

Horseshoe Casino Expansion Council Bluffs, Iowa

Geopier® Rammed Aggregate Piers™

Project Team

Geotechnical Engineer: Terracon

Structural Engineer: Martin & Associates

Owner: Hnedak Bobo Group

General Contractor: C. Rallo Contracting

Geopier Installer: Peterson Contractors, Inc.

Geopier Designer: GFC — Midwest

The use of a Geopier® Rammed Aggregate Pier™ solution allowed the reduction of post-construction settlement of foundation and floor slabs to less than one inch.

Project Overview

Description:

Construction of a 181,500 square foot, single-story addition to the north of the existing Harrah's Casino. The column loads ranged from 70 to 510 kips and the floor pressures were 200 psf.

Subsurface Conditions:

Up to four feet of very stiff lean clay fill underlain by very soft to medium stiff fat clay to 17 feet. Soft silt and clay and loose silty sand were encountered below the fat clay. Groundwater was located at a depth of 12 feet.

Geopier Solution:

With concerns of excessive settlement from the fill and underlying soft soils, the geotechnical engineer recommended a Geopier RAP solution to provide foundation and floor slab support as a more cost effective solution than piles. Two crews worked through spring weather to install 657 piers in just 8 days. Pier lengths ranged from 10 to 19



feet for settlement control. Results of site-specific modulus testing indicated a pier deflection of only 0.25 inches and a design stress of nearly 8,000 psf. Flexibility during installation allowed relocation of several piers to avoid an existing waterline - eliminating possible downtime for redesign common with other systems.

FOR MORE INFORMATION
Contact Geopier Foundation Company at 800-371-7470
or at www.geopier.com



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The Intermediate Foundation System