

Regency Green Office Building West Des Moines, Iowa

Geopier® Rammed Aggregate Piers™

Project Team

Geotechnical Engineer: Allender Butzke Engineers, Inc.

Structural Engineer: Tometich Engineering, Inc.

Owner: Regency Commercial

General Contractor: Regency Commercial

Geopier Installer: Peterson Contractors, Inc.

General Designer: GFC – Midwest

Settlement magnitudes of 1 to 3 inches were estimated using conventional spread footings. The Geopier Intermediate Foundation System reduced total settlement to less than one inch and provided considerable cost savings.

Project Overview

Description:

Construction of a 44,370 square foot, two-story, steel framed office building. One-third of the building included a basement level while the rest was constructed at grade. Column loads ranged from 60 to 330 kips and wall loads ranged from 1.7 to 5 kips per foot.

Subsurface Conditions:

Thin layers of topsoil were underlain by lean clay and silty clay Wisconsin glacial till. The till varied in consistency but generally ranged from 1,000 psf to 2,500 psf. Very stiff sandy lean to fat clay Pre-Illinoian glacial till was encountered below the Wisconsin till. Groundwater was encountered at depths of 16 to 26 feet below grade.

Geopier Solution:

The Geopier Intermediate Foundation System was developed as an option to either overexcavation and replacement or deep foundations. Geopier Rammed Aggregate Piers (RAPs) were



used to reinforce the existing soils to support footings designed for an allowable bearing pressure of 5,000 psf. A total of 318, 30-inch diameter RAPs were installed to limit settlements to one inch. Modulus test results indicated approximately 0.25 inch at the maximum design stress of 14,260 psf resulting in an RAP stiffness of 460 pci. With settlement estimates between 1 and 3 inches for shallow footings on unreinforced soils and high costs for deep foundations, the Geopier System provided considerable cost savings with superior performance.

FOR MORE INFORMATION

Contact Geopier Foundation Company at **800-371-7470**
or at **www.geopier.com**



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The Intermediate Foundation System