



# Protecting our health, the Bay, and the economy

Along the shore of the southern San Francisco Bay, the San José-Santa Clara Regional Wastewater Facility (RWF) stands as the second largest advanced wastewater treatment plants on the West Coast. Its two key purposes are to protect the health, environment, and economy of the South Bay by cleaning wastewater to near-drinking water standards before discharging it into the Bay and to be a source for South Bay Recycled Water (SBWR).

## SERVICE & GOVERNANCE

### Ownership and 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, the RWF serves 1.5 million residents and 17,000 main business connections 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 Nos. 2-3 (unincorporated area)
  - Burbank Sanitary District (unincorporated area)

### Budget, Funding & Staffing

- Annual operations budget: ~\$40 million
- Funded by rate revenue from contracting agencies, which in turn set rates that include their respective sanitary sewer system costs.
- Employs ~300 staff

### Capital Improvement Program

To continue reliable service, the aging facility is being rebuilt under the publicly approved Plant Master Plan.

- The \$2 billion rebuild over 30 years is among Bay Area's largest infrastructure projects, similar to building the San José Mineta International Airport.
- In 2020, the \$115 million Cogeneration Facility was completed, upgrading the RWF's energy and heat

production to be more self-sufficient. Using a combination of biogas, which occurs naturally during wastewater treatment, and natural gas, four new engine generators will produce up to 14 megawatts of electricity to help power the RWF.

- In 2023, construction on the new Headworks system was completed, offering more thorough and reliable wastewater pretreatment to protect downstream treatment processes.
- Completion of the \$177 million Digested Sludge Dewatering Facility project will free up 750 acres by transitioning open-air drying beds to an enclosed dewatering process.
- Construction projects are prioritized through a rolling 5-year Capital Improvement Plan (CIP); learn more about the CIP at [sjenvironment.org](http://sjenvironment.org).



### Regulated & Regulator

- Regional Water Quality Control Board strictly monitors RWF discharge and sets requirements in the facility's National Pollutant Discharge Elimination System (NPDES) wastewater discharge permit.
- Bay Area Air Quality Management District regulates the RWF emissions.
- The City of San José Environmental Services Department inspects and prescribes best management practices for all food service, automotive, metal finishing, photo processing, and manufacturing businesses, as well as monitors the quality of wastewater discharged from ~ 300 industrial businesses in its service area.

### Water Recycling

- RWF treats an average of 110 mgd of wastewater, ~20% goes to adjacent South Bay Water Recycling (SBWR) pump station.
- SBWR distributes annual average of 14 mgd to over 600 customers in San José, Santa Clara, and Milpitas.
- Starting in March 2014, the RWF supplied secondary wastewater to Silicon Valley Advanced Water Purification

Center who, in turn, purifies the water with advanced technologies; blending with SBWR water to create high-quality, recycled water for SBWR customers.

- Learn more about SBWR at [sjenvironment.org/sbwr](http://sjenvironment.org/sbwr).

## OPERATIONS & TREATMENT PROCESS

### Capacity

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

### Operations Area

The 175-acre operating 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, then 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:** An award-winning, 12,000 square-foot laboratory, ~30 technicians, chemists, and microbiologists conducts ~50,000 tests annually to ensure proper treatment and compliance for both RWF and for industrial dischargers.

\*million gallons a day

## 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 ~200 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 the 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.

## Awards & Recognition

- 2021 California Association of Sanitation Agencies (CASA) Resiliency and Innovation Excellence Award
- 2021 Design-Build Institute of America (DBIA) National Award of Merit Water/Wastewater
- 2022 CASA Organizational Excellence Award
- 2024 Annual Proficiency Testing (PT) program measuring testing and sample analysis
- 2024 Northern California Chapter Construction Management Association of America (CMAA) Award for the New Headworks Project

