



## Best Buy Store

Everett, Massachusetts

**Geopier provides confinement for piers constructed through thick, soft organic soils with, the addition of neat cement grout permitting the piers to carry 25 to 50% greater loads which results in a more cost effective design**

**Description:** A 45,000 square foot electronics store was constructed on a former urban manufacturing site.

**Subsurface Conditions:** Soil conditions consisted of 7 to 10 foot deposit of soft fibrous peat and organic silt encountered beneath a 7 to 13 foot thick layer of urban fill. Former manufacturing related hazardous materials and associated ground contamination was noted in the urban fill.

**Geopier Solution:** The soil conditions presented a significant challenge. Old caisson supported building foundation elements and hazardous manufacturing related contamination in the fill was quickly making the project uneconomical. With a thorough understanding of these ground conditions, an innovative ground support system consisting of Geopier GP3® and Impact® elements was developed to support spread footings and a slab-on-grade floor slab



for the project. The Impact system eliminated drill spoil and associated handling of contaminated soils and the grout, placed in the portions of foundation support Rammed Aggregate Pier® elements extending through the organic soils eliminated concerns for “bulging” of the piers into these soft soils under load. And finally, radial drainage offered by the grid of floor slab support piers permitted the soft organic soils to consolidate quickly beneath the grade raise fill to eliminate down drag loads and post construction settlement of the floor slab.

### PROJECT TEAM

**Owner:**

National Development

**Geotechnical Engineer:**

GZA GeoEnvironmental, Inc.

**Structural Engineer:**

Thorson Baker & Associates, Inc.

**Architect:**

Howell Belanger Castelli Architects

**General Contractor:**

Cranshaw Construction, Inc.

**Geopier Installer:**

Helical Drilling, Inc.

**Geopier Designer:**

Design/Build Geotechnical, LLC