## UNDERGROUND TODAY I



## Multiplying Solutions

As infrastructure demands grow, contractors take advantage of trenchless, digital and traditional technologies

## WHAT'S INSIDE

- Trenchless Technology Certification for Contractors
- Updating San Francisco's Largest Wastewater Treatment Facility
- Increasing Below-Ground Infrastructure Security
- Managing Change Orders as
  "Estimates Within Estimates"

By Karin Tetlow

## Updating the Largest Wastewater Treatment Facility in San Francisco

At San Francisco's Southeast Treatment Plant (SEP), the city's largest wastewater treatment facility, Malcolm Drilling has begun full operations. The Biosolids Digester Facilities Project will replace and relocate the outdated existing solids treatment facilities with more reliable, efficient, and modern



Malcolm Drilling masterminded multiple tasks simultaneously for San Francisco's Southeast Treatment Plant replacements.

technologies and facilities that will help update the plant. In addition, the project will locate the new digesters farther away from existing residences, reduce odors, and make visual improvements both in and around the plant.

For Malcolm, this meant deploying an army of construction equipment to carry out multiple tasks at the same time. For the foundation and shoring of the 13 new structures being built, Malcolm is installing cased drilled shafts, continuous flight auger piles (CFA), diaphragm walls and cutter soil mixing walls at the same time. The diaphragm wall consists of a series of 36-in.-wide panels to depth of 158 ft, which are connected by overlapping the primary and secondary panels to form a continuous retaining wall. Every panel includes a 70-ft-long reinforcing steel cage with embedments for three rows of tiebacks to stabilize the 40-ft-deep excavation for the four spherical digester structures. The remaining wall depth provides an underground water cutoff to enable internal dewatering without any potential settlement impacts onto the adjacent very busy Caltrain railroad tracks.

For additional information about Malcolm Drilling, please visit www.malcolmdrilling.com. ◆

I see the data in real time. With paper forms, it could be weeks.

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Malcolm delivers innovative solutions for tunneling projects. Our extensive tunnel-related ground improvement techniques include jet grouting, soil mixing, permeation grouting, and compensation grouting. Our shoring capabilities include pile and anchor drilling for shaft construction, ground stabilization, and excavation support coupled with dewatering services. Learn more about how Malcolm can support your next tunnel project at Malcolmdrilling.com Access Shafts Ground Stabilization Excavation Support Break In/Out Treatment Dewatering Design/Build Services

