Concentric Pier Installation Sequence

Quiet vibration free hydraulic equipment is used to install the ECP Steel Pier ™ . All installation equipment is portable and can be manually transported on the jobsite and into position. After all of the piers are installed and load tested, the structure can be immediately restored by transferring the load to the piers. There's no time wasted, waiting for concrete to cure, and no soil to remove from the site. A measured factor of safety is verified, as the piers are 100% load tested to a force greater than the actual working load.

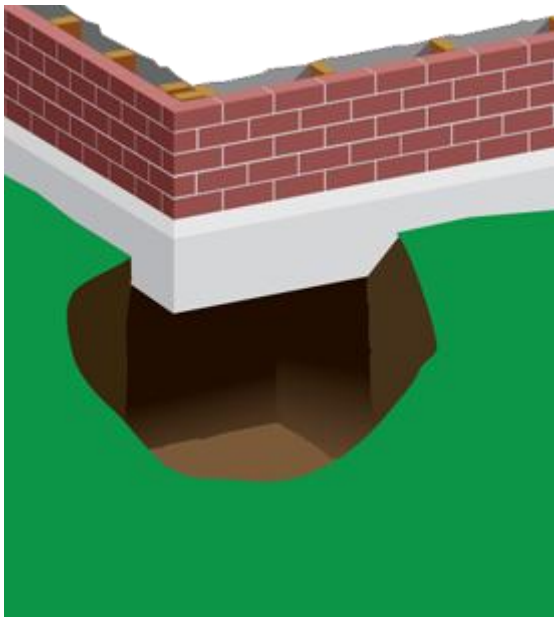
Whether your foundation is stone, concrete block or poured concrete, the ECP Steel Pier™ should be your first choice as an underpinning solution. .Foundation repair or underpinning projects are usually completed in days, not week s. Should conditions change, the piers can be easily inspected, tested and/or adjusted.

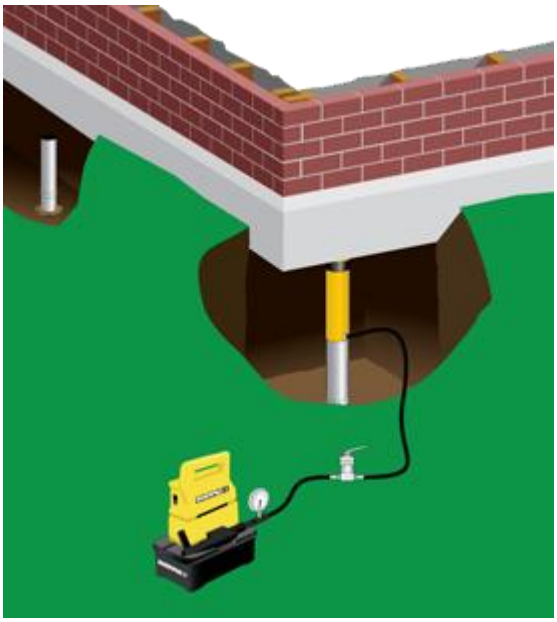
The following nine steps provide an example of the typical installation procedure. Figure 1 shows a structure with a spread footing. Please refer to ECP Typical Specifications for the specific and detailed product installation requirements.

1. Site survey: Pier placements are located and the location of underground utilities verified.

2. Excavation: Small excavations are dug for access at each placement location. The space required at the foundation is usually about 3 feet square. Below the footing needs to be excavated 26” and from the center of the stem wall back 6”.

3. Preparation of the foundation: This includes preparing the bearing area under the footing to a smooth and level condition, and leveling the soil for placement of the starter pipe.

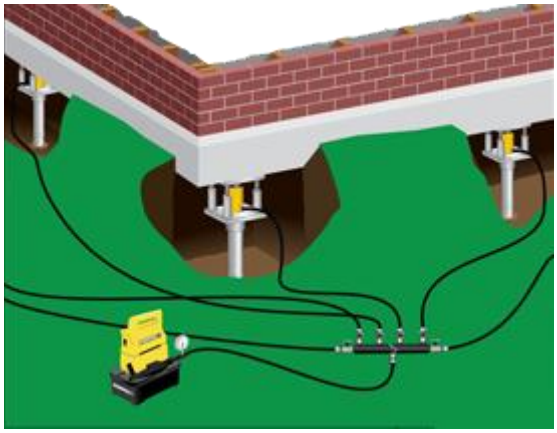




4. Pier Pipe Installation: The pier pipe is advanced into the soil using a small portable high-pressure hydraulic cylinder and pump. Each section of pier pipe measures 12” long so low overhead clearance is not a problem during installation. The piers may be installed from outside or inside the structure.
Pier installation continues until rock or suitable bearing is encountered below the unstable soil near the surface.

5. Load Test: Every pier is load tested by increasing the force on the pier to insure the rock or other firm bearing is proven substantial enough to withstand a load greater than needed to restore the structure. The structure provides the reaction force for installing and load testing the pier. Depending upon the type of structure and condition, factor of safeties from 1.25 to 3.0 can typically be generated.

6. Preparations for Restoration: Once all piers have been installed, load tested, and the installation data at each placement recorded; add the bottom plate and bearing plate assemblies with hydraulic lifting rams placed on the piers. The rams are connected to one or more manifolds and hydraulic hand pumps.



7. Restoration: Under careful supervision, the load is transferred from the failing soil under the foundation to the pier system. The structure is gently and evenly lifted to as close to the original elevation as the structure will allow or to the specified design elevation. The adjustment rods are tightened on the bearing plate the pier caps are secured at each placement and the lifting equipment is removed.

8. Clean Up: The soil that was excavated at each pier placement is now replaced and compacted. The site is left clean and neat.