

Capital One Office Building

McLean, Virginia



Project Description: Soil conditions at the site for this 14-story office building consist of residual silts of varying consistency. Column loads vary from 400 to 3080 kips. The geotechnical engineer was able to isolate areas of the building where the soils (weathered rock) could provide an allowable bearing pressure of 8 ksf. However, in other areas only 3 ksf was available. In areas where footings were located adjacent to new below grade walls, only 3 ksf bearing could be achieved on compacted fills. Geopier elements were recommended as a means to improve the weaker natural soils and fills so that all footings could be designed for 8 ksf. In areas where Geopier elements support footings placed adjacent to retaining walls, cement-treated aggregate was utilized to transfer the footing stress through the Geopier elements below the retaining wall footings.

THE GEOPIER ADVANTAGE

- Geopier Reinforcement allowed all project footings to be designed for 8 ksf bearing pressure.
- The savings in footing concrete going from 3 to 8 ksf resulted in net project savings.
- The use of cement-treated aggregate provided a means by which footings could be installed at the top of retaining wall elevation without overstressing the wall.

General Contractor: James G. Davis Construction, Rockville, MD

Architect: Ai Architects, Washington, D.C.

Structural Engineer: Rathgeber/Goss Associates Consulting Structural Engineers, Rockville, MD

Geotechnical Engineer: Engineering Consulting Services, Ltd., Chantilly, VA