

# Cool and Cobb Engineering Company

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Date: 12/12/2024

Job: 24-1433

Job: Stephen Lee

Location: 1900 US-41, Lake City, FL 32055

## PUSH PIER DESIGN ANALYSIS

The load requirements for the pilings designed to assist in supporting the identified areas of the subject residence were determined. The selected piling locations and the specific piling are identified on the Pier Identification and Location Plan attached. The calculated total loads on the piles in the specific location, including both dead and live loads are documented in the attached table which is designated as Attachment "A". Based on the total load requirements for each of these piles, the push pier driver is to be employed. The push pier driver should be employed with a calculated load of 28,500 lbs., which will provide pile capacity, including the 2 to 1 safety factor of 57,000 lbs. which is greater than the maximum calculated total load of 28,500 lbs. which occurs on the pile identified as no. 1. Based on this analysis, the use of the push pier driver for the ECP piles with a specific load of 57,000 lbs. and a minimum depth of 15' is approved and certified as meeting all the requirements of the Florida Building Code 2023 8<sup>th</sup> Edition, and good engineering practice. This is not to be the primary support structure, but a supplement support to assist in support of the weight of the structure, which will reduce the total pressure on the existing soils. After completion of installation, Cool and Cobb Engineering Company shall be supplied with a drilling log of the location and depths of each pile installed so they can evaluate the installation and prepare the "As Built" drawings.

### General Notes:

1. A log of each pile to be kept by Contractor noting depth for each pile.
2. Piles installed less than 48" apart are to be battered 10° away from each other.
3. All pile calculations are based on a maximum spacing of 8'-0".
4. This design is based on the loads of the structure placed on the shallow soils under the structure.
5. No deep soils geotechnical testing information was provided for this design.
6. This design does not address any possible sink hole activity as defined in Florida Statute § 627.706.

12/12/2024

Kenneth F Wheeler, P.E.

State of Florida

Professional Engineer No. 60417



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by Kenneth F  
Wheeler  
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Created 11/20/2024



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Project # 24-1433

## Attachment "A"

Total Load on Support (Live Load + Dead Load)

SUPPORT NO.	TOTAL CALCULATE LOAD	
1	28,500	lbs
2	25,700	lbs
3	16,800	lbs
4	18,800	lbs
5	19,780	lbs
6	19,780	lbs
7	18,800	lbs
8	16,800	lbs
9	16,800	lbs
10	19,600	lbs

Maximum Total Load on Pile: 28,500 lbs



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Wheeler  
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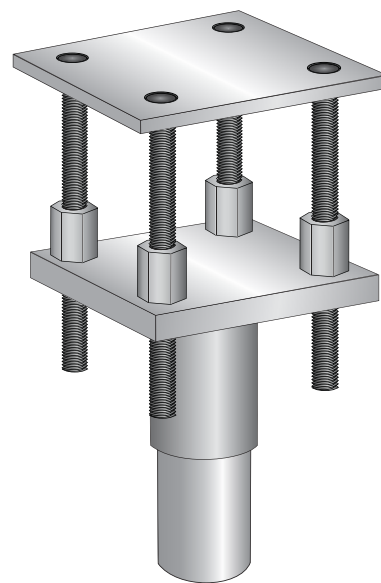
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PE# 60417

Cool and Cobb Engineering Co.  
203 W. Main St.  
Avon Park, FL 33825



## The ECP Concentric Pier

The Patented ECP PPB-250 concentric pier is the latest in steel resistance piling. The unique design and engineering allows you to use ECP push pier technology directly beneath the load or footing. The steel pier design penetrates the soil deeply beyond the active expansive clay soils to a true end bearing configuration. ECP, the leaders in steel pier technologies, has created the strongest and deepest driving concentric pier system on the market today!



### *Another Choice for Foundation Repair Underpinning!*

No longer do you have to settle for weak, shallow driving under footing piers. The PPB-250 pier system drives deeper, lifts larger loads and is more stable than any other concentric pier on the market. The engineers at Earth Contact Products developed this pier to be placed directly under loads for crawl space applications, limited access areas and slab on grade homes.

The PPB-250 steel pier was designed to be the strongest foundation pier in the industry by combining galvanized steel pier material with a manifold lifting system. It is installed centrally beneath the footing rather than outside of the footing, thus transferring the structural load directly on top of the pier bracket. Our concentric pier system will achieve the greatest depth while installed in a position to provide the greatest support.

#### **Designed to be the strongest foundation structural support in the industry**

- Made of galvanized steel pier material
- Sturdy enough for commercial foundations
- Uses hydraulic manifold lifting system
- Installs with industry leading 10,000 psi system
- Designed by engineers for homeowners

**Creates a deep foundation that exceeds your home's original structural strength!**

**EARTH  
CONTACT  
PRODUCTS**

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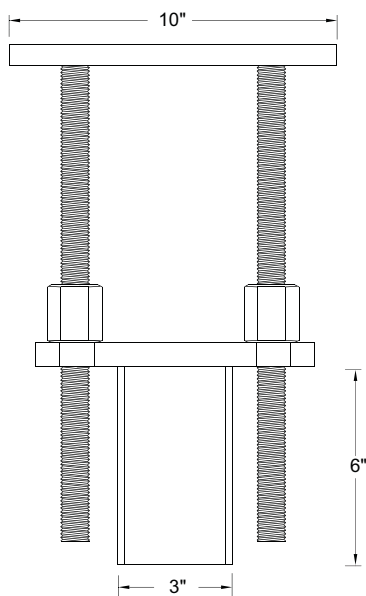
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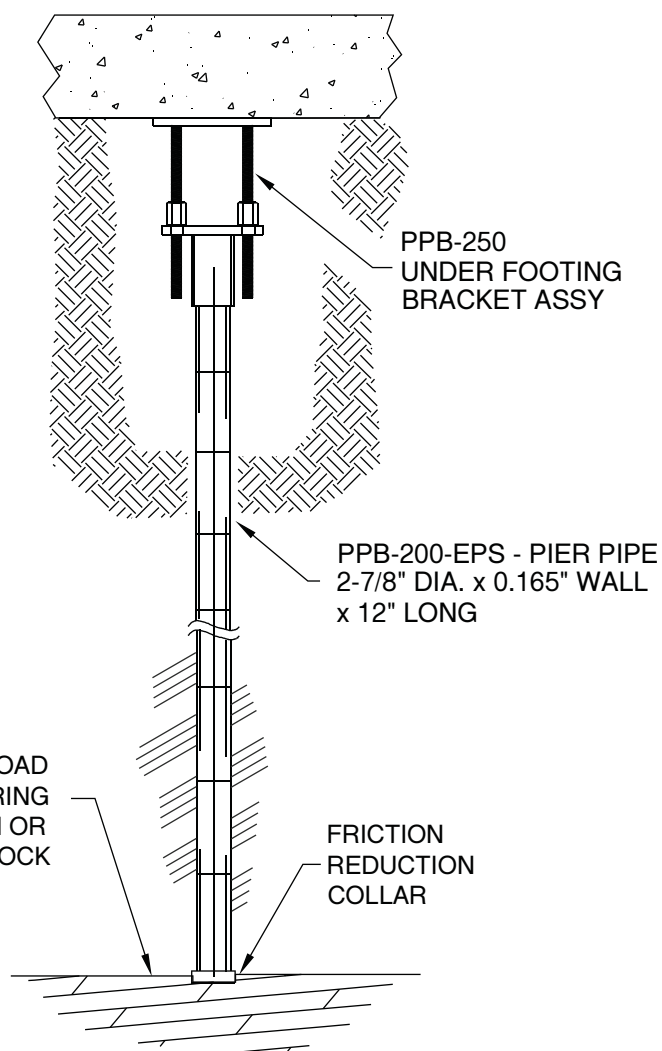


## ECP Steel Pier™ - PPB-250 Utility Bracket Pier System



PPB-250  
Utility Bracket Details

- Ultimate Capacity – 54,000 lb
- Fully Adjustable Unlimited Lift Capability
- Installs From Outside or Inside Structure
- Friction Reduction Collar On Lead Pier Section
- Installs With Portable Equipment
- Installed With Little or No Vibration
- Installs To Rock or Verified Load Bearing Stratum
- 100% of Piers Field Load Tested During Installation



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