

GEOPIER®

IMPACT® SYSTEM Rammed Aggregate Pier® Technology



The Impact® pier system is Geopier's solution to soils that simply won't stay open during drilling. Impact piers are a displacement type system that uses a steel pipe mandrel outfitted with a patented compaction chamber to penetrate through caving soils and construct piers from the bottom up. This installation method allows for the construction of high-quality Rammed Aggregate Piers (RAPs) below the groundwater table without having to worry about contamination and/or fouling of the aggregate. The end result is a dense column of aggregate surrounded by stiffened matrix soils that provide excellent settlement control and allow for higher bearing capacities.

APPLICABLE SOIL TYPES

- Caving sands below the groundwater table and soft squeezing clays and silts
- Organic soils after the addition of grout to the aggregate
- Liquefiable soils

DESIGN CONSIDERATIONS

- Can be used for any Geopier application
- Can be installed to depths of 55+ feet
- Grouted Impact piers are ideal for organic soils, heavy loads, or adjacent structures
- Great for mitigating liquefaction-induced settlements
- Ideal for typical settlement tolerances (1 inch total; ½ inch differential)
- Foundations can be designed as conventional spread footings with typical bearing pressures of 3 to 8 ksf /10+ ksf with grout
- Slabs can be constructed as conventional slab-on-grade
- Can be used for uplift and lateral resistance

CONSTRUCTION CONSIDERATIONS

- Eliminates the need for casing and the associated cost and schedule impact
- No spoils/haul-off - ideal for environmentally impacted sites
- Often results in 20% to 50% cost savings compared to traditional alternatives (removal and replacement and deep foundations)
- Rapid installation process means shorter construction schedules

INSTALLATION PROCESS

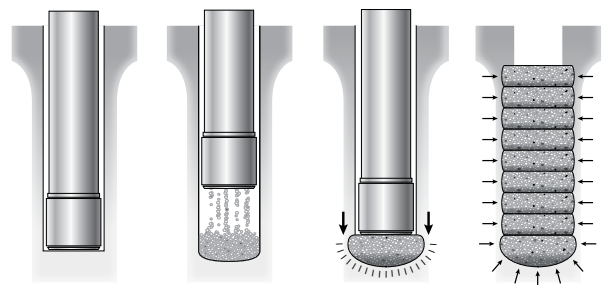
Geopier's Impact piers are installed as follows:

Step 1: Advance the displacement mandrel through unsuitable soils to the desired design depth.

Step 2: Withdraw the mandrel several feet to allow open-graded aggregate to flow into the annular space.

Step 3: Redrive the mandrel to densify the recently placed aggregate and surrounding soils.

Step 4: Repeat steps 2 and 3 to construct a dense column of aggregate in 2-foot-thick lifts to the ground surface.



Watch system installation videos at www.geopier.com

Whether you are an engineer, contractor, or owner - We can help.

For more information on Geopier solutions, call **800-371-7470**, visit www.geopier.com or email info@geopier.com

