

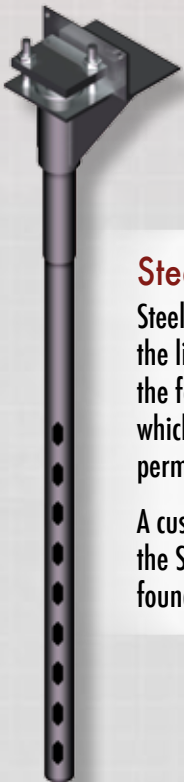
## Foundation Underpinning

There are many reasons why a geological engineer would design an underpinning procedure to secure your property. Fractured or shifted foundations due to settlement would cause a structure to need to be lifted back into place, leveled, or perhaps just stabilized against further settlement.

All applications of steel underpins demand the pile to be driven or drilled to competent capacity and/or bedrock and secured to the foundation with brackets capable of bearing at least twice the load necessary to secure the structure.

All brackets utilized in residential and commercial projects, by **Secure Foundation Systems, Inc.**, have been tested and approved by the manufacturer. All steel underpins are installed in specific increments around the perimeter of your building. The type of steel underpins utilized are chosen by your engineer from an array of processes available.

The professional staff at **Secure Foundation Systems, Inc.** has the knowledge, capability, and experience to install any underpinning process chosen by your geological engineer.



### Steel Pressure Underpins

Steel Pressure Underpins (shown left) are hydraulically driven to the limestone bed under high pressure until they lift or stabilize the foundation., utilizes high-tech hydraulic-precision machinery which allows the underpins to be installed giving the structure the permanent support your engineer expects.

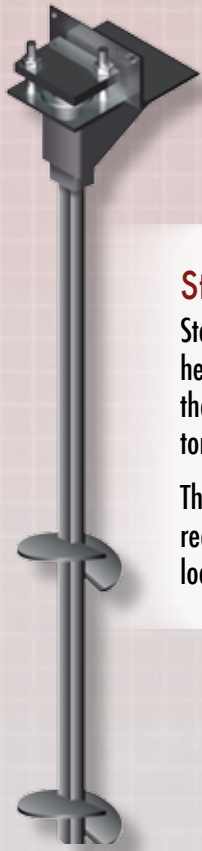
A custom bracket assembly (shown right) attaches to the top of the Steel Pressure Underpin, securely fastening it to the building's foundation.



Bracket securing the underpin to the foundation of the structure.

All brackets installed by **Secure Foundation Systems, Inc.** are fully adjustable. Any vertical adjustment later required can be easily accomplished with no adverse impact on the property.

## Foundation Underpinning (Continued.)



### Steel Helical Underpins

Steel Helical Underpins (shown left) are piles with a square shaft enhanced by welded screw-like helices (plates). The helices size and multiplicity necessary is determined by your engineer's study of the soil strata which was collected by the series of tests he or she performed prior to remediation. The shaft extensions are bolted together to allow sufficient torque drive for installation at a pre-determined depth.

This type of underpin is drilled with precision equipment to achieve a capacity conducive to your Geological Engineers' recommendation. During the drilling process, the procedure is monitored for projected soil bearing capacity, resistance lock, or the required torque to be achieved.

All underpins and bracket systems installed by Secure Foundation Systems, Inc. are custom manufactured specifically for your unique project. Our systems are **GUARANTEED** to achieve a compression (load bearing) capacity that **EXCEEDS** your Engineer's specifications.

### Steel Auger Piers

Steel Auger Piers (shown right) are utilized when drilling is required to penetrate areas of dense and/or non-porous soils such as clay or “high blow count” layers. Steel Auger Piers are always drilled or “augered” down to the top of the limestone or load bearing strata as determined by your Engineer.

In specific situations where the foundation problem is not related to sinkhole activity, but because of poor pre-construction soil compaction or excavation and/or where the lime rock surface is very shallow, Steel Auger Piers may be the Engineers' choice for your project.

Steel Auger Piers are drilled with precision equipment to achieve a capacity conducive to your Geological Engineers' recommendation and are often “pressure grouted” as a final remediation procedure.

