Cool and Cobb Engineering Company

Date: 4/10/2025 Project: 25-1141

Job: House Buyer Joe LLC

Location: 253 SW Huntington Glen, Lake City, FL 32024

HELICAL PILE - DESIGN ANALYSIS

The load requirements are determined for the pile design to assist supporting and stabilizing the identified areas of the subject structure. The specific pile locations and type are identified on the layout sheet. The calculated total load, including both dead and live loads, are documented on Attachment "A". Based on the total load requirements for each pile, the Pro-Dig L6K5 driver is to be used achieving a minimum gauge pressure of 1,400 psi, which will provide pile capacity, including 2 to 1 safety factor, of 31,929 lbs., which is greater than the maximum calculated load of 15,270 lbs. which occurs on pile No. 1. Based on this analysis, installation shall achieve both the above calculated psi and a minimum pile depth of ten (10') feet which is approved and certified as meeting the requirements of the Florida Building Code 2023, 8th Edition, and is good engineering practice. The piles are supplemental supports to assist in stabilizing the existing foundation, which will reduce the total pressure on the existing soils.

The first pile installed on site will be considered a test pile. If the minimum psi is not achieved within 25' or if voids or soft soil conditions are found, the contractor shall stop the installation and notify the engineer, for re-evaluation. At completion of the installation, Cool and Cobb Engineering Co. shall be supplied with a detailed Installation Log, including final location, depth, and psi, of each pile for evaluation and completion of the "As Built" report.

General Notes:

1. This design is developed per field assessment data by contractor and is based on agreement between contractor and owner. Cool and Cobb Engineering Co. Engineer has not performed an on-site structural assessment of the structure.
2. This design provides stabilization to the area receiving supplemental support only. Structure may require additional stabilization to other affected areas not addressed in the contractor/owner agreement.
3. This design is based on the estimated loads of the structure placed on the shallow soils under the structure. No deep soils geotechnical testing information was provided for this design.
4. This design is based on a maximum of 8' pile spacing with no piles under windows or door openings.
5. All piles to be installed in accordance with ICC ES AC 358
6. This design does not address any possible sink hole activity as defined in Florida Statute § 627.706.
7. Any piles installed less than 48" apart are to be battered 10° away from each other.
8. In the event stabilization results in any void below foundation, chemical grout should be applied to provide continuous support below concrete foundation and/or slab. Contractor shall use caution as any lift could damage below slab utilities.
9. Contractor to document and certify any installation design changes (with reason for field changes) on installation log and redline plan for "As Built" report.

4/10/2025
Kenneth F. Wheeler, P.E.
State of Florida
Professional Engineer No. 60417

Digitally signed by Kenneth F Wheeler
Date: 2025.04.10 16:06:55 -04'00'

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Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

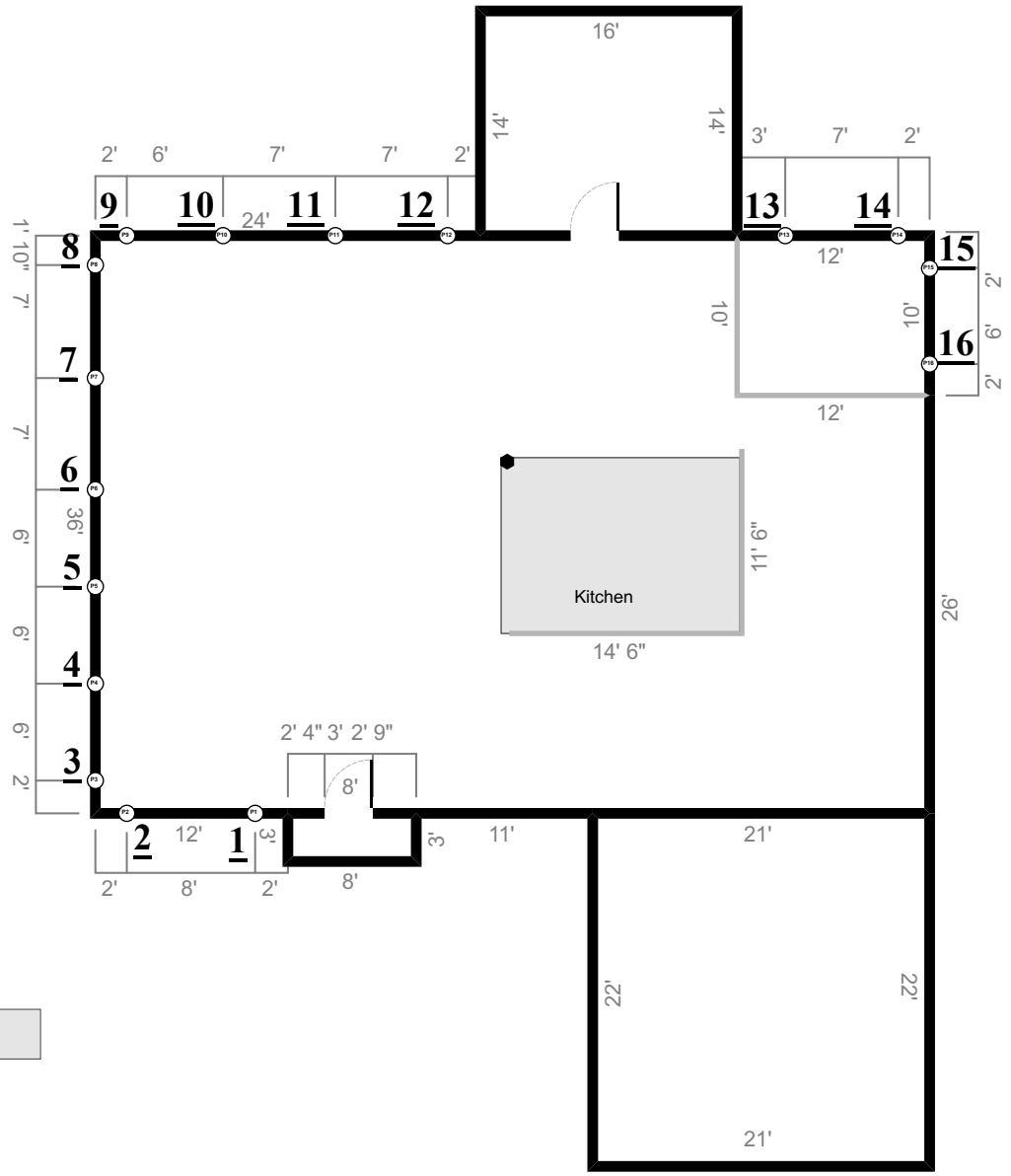
203 W. Main St.
Avon Park, FL 33825
Office: (863) 657-2323

Contractor: **Foundation Professionals of Florida**

Legend

Foundation

1-16 New Helical Piles



Brick Block Structure
Built: 1997
Found: Concrete Slab
Slab depth: 12 inches
Siding: Brick
Roof: Shingle

FPI to install: Up to (16) ECP helicals

N

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Date: 2025.04.10 16:07:20 -04'00'

4/10/2025
Kenneth F. Wheeler, PE #60417
Cool and Cobb Engineering Co.
203 W. Main Street,
Avon Park, FL 33825

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House Buyer Joe LLC - Foundation Repair

Foundation Professionals of Florida
3309 SW State Road 247
Lake City, FL 32024
www.foundationprosfl.com
(386) 755-3002

Project Address
House Buyer Joe LLC
Josiah Murdaugh
253 SW Huntington Glen
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Created By
Brandon Gregory
(386) 755-3002
estimates@foundationprosfl.com
Created 4/7/2025

Cool and Cobb Engineering Company

Date:	4/10/2025	Project #	25-1141
Job:	House Buyer Joe LLC		
Location:	253 SW Huntington Glen, Lake City, FL 32024		

Attachment "A"

Total Load on Support (Live Load + Dead Load)

SUPPORT NO.	TOTAL CALCULATE LOAD	
1	15,270	lbs
2	12,000	lbs
3	7,500	lbs
4	9,000	lbs
5	9,000	lbs
6	9,750	lbs
7	10,500	lbs
8	8,000	lbs
9	7,500	lbs
10	9,750	lbs
11	10,500	lbs
12	14,250	lbs
13	12,750	lbs
14	8,250	lbs
15	7,500	lbs
16	10,500	lbs

Maximum Total Load on Pile: 15,270 lbs

Digitally signed by Kenneth F Wheeler
Date: 2025.04.10 16:07:45 -04'00'

4/10/2025

Kenneth F Wheeler, P.E.

PE# 60417

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Cool and Cobb Engineering Co.
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Avon Park, FL 33825

PRO-DIG™
Reliability Under Pressure

Model L6K5 with Bail

L6K5	
Motor Mount	SAE "A" 2 Bolt
Motor	198cc Bidirectional Speed
Min. Hydraulic Flow	5 GPM
Max. Hydraulic Flow	16 GPM
Max. Continuous Pressure	2500 PSI
Unit Weight	132 Lbs.
Output Shaft	2" Hex

OUTPUT SPEED

FLOW GPM (LPM)	SPEED RPM
5	6.3
10	8.1
12	9.9
16	13.8

OUTPUT TORQUE

PRESSURE PSI	TORQUE FT/LBS (Nm)
900	2281
1200	3041
1800	4561
2500	6335

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Model #	Shaft Dia. (O.D.)	Wall Thickness	Max Torque	Deformation @	Torque Factor (K_t)	Ultimate Capacity
HP237	2-3/8"	0.154"	2,500	2,500	10	25 kips
HP287	2-7/8"	0.203	5,600	5,300	9	50.4 kips
HP288	2-7/8"	0.276	7,900	7,500	9	71.1 kips
HP350	3-1/2"	0.340	17,500	14,500	7	122.5 kips
HP450	4-1/2"	0.337	22,000	18,500	5.5	121 kips
HA150	1-1/2" square		6,500	4,500	10	65 kips
HA175	1-3/4" square		10,000	7,500	10	100 kips

Capacity Calculation Examples

Drive Head	FSI Model#	Kt	Diff. PSI	Equation	Ultimate	Allowable
Eskridge 50-16	HP288	9	1400	Kt x Torque (9 x 4,262)	38,358 lbs	19,179 lbs
Prodig X9K5	HA150	10	1400	Kt x Torque (10 x 4,509)	45,090 lbs	22,545 lbs
Pengo MDT-12	HP350	7	1400, HT	Kt x Torque (7 x 7,671)	53,697 lbs	26,848 lbs

TAF-288L-84-10-12 -- Round Pipe Shaft 2-7/8" (73.02 mm) OD Lead Section

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Product Specifications	
Anchor Style	Round Pipe Shaft (288L) Anchor
Component	Lead Section
Number of Helices	2
Helix Diameter	10"(254mm) - 12"(305mm)
Length	84"(2134mm)
Pipe Wall Thickness	.203"(5.156mm)
Flight Thickness	3/8"(9.5mm)
Flight Yield Strength	50,000 lbs (222.4 kN)
Torque Rating	5,500 Ft Lbs
Coating	Hot-Dip Galvanized
Standard Package	25
Standard Package Unit	EA
Min Order Qty	1
Weight/Ea.	59 lbs
Weight Per Pallet	1475 lbs

Notes

Round Pipe Shaft (288) Lead Section, 84" Length (2134 mm) long with 10"(254mm) - 12"(305mm) Helices

TAB-LUB - Helical Underpinning Bracket

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Product Specifications	
Anchor Style	Helical
Component	Underpinning Bracket
Ultimate Capacity	98 Kip
Bearing Area	75 Square Inches
Lift Capacity	5-1/2 Inches
Coating	Black (Optional Hot Dip Galvanized)
Standard Package	15
Standard Package Unit	Each Bracket

Notes

TAB-LUB can be used on 1-3/4", 2-7/8", or 3-1/2" Material. Pile cap configuration varies to accomodate different shaft sizes.