

Ram Jack® Case Study

Moncrief Army Hospital • Ft Jackson, SC



ECO-FRIENDLY

Installer: Ram Jack of South Carolina • Ridgeway, SC • 803.337.3200



Situation:

The ground floor of the Moncrief Army Hospital had settled a maximum of six inches. The ground floor was constructed as a conventionally reinforced slab-on-grade floor over 25 to 30 feet of fill soil. The settled portion of the floor slab was to be removed and replaced with a new floor system. The new floor slab was to be a partial structural slab with a lower level for additional mechanical units and a slab-on-grade for the remaining area. Except for the designated work area, the remaining areas of the hospital was operational and could not be disturbed by the noise or exhaust fumes from the machines required to perform the underpinning work. All piles were required to penetrate the fill soil and have a maximum allowable deflection in tension and compression of 0.25 inch.

Solution:

Fifty-nine Ram Jack helical piles with an allowable 30 kip capacity in tension and compression were required to resist the required loading. Twenty-nine of these piles were battered at 30 degrees to resist the lateral loads. Pile load tests were performed to verify the capacity and deflection limits of the piles in both tension and compression. All testing was monitored by the Corp of Engineers and independent consulting engineers. The equipment was carefully chosen that wouldn't exceed the noise or exhaust limits established by the Corp of Engineers and the hospital but still have the power to install the piles to the required capacities. The noise and exhaust fumes were constantly monitored throughout the underpinning operation by the Corp of Engineers. The safety limits of the noise or exhaust were never reached which would have required stoppage of the work or evacuating portions of the hospital.

Conclusion:

With the stringent performance criteria, Ram Jack is one of the few systems with the expertise and Installers to perform such a sensitive project.

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