

Shorelines Casino Peterborough, Ontario

Challenge

A casino structure was proposed to be built on a 3.6-hectare area of land. Soil conditions largely consisted of a sand to sandy layer with a layer of gravel fill (loose to compact) up to 1.4 metres in thickness. This was underlain by a loose to compact native silty sand layer, which was underlain by a loose native silt layer, which extended until termination of the boreholes. The loose soils were not suitable to be built upon, endangering the proposed multi-million-dollar project.

Solution

GeoSolv proposed the use of Geopier® elements utilizing the Geopier Impact® method to support the spread and strip footings of the proposed casino. The RIC system was utilized for the slab support, ironing out the differential settlement that was a concern for the engineering team. The RIC system was verified with onboard computer feedback as well as a difference plot of elevations based on before and after drone surveys. The Geopier system was designed for sufficient shaft lengths to support the foundation load completely in friction. Geopier installation was verified through 100% on-site QC and full-scale load testing to confirm design parameters.

Outcome

The RIC supported slab and Geopier supported footings combined for a cost-effective approach and provided for a quick schedule to get the project out of the ground. The beautifully designed casino opened in October of 2018.



The 49-million-dollar, state-of-the-art gaming complex in Peterborough

General Contractor
Matheson Constructors

Structural Engineers
Wicke Herfst Maver Structural
Engineers

Project Team

Architect
Salter Pilon and Chris Dikeakos

Geotechnical Engineer
GHD Engineers

Owner
Great Canadian Gaming
Corporation

Ground Improvement - Rigid Inclusions - Piling Systems - Slope Stability - Ground Reinforcement

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at (905) 266-2599 or email us at solutions@geosolv.ca