

Geopier Intermediate Foundation System

The NOVA Award was presented to the Geopier System for innovation in intermediate depth foundations. Geopiers decrease construction time and save the cost of placing deep foundations or of replacing unacceptable soils.



On building sites where surface soils are not strong enough to support a building on shallow foundations, such as spread footings, alternatives have been costly in both time and money. The Geopier Intermediate Foundation System is a cost-effective alternative to piles and drilled concrete piers for supporting heavy building loads in weak soils.

Geopiers are constructed by building successive layers of densely compacted aggregate in a drilled or excavated shaft. 18-inch thick layers of uniformly graded aggregate are placed in the excavation and compacted with hydraulic rams at pressures which compact the aggregate layer and densify the surrounding soil layer, improving the load resistance of the combined pier-soil system. At grade level, footings or caps are cast on one or more piers to support the building structure.

Cost savings result both from the simplicity and low cost of materials and the relatively simple equipment needed to construct these foundations.

The Geopier System was developed by Dr. Nathaniel Fox of Lithonia, Georgia with assistance from Dr. Evert C. Lawton at the University of Utah. To date, Geopiers have been used to support structures ranging from commercial greenhouses to a five-story office building located in a seismic zone. The tallest structure constructed using Geopiers are twin 18-story towers built for a hospital expansion in downtown Atlanta, Georgia.

Geopiers provide an easily constructed alternative to traditional methods of supporting heavy building loads on poor soils. They are quickly built using low-cost equipment and readily available material.

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