Creating a Water Efficient
San Francisco

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October 26, 2015
San Francisco Public Utilities Commission

Water

Power

Sewer
Operating a Regional Water System
Creating a Water Efficient City
Promoting Efficient Fixtures for Over 25 Years
Decreasing Water Demands
Increasing Population
Addressing Water Loss

Photo: Brant Ward, The Chronicle
Responding to Droughts

SFPUC retail water customers consistently met the 10% voluntary reduction request. Across all retail sectors, customers used less water in 2015 compared to 2013.
Conservation
Groundwater
Recycled Water
Non-potable Water
Figure 13: Effect of Water Conservation on Retail Water Demand

Water savings from passive and active conservation efforts

- 2015 Savings: 9.6 mgd
- 2018 Savings: 11.5 mgd
- 2020 Savings: 12.8 mgd

Source: 2015 Retail Water Conservation Plan
Maintaining Low Per Capita with Increasing Population

Figure 14: Historical and Projected Population and Per Capita Water Use Trends

Source: 2015 Retail Water Conservation Plan
Blending Groundwater with Surface Water Supplies

S.F. advances plan to blend Hetch Hetchy water

Board committee also moves forward plan to use recycled water

By Joshua Sabatini
S.F. Examiner Staff Writer

San Francisco’s plan to mix groundwater with Hetch Hetchy drinking water advanced Wednesday along with a plan to use recycled water for Golden Gate Park irrigation.

The proposal comes as California’s ongoing drought is pushing cities across the state to do more to conserve water and to increase use of recycled water in place of potable water.

The San Francisco Public Utilities Commission’s plan to use recycled water for irrigation purposes at Golden Gate Park, which currently uses groundwater, and to start using groundwater under the western aquifer for drinking water was supported Wednesday by the Board of Supervisors Budget and Finance Committee.

The Waterside Recycled Water Project will produce an average of 1.6 million gallons per day of recycled water at the treatment facility at the existing Oceanside Water Pollution Control Plant, where sewage would be treated for irrigation at Golden Gate Park and delivered through 17 miles of newly installed piping.

Per the proposal, water would be used to fill park lakes, irrigation of both the Lincoln Park and Presidio golf courses and possibly water uses at the San Francisco Zoo and toilet water at the California Academy of Sciences and the De Young Museum.

The committee Wednesday authorized the agency to spend $120 million of the total $180 million project cost, which was previously placed on reserve.

The committee also supported the agency’s groundwater supply project, which would ultimately pump about four millions gallons of water per day from the Westside Groundwater Basin aquifer.

“We are going to start out pumping slowly a million gallons per year and slowly ramp it up to make sure that as we develop the groundwater that it doesn’t cause any other unintended consequences either sea water intrusion or potential subsidence,” said Steven Ritchie, SFPUC assistant general manager of the water enterprise.

“We want to be very careful,” Ritchie said. The mix of groundwater with the Hetch Hetchy drinking water will be around 10 percent to 15 percent for about 40 percent of the customers in San Francisco. “It will be a very high-quality water,” Ritchie said.

Before voting, Supervisor Katy Tang noted how some water customers are put off by the blending plan.

“I know that some folks have a very negative reaction to the potential blended water coming forth, but certainly we all understand our true need to be able to diversify our water sources,” Tang said.

Laura Tam, a policy director at the public policy think tank SPUR, said the project was vital. “It is important that we diversify our water supply to meet the goals of a sustainable city,” Tam said. “We have a wonderful supply in Hetch Hetchy but we could be doing more to supply local groundwater as well as recovered water. San Francisco is one of the last cities in the Bay Area to actually develop recycled water.”

The SFPUC oversees the distribution of some 60 million gallons of water to customers in The City daily from the Hetch Hetchy reservoir, 167 miles away from San Francisco along the Tuolumne River, which is filled by the Sierra Nevada melting snowpack.

A civil grand jury report released Tuesday analyzed San Francisco’s water supply amid a drought and a development boom.

“The Jury was satisfied with SFPUC water stewardship (monitoring, treatment, protection and distribution), as well as the near-term supply/demand outlook,” the report said.

The report’s conclusion was based in part on the SFPUC projecting it can manage up to 8.5 more years of drought without “drastic rationing,” the projects that advanced Wednesday and may “thanks to conservation programs, more efficient fixtures and enthusiastic public cooperation, a San Franciscan currently uses less than half the water of an average Californian (44 vs. 94 gallons per day).”

Source: San Francisco Examiner, printed July 21, 2016
Treating Wastewater for Irrigation of Large Parks and Golf Courses

San Francisco Chronicle

Recycled water helps keep the greens pristine at TPC Harding Park. The project is expected to save 120,000 gallons a day.

CONSERVATION

Green way to keep greens green

Harding Park golf course is using recycled wastewater — a 1st for S.F.

By Noel J. Riley

For the first time in decades, using pristine drinking water from Buena Vista Bowl is no longer the only way to keep the greens green in San Francisco.

Last week, recycled water from a wastewater treatment plant in Daly City began irrigating TPC Harding Park golf course, located on Lake Merced. The new system includes:

- A 700,000-gallon underground recycled water storage tank
- A new pump station and about 4,500 feet of pipeline along Lake Merced Boulevard.

“We're basically delivering recycled water to a facility in San Francisco for the first time in a long time,” said Steve Ehrlich, the water enterprise assistant general manager at the Public Utilities Commission.

Water continues on C8

The new system includes a 700,000-gallon underground recycled water storage tank and a new pump station.
Encouraging Additional Water Efficiency through Onsite Water Reuse

- Precipitation collected from roofs and above-grade surfaces
- Precipitation collected at or below grade
- Nuisance groundwater from dewatering operations

Wastewater from toilets, dishwashers, kitchen sinks, and utility sinks

Wastewater from clothes washers, bathtubs, showers, and bathroom sinks
Reusing Rainwater & Graywater on a Residential Scale
Re-thinking Building Design &
Re-imagining How Water is Used
Up to 50% of Demands are Non-potable in Multifamily Residential Buildings

Multifamily Residential Water Use
- Irrigation
- Toilet
- Clothes Washer
- Shower/Bath
- Faucet
- Dishwasher
- Leaks
- Miscellaneous

Source: adapted from Alliance for Water Efficiency
Up to 95% of Demands in Commercial Buildings are Non-potable

Source: USEPA

Office Water Use
- Sanitary
- Cooling Tower Make-up
- Irrigation
- Single-Pass Cooling
- Kitchen
- Miscellaneous

Source: USEPA
Incorporating Onsite Water Systems at the SFPUC Headquarters
Integrating Decentralized and Centralized Infrastructure

San Francisco’s Non-potable Water System Projects
San Francisco Public Utilities Commission
April, 2014
Piloting Innovative Technologies
Collaborating on a National Level and Identifying Common Issues
Proposing a Health Based Framework for Decentralized Non-potable Water Systems
Advancing Collaboration
National Blue Ribbon Commission
Thank You