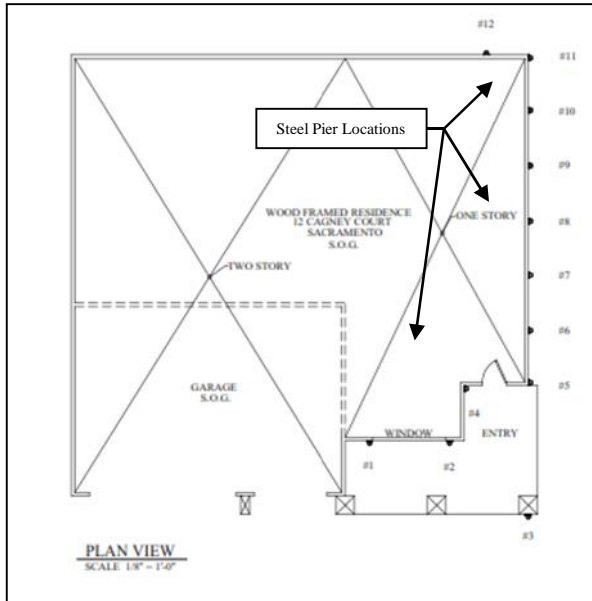


# Case History

# Bay Area UNDERPINNING

## Settling Sacramento Home Underpinned and Restored



The homeowner reported sloping floors and cracks both inside and outside the house. ECP Steel Piers™ were recommended by the engineer to be installed around the settled portion of the perimeter of this structure. The steel piers were designed to provide not only structural support, but to recover lost elevation. The ECP Steel Pier™ system, with under footing brackets, were installed at each pier placement indicated on the engineer's plan. Because the ECP Steel Pier™ require only a small, hand dug excavation, there was minimal disruption to the yard during the short construction period. Rapid installation was accomplished at each pier placement

Each pier was advanced through the failing soil under the house until the pier encountered suitable support. Once end bearing was reached, each ECP Steel Pier™ had a proof load (load test) between 11,900 and 29,700 pounds applied to verify the end bearing capacity. The proof test on each and every placement insured sufficient capacity to safely lift the settled foundation back to the original elevation and to provide stable long term structural support.



There was minimal disturbance to the occupants during the

restoration process because the ECP Steel Piers™ were installed using quiet, vibration free hydraulics. It was "business as usual" in the house during the underpinning project.

Once all piers were driven to suitable load bearing and capacity of each pier verified, the structural load from the house was transferred from the failing soil under the structure to the verified bearing stratum deep below the surface.

The lost floor elevations were recovered by using one lifting jack



at each pier location to accomplish the load transfer and structural lift. This gentle and uniform load transfer was accomplished with twelve jacks working together using manifolds and hydraulic pump. Bay Area Underpinning was able to restore the floor to within 1/4 inch of the original elevation.

Project Summary	
Project:	Talusik Residential Restoration – Sacramento, CA
Engineer:	Clifford Tanaka, PE – Novato, CA
Installer:	Bay Area Underpinning - Vallejo, CA
Product Installed:	ECP PPB-300 Steel Pier™
Number of Placements:	12
Depth to Bearing:	14 to 59 feet
Ultimate Limit Capacity:	68,000 lb.
Recovered Elevation:	Up to 1-1/2 in
Average Test Load:	23,950 lb.
Average Lifting Load:	8,580 lb.
Average Factor of Safety:	2.8 : 1 Test Load to Working Load 7.9 : 1 Ultimate Limit To Working Load