

Discovering Underground

By Karin Tetlow

One of the biggest concerns faced by the construction industry is manpower. As demand grows—the Associated Builders and Contractors estimates that an additional 430,000 workers will be needed in 2021—the industry retires more talent than it replaces. In response, firms are increasing their investment in training programs while contractor associations expose students to the reality that construction is a career option. One program that connects academia to the tunneling world is Down for That, a collaborative of major industry players initiated by the Underground Construction Association (www.undergroundcareers.org).

A significant major industry player is The Moles, a unique association of individuals engaged in heavy construction. Founded in 1937 for the purpose

of professional socializing, it has since added other vital functions, such as awarding scholarships—amounting to an annual \$300,000 now geared for students who may not necessarily have the highest scores but are particularly interested in heavy construction—student site tours and maintaining a living archive of the heavy construction sector (www.themoles.net).

Present day-long New York tours for some 400 juniors from 20 schools are a far cry from the original event in 1962, when clad in coat and tie, students spent 7 hours underground, participated in more than an hour of Q&A, sat through detailed project descriptions and finally, watched a film. Since then, sites have ranged from the slurry wall construction of the World Trade Center to New York City's Grand Central Terminal caverns

and the East Side Access Project. A Boston tour of the Green Line Extension was added in 2019.

Perhaps The Moles' most special contribution to the industry is its archives. Given the growing number of industry mergers and acquisitions, memorabilia are often not retained. The Moles, being an association of individuals rather than companies, is a mine of memories and history.

The Moles' Executive Director Thomas J. Groark, whose long career was in underground construction, edits *Holing Through*, which is a news bulletin that is published three times a year. Issues tell the stories of the construction professionals behind the major events of the sector and focus on such subjects as the engaging history of the tunnel-boring machine. ♦

Stabilizing the Hoback Junction-Snake River Section of Highway 191

The section of Highway 191 just north of Hoback, Wyo., sits approximately 65–70 ft above the Snake River. The area consists of alluvium soil, highly weathered seams of rock and competent bed rock. The area is also known for landslide movement between the highway and the steep slopes down the Snake River.

As part of the highway improvement project, the Wyoming Dept. of Transportation is improving access through the area by widening the highway and providing a bicycle path. To complete the highway-widening portion of work, the landslide movement needed to be mitigated by stabilizing the slope from the highway to the Snake River.

Malcolm Drilling was contracted to install 191 1-meter-dia drilled shafts. The drilled shafts are used as a couple shear piles stabilization system that ties

into a 3.5-ft-thick pile cap, which allows the piles to resist the landslide movement. Malcolm is installing the drilled shafts using temporary segmental casing from existing ground to the pile tip to achieve hole stability through the highly variable overburden soils and weathered rock. The drilled shafts are socketed into competent bedrock that has compressive strengths up to 9,000 psi. All the drilled shafts receive a full-length reinforcing cage and 4,000-psi concrete. An oscillator is used to pull the temporary segmental casing out of the drilled shaft during the concrete pour. The above construction method for drilled shaft provides a far greater quality drilled shaft, as the drilled shaft sidewalls are never left unsupported during the concrete placement.

For additional information, please visit www.malcolmdrilling.com. ♦



Drilled shafts installed by Malcolm Drilling are part of the Wyoming Dept. of Transportation's plan to improve Highway 191 and add a bicycle path.

PHOTO: COURTESY OF MALCOLM DRILLING

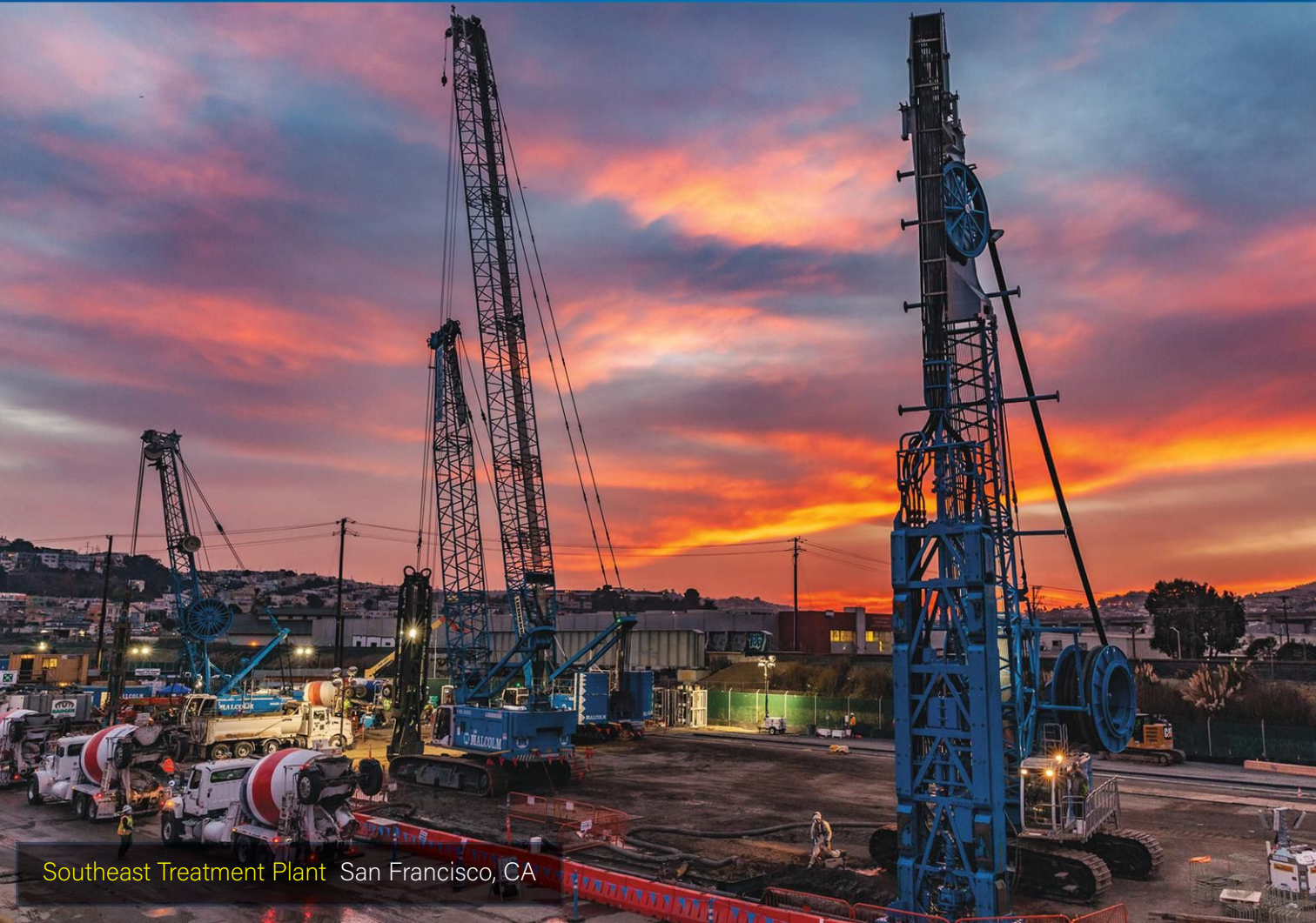


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