



Casino Queen

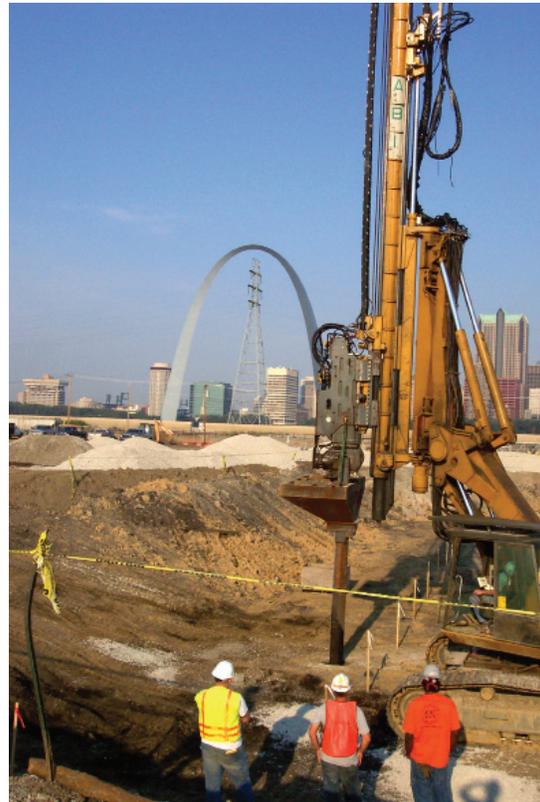
St. Louis, Illinois

Approximately 1638 Geopier Impact® elements were constructed and installed for foundation support and liquefaction mitigation for this new casino facility

Description: The project consisted of a 38,000 sq ft casino, a three-story parking garage, a 28,000 sq ft theater, a 43,000 sq ft B.O.H. (back of house), and another approximately 65,000 sq ft of retail, restaurant and entertainment areas. The design loads varied from 250 to 450 kips for columns, 4 kips/ft for walls, and a pressure of 750 psf for mat foundation.

Subsurface Conditions: The soil conditions consisted of 5 to 15 feet of soft to stiff clay, silt and sand fill mixed with debris and cinders, underlain by loose silty sand and sand and medium stiff silt and loose to medium dense silty sand to depths of 20 to 30 feet. Predominately dense sand to silty sand was encountered below a depth of 30 feet. Groundwater levels were encountered generally below a depth of 30 feet.

Geopier Solution: Approximately 1638 Rammed Aggregate Pier® elements were constructed and installed to penetration depths of about 17 feet below existing ground surface to provide improved foundation and floor slab support. Additionally, piers were installed in a grid pattern to mitigate the potential for liquefaction at the site.



PROJECT TEAM

Geotechnical Engineer:

Geotechnology, Inc.

Structural Engineer:

Clark Engineering, Corp.

General Contractor:

Clark Engineering, Corp.

Geopier Installer:

Foundation Service Corp.

Geopier Designer:

GFC-St. Louis