

Subsurface Constructors

Ground Improvement

Union University Library



Installing 425 aggregate piers to achieve a 7,000 pounds per square foot (psf) bearing pressure

Completed in November 2015, the Union University Library was designed to be an iconic structure on campus, with a grand entrance from the campus lawn. To be constructed as designed, the structure would need aggregate pier ground improvement to achieve the high bearing pressure required.

Soils across the site generally consisted of medium stiff to stiff lean clay changing to clay-like sand with depth, becoming very stiff at roughly 20 feet. Although the on-site soil was relatively competent, it would not support the required bearing pressure of 7,000 pounds per square foot (psf), so Subsurface Constructors designed and installed an aggregate pier system to achieve this requirement.

Subsurface supported the shallow foundations using approximately 425 aggregate pier elements and several of the foundations required uplift resistance. Subsurface used grouted soil anchors to handle the uplift requirements on the project.

Project details:

Geotechnical Engineer: Construction Materials Library

General Contractor: H & M Construction

Services Provided: Aggregate pier ground improvement

Year: 2015

Location: Jackson, TN