CASE HISTORY

Temporary Underpinning for Elevator Pit Foundation Modification

At the NCJC project in Columbus, Ohio, the project team modified two elevator-pit foundations serving a 5-floor building. The work required removal of the existing pit slab and installation of a thicker reinforced concrete mat slab while maintaining continuous support of the elevator-core walls. To meet this need, the project utilized MAGNUMreg MP325 Push Piers with MP1006 Reverse Angle Brackets and a coordinated construction sequence.

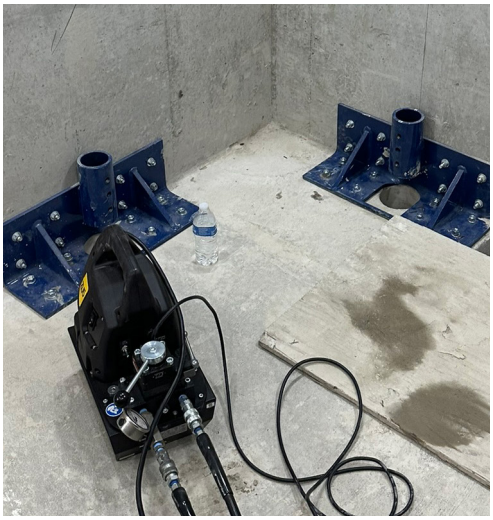


The Challenge

The primary challenge involved excavating below the existing elevator-pit footing to place a new mat slab without interrupting support for the walls of a nearly completed structure. In addition, pier placement had to navigate existing sump pits and rammed aggregate piers installed as part of the original foundation system. These conditions drove the need for a temporary underpinning solution and careful construction sequencing within the elevator pits.

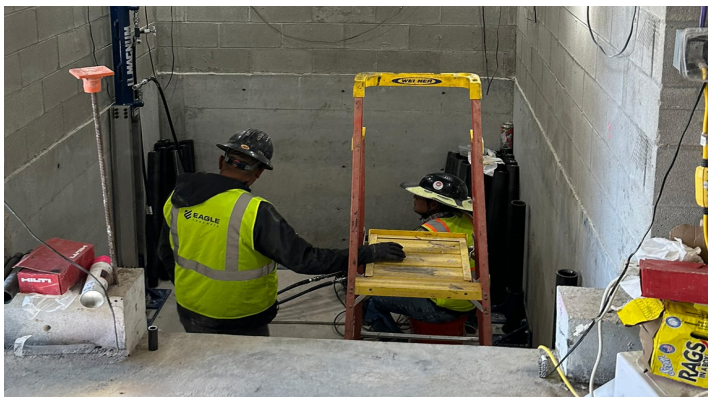
The Solution

Crews installed twenty-two MAGNUMreg MP325 Push Piers with MP1006 Reverse Angle Brackets to temporarily underpin the existing footings. The piers reached an installation depth of 40 feet, with a reported installation load of 39 kips at a hydraulic pressure of 4,700 psi. Pier placement coordinated around existing sump pits and rammed aggregate piers while maintaining support within the elevator pits.



The foundation design specified:
- 22 MAGNUMreg MP325 Push Piers
- MP1006 Reverse Angle Brackets
- Installation depth: 40 feet
- Reported installation load: 39 kips
- Hydraulic pressure: 4,700 psi

With temporary support in place, crews removed the existing slab while retaining the concrete needed beneath the brackets. MAGNUM Geo Solutions (MAGGEO) provided a construction sequence that limited excavation to a maximum of one foot below the existing footing before installing the new reinforced mat slab. The new concrete extended beneath the existing footing, and the push piers maintained temporary support throughout the work and curing period.



Results

The elevator-pit foundation modification was completed successfully. The project demonstrated how MAGNUM Push Piers, paired with a disciplined construction sequence, can provide reliable temporary underpinning

CASEHISTORY

during foundation alterations, even when existing features constrain pier placement.

Highlights

Project: NCJC Elevator Pit, Location: Columbus, Ohio, Building: 5-floor structure, Scope: Replace existing pit slab with thicker reinforced concrete mat slab under two elevator pits, Temporary Underpinning: 22 MAGNUMreg MP325 Push Piers, Brackets: MP1006 Reverse Angle Brackets, Installation Depth: 40 feet, Reported Installation Load: 39 kips, Hydraulic Pressure: 4,700 psi, Site Conditions: Existing sump pits and rammed aggregate piers required coordinated pier layout, Construction Sequencing: MAGNUM Geo Solutions limited excavation to a maximum of one foot below the existing footing

MAGNUM® Piering

This project required temporary underpinning that could be installed within elevator pits, work around existing sump pits and rammed aggregate piers, and maintain support while crews excavated and placed a new mat slab. MAGNUMreg MP325 Push Piers with MP1006 Reverse Angle Brackets provided a practical, constructible solution for underpinning active foundation elements. Furthermore, MAGNUM Geo Solutions27 construction sequencing minimized excavation below the existing footing, enabling safe and efficient execution while the piers carried the load during demolition, placement, and curing.



