

Jazz Condominiums Burlington, Ontario

| Challenge

The proposed site was once a riverbed, which was gradually filled in over time, resulting in a site with up to 6 metres of undocumented sandy fill in a loose state. The groundwater level at the site was approximately 0.75 metres to 1.2 metres below the parking level. The foundations of this structure were subject to column loads of up to 1,200 kN, wall loads of up to 150 kN/m and slab loads of 12 kPa. The settlement criteria for the structure was 1-inch total settlement and 3/4 inches differential.

| Solution

Ultimately, the Geopier Impact® system was chosen after the realization that dig/replace was not a cost-effective or viable solution to this challenging foundation project. The displacement Impact system was selected over piling options that would have required the additional design of pile caps, grade beams and a full structural slab. Impact allowed for simple ground improvement installation in collapsing soil conditions.

| Outcome

Installation of the Geopier elements was conducted rapidly from existing grade, which was then cut down later. All of the work was able to be completed prior to obtaining foundation permits, providing a major boost to the project's overall schedule. Geopier capacities were verified in the field by a full-scale load test, which demonstrated less than 12 mm of deflection at the maximum design load.



Jazz condos, a distinctively designed addition in the heart of Burlington

Project Team

General Contractor
VanMar Constructors

Structural Engineer
Tacoma Engineering

Geotechnical Engineer
Soil-Mat

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

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