

Humber River Hospital – Parkade & Retaining Wall Toronto, Ontario

| Challenge

The proposed project consisted of the construction of a 4 to 6-storey parking structure to the southwest corner of the hospital. A geotechnical investigation was carried out at the location of the parkade where soil conditions consisted of a surficial layer of topsoil or asphalt over up to 2.25 metres of sandy silty clay fill, underlain by a firm to stiff silty clay till that extended about 20+ metres below grade. Under the clay till was sandy silt till that had some compact zones but was mostly dense and not of end-bearing quality. Bedrock was also encountered at 50m below grade!

| Solution

After careful consideration, the Geopier GP3® system was selected as a versatile and effective replacement when compared to deep friction caissons for the entire parking structure. Certain zones required the use of cement treated aggregate in some of the Geopier elements, which helped to carry loads past existing buried infrastructure. The remainder of the elements were constructed with 100% recycled concrete aggregate, making this a very green method for foundations.

| Outcome

The Geopier GP3 system helped meet the projects aggressive schedule by simplifying the projects foundation challenges, along with greatly reducing the overall cost of this important project. Rapid response to additional challenges identified on other parts of this massive hospital project allowed for a cost-effective solution to other structures on-site in addition to the parking structure.



Humber River Hospital received LEED® Gold certification due in part by utilizing the Geopier GP3® system

Project Team

G.C./Owner
PCL (P3 Consortia)

Structural Engineer
Halsall

Geotechnical Engineer
Amec Foster Wheeler

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

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