

cess, especially in large diameter drill shaft projects. The branch has worked on projects throughout the western United States from Utah to Alaska to Hawaii. Recently, it worked on the City Creek Center in Salt Lake City, partnering with the company's Bay area office.

The company was selected as the design/build shoring contractor for City Creek Center; Malcolm performed more than 90,000 square feet of shoring and dewatering around a 2,100-linear-foot site perimeter with cut heights of more than 75 feet and a water table 25 feet above the bottom of excavation.

"City Creek was a very large project and we were responsible for extensive dewatering," Rasband explains. "There were a lot of groundwater issues we had to deal with. The earth retention portion of the work was one of the most complicated projects we have ever constructed, requiring the need to utilize all of our conventional and specialty techniques."

The shoring system put in place by Malcolm directly or indirectly supported four existing structures surrounding the site and also provided a permanent foundation for one new structure. "This project highlighted the vast breadth of Malcolm's capabilities as a shoring contractor due to the unique constraints imposed from the existing structures as related to the new construction," the company says.

Existing foundation walls from demolished structures were incorporated into the new shoring system where possible. The historic Deseret Trust Building was one of the structures supported by Malcolm's shoring. Vertical and battered micropiles were installed beneath the exterior of the building's spread footings, with a beam and shotcrete shoring system installed directly in front of the footings, which extended beyond the building's exterior walls.

The Qwest Building provided a challenge to Malcolm Drilling because the building is a hub to telecommunication utilities and was supported by spread footings, the company says. A shoring system with cut heights of more than 40 feet was required within 30 inches of the existing structure. An "A-frame" micropile system also was utilized to aid in both lateral support and soil stabilization.

Geotechnical Design Systems Inc. (GDSI) of Salt Lake City – in collaboration with Malcolm Drilling – designed the shoring system. "Our service area starts at our front door and goes out from there," it says. "We will provide any appropriate services wherever there are projects."

Commended Performance

Rasband says the company needed to incorporate its full breadth of experience to finish the project. "We utilized all the technology that we have, and virtually every technique that we had in our arsenal for this project," he explains.

Despite the difficulty of the project, Rasband notes that the crew kept a "can-do attitude" that allowed it to create a high-quality project. "We were selected based on our capabilities," he says. "We received a letter of commendation from the owner as a result of how we managed and dealt with the complex issues on the project. The owner complimented us on achieving exactly what we promised during the bidding phase of the project." ♦

GDSI GDSI is proud to have worked with Malcolm Drilling Co. as designers for the City Creek project shoring. This was a difficult effort, requiring bid designs to be adapted to unexpected site constraints at several locations. Most of this was done during construction, using a variety of innovative composite designs.



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