



## Shaw's Supermarket

New Bedford, Massachusetts

**The Geopier GP3® system was selected to limit post-construction building settlement to less than one inch in the compressible organic soils**

**Description:** Site grade was raised approximately six feet to construct a 70,000 sq foot, 1 story supermarket and loading dock area and an adjoining 7500 sq foot retail building at the site of a former mill building. Typical interior column loads ranged from 35 to 183 kips with perimeter foundation walls and combination foundation/retaining walls bearing at 2 to 7.2 klf. Floor loading ranged from 150 to 250 psf.

**Subsurface Conditions:** A discontinuous layer of very soft to medium stiff, fibrous peat and organic silt up to nine feet thick was encountered beneath a 3 to 14 foot layer of variable "Urban Fill". Beneath the compressible organic deposits was a thick layer of medium dense to dense outwash sand and gravel. Groundwater was encountered at seven feet below grade.

**Geopier Solution:** The Geopier GP3® system was selected in this project and a total of 1,469 Geopier Rammed Aggregate Pier™ elements were installed to support spread footings bearing at 3.5 ksf and a slab-on-grade floor bearing on the pier supported compacted fill providing cost effective foundation support. The RAP elements, each constructed with open-graded stone, served as radial drains to quickly



dissipate the excess pore pressure developed in the organic soils in response to fill placement. Optical survey data obtained from settlement platforms installed immediately prior to fill placement indicated that primary consolidation of the organic deposits was completed in less than three weeks permitting staged construction to proceed rapidly to maintain an aggressive schedule. Two additional instrumented tests were performed to evaluate the impacts of preload fill on the compressible organic deposits. Settlement platform monitoring was completed to verify the completion of primary consolidation of the organic soils in response to preload fill placement prior to the start of foundation construction.

### PROJECT TEAM

**Owner:**

Shaw's Supermarkets, Inc.

**Geotechnical Engineer:**

The Geotechnical Group, Inc.  
Jaworski Geotech, Inc.

**Structural Engineer:**

Cubellis Associates, Inc.

**General Contractor:**

Tedeschi Realty Corporation

**Geopier Installer:**

Helical Drilling, Inc.

**Geopier Designer:**

Design/Build Geotechnical, LLC