

GEOPIER®

RAMMED AGGREGATE PIER® Technology - Success Story



CLIENT'S CHALLENGE

The challenge on this project was controlling total and differential settlement below spread footings of three separate buildings. Two of the buildings consisted of partial-below grade parking levels with a concrete podium first floor followed by 4 levels of wood-framed apartments above. The third building was a conventional three-story wood-framed structure with load bearing walls. Unpredictable settlements and low bearing capacities due to the poor soil conditions lead the design team and General Contractor to a Geopier Ground Improvement solution.

SUBSURFACE CONDITIONS

Subsurface conditions generally consisted of soft native clay and very soft to firm undocumented fills ranging in depth from 6 to 24 ft below proposed grades. The above soils were underlain by stiff to hard native clay followed by weathered shale bedrock.

GEOPIER® SOLUTION

Rather than overexcavating the poor soils (to depths up to 24 ft below proposed grades) or using costly drilled concrete piers, a Geopier Ground Improvement approach was selected to increase bearing capacities up to 7,000 psf and control total and differential settlements to 1 inch and ½ inch or less, respectively. Not only did the Geopier solution offer cost savings when compared to overexcavation and drilled piers, the footing sizes were reduced by more than half and the project schedule was accelerated. Foundation loads were significant, with column loads up to 400 kips and wall loads up to 20 klf. Over 500 piers were installed over less than 10 working days, keeping the project ahead of the already aggressive schedule.



Montgomery Quarter Apartments

📍 Eaton, Ohio

Pride One Construction

General Contractor

Alt & Witzig Engineering, Inc.

Geotechnical Engineer

Osborn Engineering & Jezerinac Geers & Associates, Inc.

Structural Engineer

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