

---

# DAMS, LEVEES AND RESERVOIRS

---

WATER AND ENERGY FOR THIS GENERATION AND THE NEXT.



**BLACK & VEATCH**  
Building a world of difference.®



## CALAVERAS RESERVOIR

San Francisco, CA

Black & Veatch is overseeing construction of the new 220-foot-high zoned earth and rockfill embankment dam. This \$450 million project includes the new dam, large concrete spillway and outlet tower.

*Photo courtesy of the San Francisco Public Utilities Commission*

## WORLD-CLASS SOLUTIONS FOR GLOBAL PROJECTS

Black & Veatch offers 360-degree solutions to make the most of old and new opportunities — sustainable solutions for planning, rehabilitation and new, innovative facilities.

**W**hether it's for drinking, irrigation, flood control, recreation or hydropower, water is always the most important component. Black & Veatch knows dams and reservoirs but, more importantly, we know water.

When you need feasible, real-world solutions, look to Black & Veatch to deliver answers that are economically realistic, innovative and locally appropriate. We know firsthand what works on the ground. We have proven, market-leading experience for the dam and reservoir industry in:

- Comprehensive safety and risk assessment
- Hydropower
- Construction and construction management
- Design-build/EPC delivery
- Program management
- Coastal and riverine engineering

### EXCEEDING EXPECTATIONS WORLDWIDE

Black & Veatch is one of the premier dam design and construction management firms in the world, beginning with our first engineered dam in 1888 and spanning nearly 125 years of continuous dam engineering work. Our long track record of success is born out of our experience, skills and management philosophy.

As a global water leader, Black & Veatch can develop realistic, affordable solutions to meet your specific challenges and objectives. Conquering complexity takes diversity. Our heavy civil specialists design and construct new dams and rehabilitate existing ones. They also rely on Black & Veatch's in-house expertise in hydropower, hydraulic structures, tunnels, penstocks, spillways and gates/valves.

## PROVEN RESULTS

- **San Vicente Reservoir, San Diego, CA** Black & Veatch provided construction management for this \$449.2M roller-compacted concrete (RCC) dam raise project. It involved adding 117 feet to the previous 220-foot-tall concrete gravity dam structure — more than doubling capacity.
- **Can-Asujan Dam, Philippines** The completed structure is a 145-foot-high faced symmetrical hardfill dam providing irrigation for an area of 2,350 acres. Black & Veatch provided the foundation characterization, design, preparation of contract documents, technology transfer workshop, and assistance during construction.
- **Anderson Dam, San Jose, CA** The existing dam could suffer significant damage during an earthquake. As program manager, Black & Veatch oversees planning, permitting, design and construction improvements for this \$150 million seismic retrofit project.
- **Wadi Dayqah Reservoir, Sultanate of Oman** Black & Veatch provided detailed design and construction supervision for this water supply reservoir that included two large dams. The main dam is a 242-foot-tall RCC structure while the saddle dam is a 150-foot-tall zoned rockfill structure.
- **Diamond Valley Reservoir, Los Angeles, CA** As part of an integrated team, Black & Veatch provided design and construction oversight for the dams and hydraulic structures associated with this 800,000 acre-foot reservoir. The zoned rockfill dams are 185 and 285 feet high with crest lengths over 1.5 miles each.
- **North Haiwee Dam Replacement, Owens Valley, CA** Black & Veatch is project manager for the investigation, design and construction of a new embankment dam and proximate relocation of the Los Angeles Aqueduct to mitigate the seismic instability of the existing North Haiwee Dam.
- **Hurricane Protection Levees and Floodwalls, New Orleans, LA** Black & Veatch has been providing support to the USACE–New Orleans District to safeguard the greater New Orleans area, including failure analysis of 14 miles of levees; design for four miles of floodwalls; preparation of design/build packages for \$700 million of projects.



### HURRICANE PROTECTION LEVEES AND FLOODWALLS

New Orleans, LA



### CAN-ASUJAN DAM, Philippines ▲

WADI DAYQAH RESERVOIR, Sultanate of Oman ▼



“THE COMMITMENT OF [BLACK & VEATCH’S] LEADERSHIP AND DESIGN TEAM WAS INTEGRAL TO OUR SUCCESS IN DELIVERING A WORLD CLASS SYSTEM. YOUR DEDICATION TO QUALITY ... RESULTED IN IMPROVED PUBLIC SAFETY AND RISK REDUCTION FOR THE GREATER NEW ORLEANS AREA.”

Walter Baumy, Jr., Chief, USACE–New Orleans District

---

## **BUILDING A WORLD OF DIFFERENCE®**

Black & Veatch is an employee-owned, global leader in building critical human infrastructure in Energy, Water, Telecommunications and Government Services. Since 1915, we have helped our clients improve the lives of people in over 100 countries through consulting, engineering, construction, operations and program management. Our revenues in 2015 were US \$3 billion. Follow us on [www.bv.com](http://www.bv.com) and in social media.

---

[Cover]

*Black & Veatch is providing construction management for the San Vicente Dam Raise project in California which will add 117 feet to the dam and more than double capacity of the San Vicente Reservoir.*