

# GEOPIER®

## X1® SYSTEM

### Rammed Aggregate Pier® Technology



The X1® pier system is Geopier's newest "drill and fill" solution. This system is ideal for non-caving soils that stay open during drilling but can also be used as a displacement system in clean sands. Geopier X1 piers are constructed using a track-mounted auger to drill out unsuitable soils and a specialty mandrel mounted to a mast rig to construct the Rammed Aggregate Pier (RAP) elements. The specialty mandrel and larger equipment allows for significantly faster and cheaper pier construction. 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

- Non-caving soils such as clays, silts, and sands with high fines content
- Clean sand profiles
- Organic soils using cemented treated aggregate (CTA)

#### DESIGN CONSIDERATIONS

- Can be used for any Geopier application
- Can be installed to depths of 40+ feet
- CTA piers are ideal for organic soils, heavy loads, or adjacent structures
- 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 for RAP/ 10+ ksf with CTA
- Slabs can be constructed as conventional slab-on-grade
- Can be used for uplift and lateral resistance

#### CONSTRUCTION CONSIDERATIONS

- Generates minimal spoils compared to removal and replacement
- 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

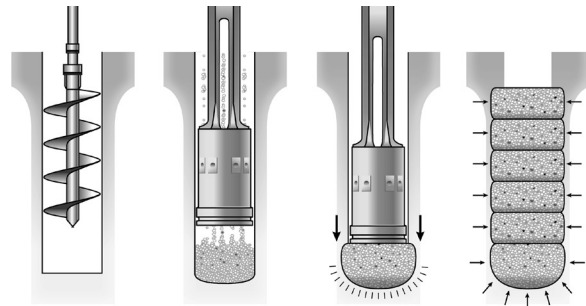
Geopier's X1 installation process consists of the following:

**Step 1:** Drill out the unsuitable soils to the desired design depth using an auger.

**Step 2:** Place aggregate at the bottom of the shaft.

**Step 3:** Densify the aggregate and surrounding soils using a patented tamper to create a "bottom bulb."

**Step 4:** Place and densify aggregate in 3-foot-thick compacted lifts to the ground surface.



Watch system installation videos at  
[www.geopier.com](http://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](http://www.geopier.com)  
or email [info@geopier.com](mailto:info@geopier.com)

