

# Case History

# Bay Area UNDERPINNING

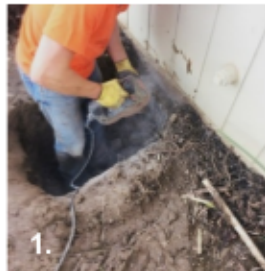
Twelve ECP Steel Piers™

Recovered Three Inches of Lost Floor Elevation



Earth Contact Products' steel piers stabilized and raised this residence up to three inches. Twelve ECP foundation brackets were mounted under the footings and twelve ECP Steel Piers™ were driven 44 feet deep, on average, to firm bearing. Each pier was field tested to a load between 22,500 and 23,750 pounds to confirm suitable firm bearing. Each steel pier is now supporting 12,360 pounds, which is the working load required to recover lost elevation and provide long term support.

ECP PPB 300-UF Steel Piers™ were installed at each location shown on the plan. Because this steel pier product offers rapid installation and the pier placements required only a small, hand dug excavation; there was minimal intrusion on the property and the owner's normal activities were not greatly impacted.



The photos above illustrate the installation process: 1. Small excavations are hand dug to provide access, then a technician prepares the concrete footing. 2. The ECP bracket is mounted to the foundation. Then the pier pipe is driven to firm bearing, field load tested, and the structure is restored to design elevation. 3. The installed and complete ECP Steel Pier™ installation is shown.

Project Summary			
Project:	Coman Residential Restoration		
Installer:	Bay Area Underpinning - Vallejo, CA		
Engineer:	Clifford Tanaka, PE - Novato, CA		
Product Installed:	ECP PPB-300-UF Steel Pier™		
Number of Placements:	12	Depth to Bearing:	44 feet
Ultimate Limit Capacity:	68,000 lb.	Recovered Elevation:	Up to 3 inches
Average Test Load:	23,100 lb.	Average Service Load:	12,360 lb.
Average Factor of Safety:	1.9 : 1 Test Load to Working Load 5.5 : 1 Ultimate Limit To Working Load		

Following the recovery of three inches of settlement on the perimeter, it was discovered that the interior floor was badly damaged because the builder did not reinforce the slab. In order to restore the interior floor to level, the engineer ordered additional supports on the interior and the replacement of approximately 300 square feet of substandard concrete floor.

The project was extremely successful for Bay Area Underpinning. This structure was restored close to original elevation; and, after cleanup, it is nearly impossible to detect that the structure had been repaired.



Piers #9, #10 and #11 are seen here installed and supporting the structure.