



Eastward view of secondary treatment tanks

San José-Santa Clara Regional Wastewater Facility

700 Los Esteros Road, San José, CA 95134



mgd = million gallons per day

Along the shore of the southern San Francisco Bay, the San José-Santa Clara Regional Wastewater Facility (RWF) stands as the largest tertiary-level treatment facility in the western U.S. Two key purposes:

- Protect the health, environment, and economy of the South Bay by cleaning wastewater to near-drinking water standards before discharging it into the Bay
- Source for South Bay Recycled Water (SBWR)

SERVICE & GOVERNANCE

Ownership & Cities Served

- 1956: City of San José built the original wastewater facility and continues to administer and operate the facility
- 1959: City of Santa Clara gained ~ 20% ownership stake by helping to fund upgrades
- Other cities in the South Bay contract directly or through sanitary districts for service. Collectively, RWF serves 1.4 million residents and 17,000 main business connections (one connection per building) across eight cities and unincorporated areas:
 - Cities of San José and Santa Clara (co-owners)
 - City of Milpitas
 - Cupertino Sanitary District (City of Cupertino, nearby unincorporated area)
 - West Valley Sanitation District (cities of Campbell, Los Gatos, Monte Sereno, and Saratoga)
 - County Sanitation District No. 2-3 (unincorporated area)
 - Burbank Sanitary District (unincorporated area)

Budget, Funding & Staffing

- Annual operations budget: ~ \$80 million annually
- Funded by rate revenue from contracting agencies, which in turn set rates that include their respective sanitary sewer system costs
- Employs ~ 200 staff

Capital Improvement Program

- To continue reliable service, the aging facility is being rebuilt under publicly-approved Plant Master Plan
- \$2 billion rebuild over 30 years is among Bay Area's largest infrastructure projects, similar to building the San José Mineta International Airport
- Construction projects are prioritized through rolling 5-year Capital Improvement Plan (CIP); learn more about the CIP at www.sjenvironment.org, Regional Wastewater Facility tab.

Regulated & Regulator

- Regional Water Quality Control Board strictly monitors RWF discharge and sets requirements in the facility's NPDES wastewater discharge permit
- Bay Area Air Quality Management District regulates RWF emissions
- RWF inspects and prescribes best management practices for all food service, automotive, metal finishing, photo processing, and manufacturing businesses in its service area
- RWF also monitors the quality of wastewater discharged from ~ 300 industrial businesses in its service area

Water Recycling

- RWF treats an average 110 mgd of wastewater, ~ 13% goes to adjacent South Bay Water Recycling (SBWR) pump station
- SBWR distributes annual average of 14 mgd to ~ 750 customers in San José, Santa Clara, and Milpitas
- Beginning March 2014, RWF supplied secondary wastewater to Silicon Valley Advanced Water Purification Center which in turn purifies the water with advanced technologies; this water blends with SBWR water to create a high quality recycled water for SBWR customers
- Learn more about SBWR at www.sjenvironment.org/sbwr

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Media Contact

Jennie Loft, Public Information Manager
jennie.loft@sanjoseca.gov
408-535-8554

OPERATIONS & TREATMENT PROCESS

Capacity

- Wastewater treatment daily capacity: 167 mgd
- Average daily treatment: 110 mgd

Operations Area

The 175-acre operations area, buffered by open lands, includes:

- *Tunnels* - About 4 miles of tunnels hold various valves, engines, and infrastructure
- *Headworks* - Entrance point of wastewater (influent) where heavy-duty rotating bars pull out large debris
- *Primary tanks* - Solid particles in wastewater settle in two large in-ground tanks; water becomes 50% clean
- *Secondary tanks* - From primary tanks, wastewater enters biological tanks that are pumped with air to assist naturally-occurring bacteria that “eat” solids
- *Clarifiers* - Secondary wastewater is slowed in a set of 1-million gallon clarifier tanks to allow another round of settling; wastewater becomes 95% clean
- *Tertiary filtration* - Clarified wastewater is filtered and chlorinated, becoming 99% clean; the chlorine is neutralized before water is discharged to prevent harm to aquatic life
- *Solids* - Sludge collected during treatment process is pumped to 11 anaerobic 1-million gallon digester tanks. Methane is produced in these tanks, and captured to help meet ~ 35% of RWF energy needs. After ~ 30 days, the sludge is transferred to open lagoons to dry and become biosolids.
- *Biosolids* - An average 45,000 tons of biosolids are produced annually; used as Alternative Daily Cover for landfills, helping reduce vermin and wind-blown litter
- *Artesian Slough* - This discharge channel empties into the wetlands of the 30,000-acre Don Edwards-San Francisco Bay National Wildlife Refuge along the southern Bay
- *RWF Laboratory* - Award-winning lab:
 - 12,000 square-foot laboratory
 - Employs ~20 technicians, chemists, and microbiologists
 - Conducts ~5,000 tests monthly to ensure proper treatment and compliance for both RWF and for industrial dischargers

Northward view of Regional Wastewater Facility with sludge lagoons to right and community of Alviso to left



effluent channel



wastewater operator

Lands & Habitat

- RWF owns 2,600 acres of open bufferland, lagoons, sludge ponds, and saltwater ponds along the southern Bay
- Adjacent to Don Edwards San Francisco Bay Wildlife Refuge
- Manages 180 acres as western burrowing owl habitat

Wastewater Pollution Prevention

- Wastewater is water used indoors that flows through drains and into the sanitary sewer system.
- Preventing pollution of wastewater is critical to the efficiency of the wastewater treatment process and to the health of the Bay; pollution prevention outreach is required by NPDES wastewater discharge permit
- Only the “three Ps” should go down a toilet: pee, poop, and toilet paper. Medicines, baby wipes, cigarettes, and other items should never be flushed.
- Fats, oil, and grease can clog pipes and cause sewer overflows, and should never go down a sink. Oil should go “from the pan to the can” and be disposed of in the trash.

RWF Awards & Recognition

- 2013 National Association of Clean Water Agencies Gold Peak Performance Award, the 12th such award for 100 percent compliance with permit requirements
- 2010 Green California Leadership Award for energy innovations
- 2009 U.S. EPA recognition for being in nation’s top 10 entities that produce and use alternative energy on site
- 2000 National Plant of the Year, awarded by U.S. EPA for operational excellence