



Recognition of Special Achievement Award

The National Academy of Construction has selected the U.S. Army Corps of Engineers (USACE) Sacramento District's Isabella Dam Safety Modification Project as the recipient of the Academy's 2024 Recognition of Special Achievement Award.

"This award highlights and celebrates innovation, safety, and resourcefulness in planning and solving design challenges," said Edd Gibson, NAC president/CEO. "The team for this project included international practitioners in the engineering, design, and construction industries, and the Sacramento District's project delivery team excelled in all criteria for the award."

Prior to the project, USACE dam safety experts considered Isabella Dam

to be one of the highest-risk dams in the USACE portfolio for failure or overtopping. The \$650 million modification project addressed several deficiencies by raising the main and auxiliary dams 16 feet and creating a new emergency spillway with an iconic labyrinth weir to greatly lower flood risk for more than 400,000 people downstream of Isabella Lake.

"The impact of this remarkably complex megaproject cannot be overstated," said Lt. Gen. Scott Spellmon, Chief of Engineers and USACE Commanding General. "From conception through completion, the project delivery team displayed the USACE ethos, developing creative and innovative solutions to solve significant challenges without sacrificing project schedule, budget, and, most importantly, safety."





The Sacramento District relied upon the USACE South Pacific Division's Dam Safety Production Center for a creative weir design that could safely regulate water flow through the emergency spillway rather than just hold it back like a dam. The result was a three-story-tall, zig-zagging labyrinth concrete weir built in a roughly 1,300-foot opening. If straightened out, the weir would have an effective length of about 3,000 feet. The creative configuration significantly increases the amount of water that can be safely discharged from the relatively narrow space.

Before weir construction began, contractors had to safely blast out three million cubic yards of rock to create the space for the new emergency spillway. The resulting rock was then used as a source of materials for the dam raises. The spillway blasting was inherently dangerous and time-consuming. Planners recognized, however, that it offered several benefits that could help solve logistical, cost, and environmental challenges. Their solution was an onsite aggregate plant that crushed the stone into different gradations for use in the main and auxiliary dam raisings. This saved time and money and reduced the project's carbon footprint as well.

The project team had logged over 2.6 million exposure hours with no significant accidents or injuries—an achievement that speaks to a sustained safety culture. The COVID-19 pandemic and destructive, drought-induced wildfires in California presented additional hurdles to overcome.

The project was overseen by the USACE Sacramento District and its construction management consultant for the project, HDR, Inc. The joint venture construction team consisted of Dragados USA, Flatiron Construction Corp., and Sukut Construction.