

Butier Partners with Orange County Water District for GWRS Final Expansion

The Orange County Water District (OCWD) Groundwater Replenishment System (GWRS) is the world's largest advanced water purification system of its kind and serves as a global model for potable reuse. The \$284 million GWRS Final Expansion (GWRSE) project increased the existing treatment capacity from 100 to 130 million gallons per day (MGD), providing water for 1 million people in north and central Orange County.

OCWD partnered with Orange County Sanitation District (OC San) to obtain the additional 30 MGD of advanced treated wastewater from the OC San

Treatment Plant 2 (P2), which is located 3.5 miles south of the GWRS in the city of Huntington Beach.

The project scope included the following components: expanding the Advanced Water Purification Facility at OCWD's Fountain Valley campus; constructing a new pump station and two flow equalization tanks at OC San P2; rehabilitating a pipeline between OC San Plant 1 and P2 to bring secondary effluent to the GWRS; and modifying OC San's headworks to segregate reclaimable and non-reclaimable flows.



GWRSFE Construction Management Team

True Extension of OCWD's Staff

Butier Engineering—in collaboration with Carollo Engineers—performed as an extension of OCWD's project management staff, assisting in delivering a continued, reliable water source for the Orange County Groundwater Basin. Our team consisted of licensed engineers, certified construction managers, and specialty inspectors that provided the following professional consulting services:

- Constructability Review
- Bidding Assistance
- Project Management
- Resident Engineering
- Inspection QA/QC
- Schedule Review
- Cost Control
- Change Order Management
- Document Control
- Project Close-out and Start-up



Project Benefits

- Produces an additional high-quality, drought-proof drinking water supply
- Provides a strong economic benefit by reducing the reliance on imported water
- Prevents seawater intrusion into drinking water wells by creating a hydraulic barrier
- Increases replenishment of local groundwater supplies
- Improves the water quality of the Orange County Groundwater Basin
- Protects our environment by reducing treated wastewater discharged into the ocean



Project Partners

- **Operated & Managed by**
Orange County Water District
- **Project Partner**
Orange County Sanitation District
- **Designer of Record**
Black & Veatch
- **General Contractor**
Shimmick Construction
- **Funding Partners**
California Department of Water Resources
U.S. Dept. of the Interior Bureau of Reclamation
U.S. Environmental Protection Agency
State Water Resources Control Board



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