Investing in Water Reliability

Raising the height of San Vicente Dam was one of the last major components of the San Diego County Water Authority’s $1.5 billion Emergency & Carryover Storage Project, helping ensure that water is available to the San Diego region even if access to imported water supplies is interrupted.

The Water Authority raised San Vicente Dam 117 feet to store additional water for regional use during times of water scarcity. It is the tallest dam raise in the United States and the tallest dam raise of its type in the world. The reservoir expansion added more than 157,000 acre-feet of water, more than doubling its capacity. The dam raise created the greatest single increase of water storage capacity in San Diego County history.

The new water storage capacity serves two purposes. About two-thirds of it is for capturing surplus water during wet seasons for use in dry years. One-third of the new reservoir capacity stores water for use in a regional water supply emergency, such as an earthquake that cuts off imported water supplies.

Emergency & Carryover Storage Project

The San Vicente Dam Raise is part of the Emergency & Carryover Storage Project, a system of reservoirs, interconnected pipelines and pumping stations designed to make water available to the San Diego region if imported water deliveries are interrupted.

San Vicente Dam

San Vicente Dam has been owned and operated by the City of San Diego since its construction in 1943. At the dam’s original height of 220 feet, the reservoir could store 90,000 acre-feet of water for city customers. The City of San Diego retains ownership and use of its original storage capacity, while the Water Authority manages the new storage capacity for use by the region. The two agencies share the cost of operating and maintaining the expanded dam and reservoir.

Raising San Vicente Dam

The San Vicente Dam Raise was a suite of projects divided into separate contracts that...
San Vicente Dam Raise

took about six years to complete. This approach provided more bidding opportunities for local firms and reduced the total project cost to $396 million.

Construction began in 2009 on the foundation of the new dam. To create a good concrete bonding surface between the original dam and the raised dam, the contractor removed two inches of the downstream, or dry, surface of the dam.

The concrete mix for the dam raise was custom-designed to match the strength of the original dam, allowing the two sections of concrete to function as one unit. Nearly all the concrete was produced on-site with rocks mined from the hillsides circling the old marina, avoiding 100,000 delivery truck trips through the local community. Daily laboratory tests confirmed that each batch of concrete met strength and performance specifications.

Concrete work to raise the dam began in 2011 and was completed in 2012. Working up from the new foundation, the contractor placed roller-compacted concrete in front of the original dam, then continued up an additional 117 feet. Roller-compacted concrete is just as strong as conventional concrete but takes less time and water. It is placed in layers, one on top of the other, in a process that resembles road construction. The dam raise was completed in 2014, and the Water Authority started depositing water into San Vicente Reservoir for future use in May 2015.

In addition, the Water Authority built a new pipeline for the City of San Diego to replace a section that will be under water when the expanded reservoir is full. Also, a new, larger marina was built to replace the former marina.

After Construction
The City of San Diego reopened San Vicente Reservoir to boating and fishing in 2016. Marina visitors enjoy a number of enhancements, including an improved access road, an expanded boat ramp and parking lot, and new shade trees and picnic areas.

For More Information
For more information about the San Diego County Water Authority’s Emergency & Carryover Storage Project, go to sdcwa.org/emergency-storage-project.