

## **Carollo Engineers Completes Planning, Design, and Engineering Services During Construction for \$1.8 Billion EchoWater Project**

Upgraded facility meets nutrient limits and recycled water requirements, provides drought-resistant source of water

**Elk Grove, CA, July 11, 2023** – Carollo Engineers, North America’s premier water engineering and consulting firm, has completed planning, design, and engineering services during construction for the \$1.8 billion EchoWater Project, a more than decade-long facility upgrade project for the Sacramento Regional County Sanitation District ([Regional San](#)).

The EchoWater Project commenced in 2012 in response to stringent nutrient removal and tertiary treatment requirements for treated wastewater issued by the California Regional Water Quality Control Board. With these upgraded and new processes treating up to 330 million gallons per day, the treatment plant is the second largest facility of its kind in the United States and is the largest public works project built in the Sacramento region.

Completed in 2023, the upgraded facility produces cleaner treated water for discharge to the Sacramento River that meets strict nutrient limits and provides a drought-resistant source of recycled water for non-potable uses, including delivery of agricultural irrigation water to over 16,000 acres as part of Regional San’s [Harvest Water Program](#).

“The EchoWater Project was massive in both scale and complexity,” said Carollo Senior Vice President Scott Parker. “The project’s successful completion on schedule and within budget is a testament to outstanding collaboration among project partners and is an extraordinary public works achievement with beneficial results for the community and the environment.”

Carollo led the design effort for the following projects:

- **Flow Equalization (FEQ):** The \$122 million FEQ project added 110 million gallons (MG) of storage to the plant’s existing emergency storage basins to reduce peak flows to 330 mgd. The FEQ project required excavating 1,200,000 cubic yards of soil and completing two major pumping stations, concrete lining of the basins, a washdown system, large fill/drain piping, and major effluent control structures.
- **Return Activated Sludge Pumping (RAS):** The \$25 million RAS project replaced 48 return activated sludge pumps (210 mgd total capacity) designed to deliver higher flow and head conditions required by the new biological nutrient removal (BNR) process. The RAS project also included replacement of aboveground piping, valves, and flow meters; rehabilitation of pump cans and underground piping; and improvements to the existing mixed liquor channel.

- **Nitrifying Sidestream Treatment (NST):** The \$42 million NST process utilizes nitrifying sequencing batch reactors to oxidize ammonia in the solids treatment system supernatant and produce nitrate-rich effluent which is injected upstream in the collection system for odor control, offsetting chemical costs for the plant. NST includes influent and effluent pumping and lime addition.
- **Tertiary Treatment Facilities (TTF):** The \$310 million TTF project provides filtration and enhanced disinfection of secondary effluent to a level equivalent to California Title 22 requirements for tertiary disinfected recycled water to support unrestricted reuse. Tertiary facilities include a 330 mgd filter influent pump station, 217 mgd of granular media filters, backwash equalization and treatment, chemical feed systems, covered disinfection contact basins, new plant recycled water pumping systems and a new area control center.

In May, Regional San celebrated the project completion with an event at the newly renamed EchoWater Resource Recovery Facility.

### **About Carollo Engineers**

For 90 years, Carollo Engineers has provided a full range of innovative planning, design, and construction management services to meet the water, wastewater, and reuse needs of municipalities, public agencies, private developers, and industrial clients. Carollo develops robust water management strategies that leverage collaboration, provide multi-benefit solutions, and achieve sustainability and resilience. Carollo has nearly 1,400 employees located across North America. To learn more about how Carollo is “Working Wonders With Water®” call (800) 523-5826 or visit [www.carollo.com](http://www.carollo.com).

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