

How Geopier® Delivered Cost-Effective Ground Improvement for a Complex Senior Living Project



Chateau Madeleine Senior Living Complex

Melbourne, Florida

CHALLENGE

The Chateau Madeleine Senior Living Complex—an eight-story, 81-suite development in Melbourne, Florida—required a foundation solution capable of supporting multi-story structural loads while working within a constrained site adjacent to an existing structure.

Originally designed with auger cast piles, the project team faced cost pressures and constructability challenges tied to the deep foundation system. A more efficient solution was needed—one that could reduce costs, simplify installation, and maintain the project schedule without compromising performance.

GEOPIER® SOLUTION

Geopier® partnered with the project team to deliver an alternative foundation approach using Rammed Aggregate Piers® (RAPs) installed with the Impact® system. This provided a displacement-based ground improvement solution ideal for supporting the structure's loads, while enabling efficient installation within a constrained space. To support footings next to existing structures, DIPs (Ductile Iron Piers) were used to minimize vibrations and make it possible to install ground improvement elements within two feet of the adjacent structure.

Benefits of the Impact® System include:

- Increased bearing capacity for multi-story structures
- Reduced settlement compared to native soils
- Efficient installation in tight or restricted site conditions
- No spoils or haul-off requirements

RESULTS

The Geopier® solution delivered significant value, reducing foundation costs by nearly 40% compared to the original deep-foundations design. As important, the efficient installation process helped maintain the project schedule from start to finish, with work completed between September 2025 and April 2026.

Offering constructability advantages, reliable performance, and cost savings, the solution enabled the project team to move forward with confidence—keeping timelines on track while meeting the demands of a complex, space-constrained site.

GEOPIER®

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PROJECT TEAM

Owner

Chateau Madeleine Senior Living

General Contractor

Leopardo Construction

Licensee

Peterson Contractors, Inc.



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