CLEANUP - INVASIVE PLANT REMOVAL IN MCNABNEY MARSH

Saturday, September 16
9:30 am - 11:30 am

Please join us on Coast Cleanup Day - September 16 - to remove invasive stinkwort (*Dittrichia graveolens*) from the edges of McNabney Marsh. Stinkwort was first reported in California (Santa Clara County) in 1984. It has now spread to 36 counties including Contra Costa. Stinkwort is not palatable, can be poisonous to livestock, and can cause contact dermatitis in people. It is found primarily along roadsides and other disturbed sites.

Unlike many annuals, stinkwort flowers and produces seeds from September to December - so this is a good time to remove it. If you are up for a little work, you can help us make a big difference in the spread of this invasive plant. Reservations and signed liability forms are REQUIRED. We will provide: latex gloves, plastic bags, water, and a pizza lunch at the end of the day. Participants bring: work gloves, a hat, and sunscreen and wear long pants and closed-toed shoes. A mat or knee pads are also recommended. For more info and to RSVP, contact Heidi Petty at: hpetty@ccrcd.org.

RAPTOR RAPTURE! MEET LIVE BIRDS OF PREY FROM NATIVE BIRDS CONNECTION

Saturday, September 30
10:00 am - 11:00 am

Eagles, hawks, falcons, owls, kites, osprey and harriers are all raptors! Their beaks are hooked, and they seize and kill their quarry using powerful feet and sharp talons. Join Jenny Papka and four of her raptor friends from Native Bird Connections (NBC). NBC strives to inspire

respect, reverence and responsibility for the natural world by respectfully caring for non-releasable birds and educating the public on the natural history and behavior of raptors in the San Francisco Bay Area and beyond. This is an all indoor program appropriate for families with children ages 5-years old and up. Reservations are required and space is limited. Contact Kelly at kdavidson@mvsd.org to sign up!

HOME COMPOSTING WORKSHOP

Saturday, October 21
10:00 am - Noon

Ever wonder what to do with lawn clippings, leaves, and kitchen scraps that you hate to throw in the garbage? Consider composting. Finished compost improves soil structure and adds nutrients to gardens and yards. And the best part of composting, is it puts to good use wastes that might otherwise end up in a landfill. Join us for this very popular and FREE two-hour workshop by contacting Contra Costa County at 925-674-7831. Space is limited, so register today!

WORM COMPOSTING WORKSHOP

Saturday, December 9
10:00 am - Noon

Earthworms can "recycle" your fruit and vegetable scraps into extremely rich compost called "worm casts." Using a specialized variety of worms and a simple "worm box" you can do your part to reduce waste and at the same time make compost. Whether you live in a house with a yard or live in an apartment, condominium or townhouse you can use a worm box to "recycle" your fruit and vegetable scraps. Join us for this very popular and FREE two-hour workshop by contacting Contra Costa County at 925-674-7831. Space is limited, so register today!



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