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WT
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BACKGROUND INFORMATION

In 2021, CoStar Group, Inc., a leading commercial and residential data provider, announced ambitious plans to expand its research and technology center located in the city of Richmond, Virginia. The extensive expansion project will involve the construction of a two-building complex adjacent to its existing campus office at 501 S. Fifth St. This complex will serve as a central hub for the campus, featuring conference facilities, parking space, green space, fitness areas, and an array of amenities. The designated development site where all the construction is taking place spans a footprint of 3.75 acres.



Photo Credit: Whiting-Turner

Historic map of the jobsite

SCHNABEL'S ROLE

In February of 2023, Whiting-Turner Contracting Company, the general contractors for the CoStar Campus Expansion project contracted Schnabel to design and install a temporary excavation support system to facilitate the below-grade construction of a four-level subterranean parking garage. During the project, Schnabel installed over 5,700 LF of cased soldier beams with drilling depths of up to 62 ft deep and over 34,000 SF of lagging for excavation with cuts up to 56 ft deep.



SCHNABEL'S ROLE (cont.)

Schnabel installed 4 tiers of tiebacks with 310 total tiebacks. This work was achieved by utilizing their cutting-edge Klemm 806-4GM drilling rig, with an average daily installation rate of 10 tiebacks when the scope of work allowed. Schnabel also underpinned the adjacent existing CoStar Group, Inc. building using their patented Soil Mix Pier Underpinning (SMPU) method to facilitate safe, wall-line excavation beneath the existing building. A total of 2450 SF of SMPU was installed on this project.



SMPU of adjacent existing CoStar Group, Inc. building

CHALLENGES

There were many man-made obstructions hidden underground due to this location's rich history of development along the James River, including the old Richmond Armory and the remnants of an old canal. Schnabel had to drill through the manmade obstructions which included wood, tunnels, sturdy brick structures, and hazardous soils from old armory scrap, which made choosing the right drilling tools a real challenge. In addition, Schnabel field team members completed a HazWoper 40-hour training course due to the presence of hazardous soils. The existing building was also tricky to work with. It sat under existing caissons, so Schnabel had to carefully plan where to place new caissons, shoot the gaps, and underpin them close to the existing ones.



Existing buried brick tunnel within the excavation

CONCLUSION



Klemm drill installing first tier tiebacks

In June of 2023, Schnabel successfully installed a temporary excavation support system for the CoStar Campus Expansion project in Richmond, VA. This system will facilitate the construction of a four-level subterranean parking garage for the future research and technology center hub. Extensive pre-planning was undertaken by Schnabel to overcome the operational and safety challenges presented to the company. Furthermore, Schnabel completed their work on schedule, on budget, with an excellent safety record, and shattered a company record for weekly labor earned.

