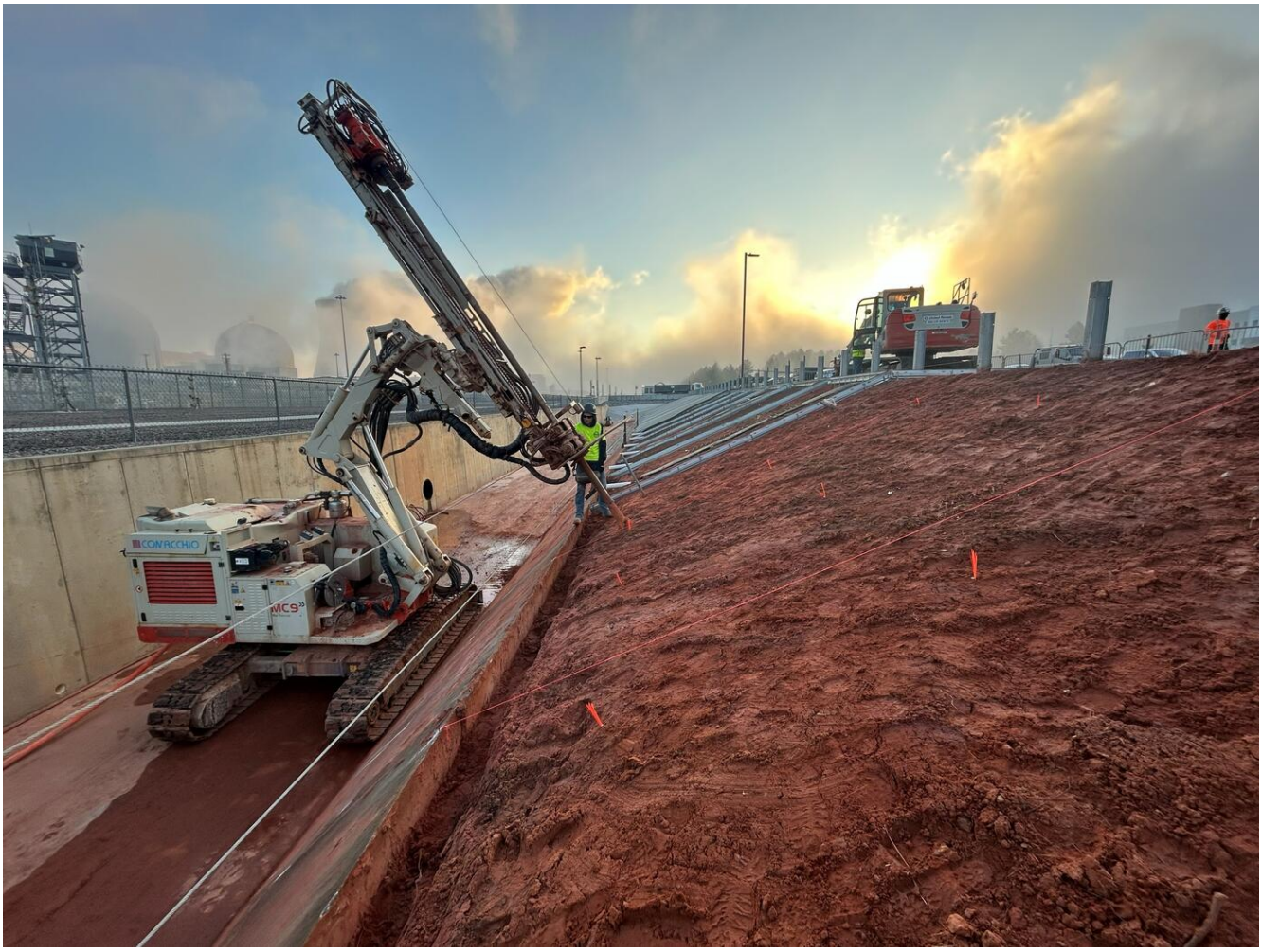
Detention Pond Stabilization

Southern Nuclear Company

Keller installed a permanently anchored sheet pile wall to support the outfall of the stormwater management flume into the existing site detention pond.



The project

The high-volume flows through the site stormwater flume and had formed a large scour hole that threatened the stability of the flume-to-pond transition and the overall performance of the stormwater management system. A permanent earth retention solution was needed to stabilize the area and support the pond's reconstruction.

Keller collaborated with Bechtel to design a permanent anchored sheet pile wall at the flume/detention pond transition. To maintain the drainage system's operation during construction, temporary dams and bypass pumping were installed upstream of the pond. Keller then installed 189 linear ft of sheet pile wall and driving sheets up to 45 ft long, securing them with two rows of four-strand tieback anchors extending up to 120 ft in length.

In addition to the outfall stabilization work, Keller rehabilitated multiple sections of the stormwater flume where the existing reinforced concrete lining had deteriorated. The repairs included the design and installation of replacement lining systems consisting of approximately 50,000 sq ft of shotcrete and cast-in-place concrete, anchored by more than 14,000 linear ft of drilled and grouted soil nails. Polyurethane grouting, demolition, and grading were also completed as part of the rehabilitation program.

The completed work stabilized the stormwater outfall and restored the integrity of the site's stormwater management infrastructure.

Project facts

Owner(s)
Southern Nuclear Company

Main contractor(s)
Champion Specialty Services

Engineer(s)
Keller North America Inc.
Bechtel

Solutions
Support of excavation

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