

Record Detail * (This section is required.)

Permit Type	Permit Number	Opened Date
Building/Residential/Misc/Other	B23003692	09/08/2023
Description of Work		
SFD/ Stabilize Foundation using 3 Push Piers		

[check spelling](#)

Address * (This section is required.)

Search Reset Clear Get Parcel & Owner

Street #	Street Name	Street Type
13805	FORSYTHE	RD
Unit Type	Unit #	X Coordinate
--Select--		-76.99055
		Y Coordinate
		39.34176
City	State	Zip Code
SYKESVILLE	MD	21784
		Primary
		Yes

Parcel * (This section is required.)

Search Reset Clear Get Address & Owner

GIS ID *	Parcel	Parcel Area	Land Value	Improved Value	Exemption Value	Plan Area
1391	77	18.69	193800	1796700	1602900	RURAL
Legal Description						
IMPS18.6926 A.[]13805 FORSYTHE RD[]AT FORSYTHE RD						

[check spelling](#)

Block	Lot	Census Tract	Council Dist	Inspection Dist	Supervisor Dist	Map #	DAP Zone
		605601	5				
Plan Area	State Tax Id	Subdivision Name					
	1404309278						
Section	Area	Tax Map					
		9					
Grid	Zoning District	ADC Map					
9-1	RC-DEO	4693-B6					
SDP No.	Final Plan No.	WP File No.					
Record Plat No.	WS Contract No.	FDP No.	Primary				
			Yes				
Owner Occupied	Year Built	Historic District					
<input type="radio"/> Yes <input checked="" type="radio"/> No	2016	<input type="radio"/> Yes <input checked="" type="radio"/> No					
Historic District Registry No.	Stat Area	Flood Plain					
	4-03	<input type="radio"/> Yes <input checked="" type="radio"/> No					
Building No							

Owner * (This section is required.)

Search Reset Clear

Name *

DAVIDSON WILLIAM A

Address Line 1

13805 FORSYTHE RD

Address Line 2

Address Line 3

Mail City

SYKESVILLE

Mail State

MD

Mail Zip Code

21784

Phone

410-259-9303

Primary

Yes

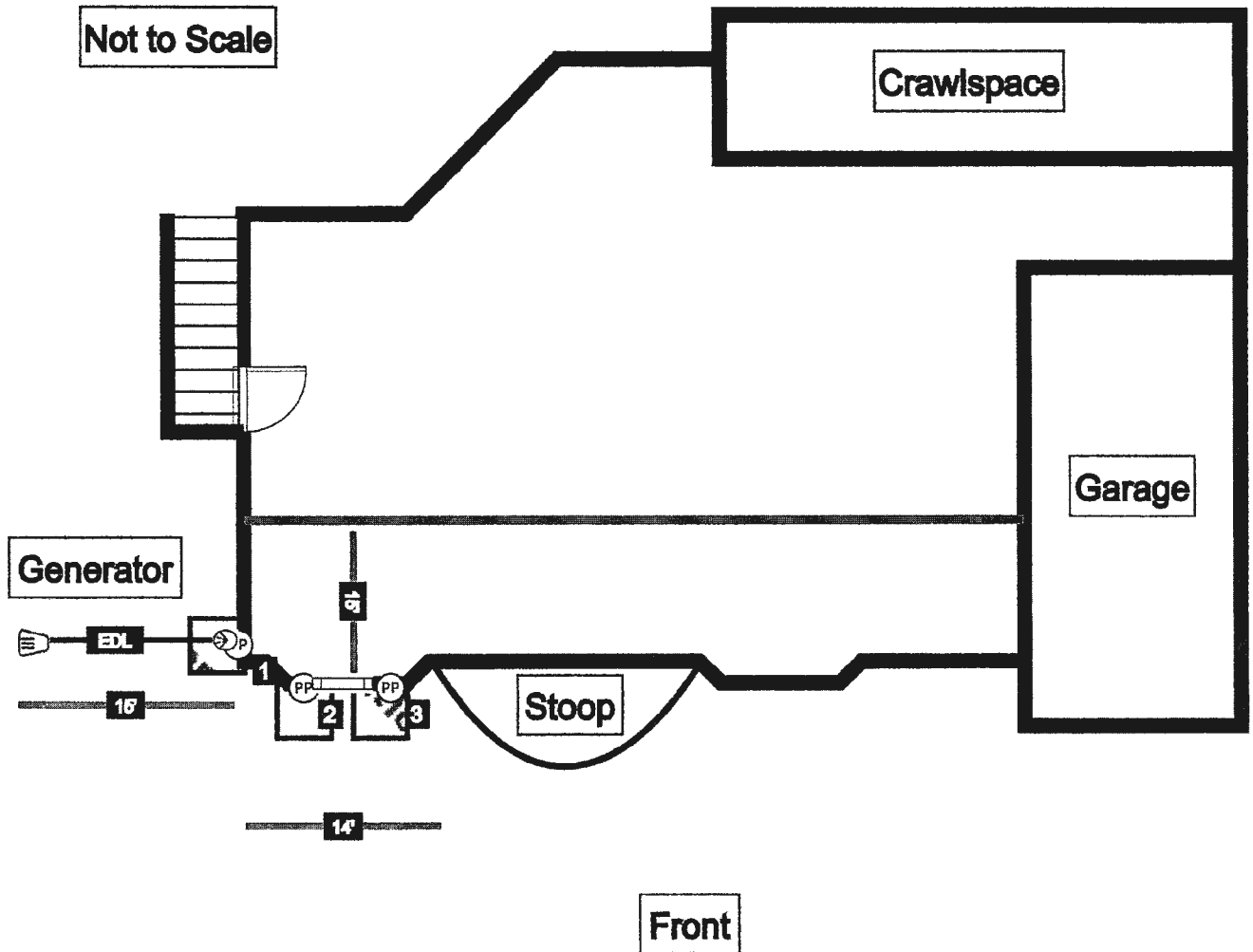
E-mail

Cell Number

Fax Number

Professionals (This section is not required.)

Job Details *BB*



Type of Wall Poured Concrete
Existing Wall Finish Plain
Existing Floor Finish Concrete

Job Details (Continued)

Specifications

1) Install Push Pier(s) to support the foundation as shown on job drawing using a low profile bracket. Final Location of pier(s) is subject to field conditions. 2) Excavate the soil at each pier location to the footing over 9' deep in soil. Backfill and tamp soil after the system is installed. 3) Acquire appropriate engineering and other necessary paperwork dependent upon municipality. 4) Request, Acquire, & Schedule appropriate professional permits or inspections as required. 5) Install IceGuard to prevent floods from clogged or frozen discharge line. 6) Install LawnScape outlet at end of discharge line. 7) Install exterior discharge line as shown on drawing

Depth Clause

Total depth per pier included in price: 0
Each add'l foot add'l cost of: \$0.00

Contractor Will

1.) Stabilize and/or Attempt to lift the foundation, but is not responsible for cosmetic damage that may result. (Achieving lift is not guaranteed)

Customer Will

- 1.) Remove and replace any landscaping, hardscaping, or fencing that is in the work area.
- 2.) Move items at least 10 feet away from the work area.
- 3.) Mark any private lines that may be hidden underground, and assumes all liability if damage should occur to such lines.
- 4.) Complete any items mentioned in this Contract under "Customer Will" and/or "Additional Notes" that apply

Additional Notes

WE DESIGN SYSTEMS FOR WORST CASE SCENARIOS TO PROTECT EACH CUSTOMER AND BASED ON YEARS OF EXPERIENCE IN THE FOUNDATION BUSINESS WE ALWAYS RECOMMEND A FULL PERIMETER WATERPROOFING SYSTEM. IN THE CASE OF A PARTIAL SYSTEM THE FULL DRY WARRANTY IS NOT IN EFFECT. IN THE CASE THAT ADDITIONAL SYSTEM WILL BE NEEDED IN THE FUTURE IT WILL BE AT THE CUSTOMERS EXPENSE. IF MORE THAN 1 SUMP IS RECOMMENDED AND YOU ELECT TO NOT HAVE THE ADDITIONAL SUMPS THEN IT SHALL BE AT THE CUSTOMERS EXPENSE IN THE FUTURE SHOULD IT BE NEEDED.

While Fortress will keep worksite as clean as possible, dust is inevitable once we leave.

Final location of sump pump & discharge determined by foremen.

A battery backup for the sump pump is highly recommended.

SIGNATURE REQUIRED Billie Davidson

Customer is responsible for electric outlet for all sump pumps and dehumidifiers unless otherwise noted. Customer understands that drainage and sump pump are recommended and required in order to give a waterproofing warranty in the crawl space.

INITIAL N/A

While Fortress wants to be as helpful as possible, there are limitations to what we can do at the completion of the job. If we remove a sink, toilet, stairs, washer & dryer, etc. we cannot always put them back. If the concrete is dry enough, we can perhaps help with these items. If we assist in moving anything for you, we are by not responsible for the appearance or working conditions after the fact. We strongly encourage a plumber re-install any plumbing fixture and a carpenter to re-install any wall or stairs of any kind.

INITIAL BB

Customer understands that unseen cracks may appear once concrete is lifted and/or stabilized or cleaned. INITIAL BB

All jobs are subject to Production review, if not approved job will be cancelled and any deposit will be returned to the customer without penalty.

FDN Engineering, LLC

Date: May 2, 2023
Project: Davidson Residence
Address: 13805 Forsythe Road
Sykesville, MD 21784

Push Pier Foundation Support System Analysis

This report is prepared for Fortress Foundation Solutions (contractor) by FDN Engineering (engineer). Push piers are proposed for installation at the above referenced project. The foundation support system is intended to stabilize and potentially lift the existing foundation structure – reducing pressure on existing soils. Load requirements for the push piers were calculated at areas identified by the contractor. See page 2 for engineering analysis assumptions and results. See page 3 for details of the push pier foundation supports. See page 4 for a layout of the supports proposed by contractor on a footprint of the structure.

To the best of my professional knowledge and belief, the design of the push pier support system meets the structural requirements of the 2018 International Residential Code to the extent that it applies to our scope of work. The push pier foundation support system is a supplemental stabilization system to the existing structure.

Upon completion of foundation support system, the contractor shall supply engineer a log of the installed locations, depth, and final drive pressure of the push piers. Engineer will evaluate the log and prepare a letter of completion for closeout, if necessary.

FDN Engineering, LLC
2412 N 179th St.
Omaha, NE 68116
(402) 739-9642



Chad Keller
05/02/2023

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 59233, Expiration Date: 04/17/2024

FDN Engineering, LLC

Push Pier Project Assumptions (contractor to confirm assumptions):

1. Structure is two-story, residential with wood-framed floor & brick-veneer walls (with basement).
2. Contractor will install push piers, brackets, and all related components per the support manufacturer's current installation instructions, technical manual & UES Evaluation Report 289.
3. Pier is not installed in recently backfilled sites or where there is possible sinkhole activity. Notify engineer if foundation is cracked between piers.
4. The systems should be used on structures that are fixed from translation or braced to prevent translation of the foundation. The surrounding soils must provide continuous lateral support.
5. When the product is installed in a soil where the conditions are considered corrosive to steel, adequate protection to the exposed steel must be provided.
6. The capacity of the existing foundation and supported structure has not been checked and is assumed to be adequate to transfer the design loads to the push pier support system.
7. Where voids are created below slab during lifting, fill with PolyLevel. (Compacted soils at footing.)

Push Pier Analysis Notes and Results:

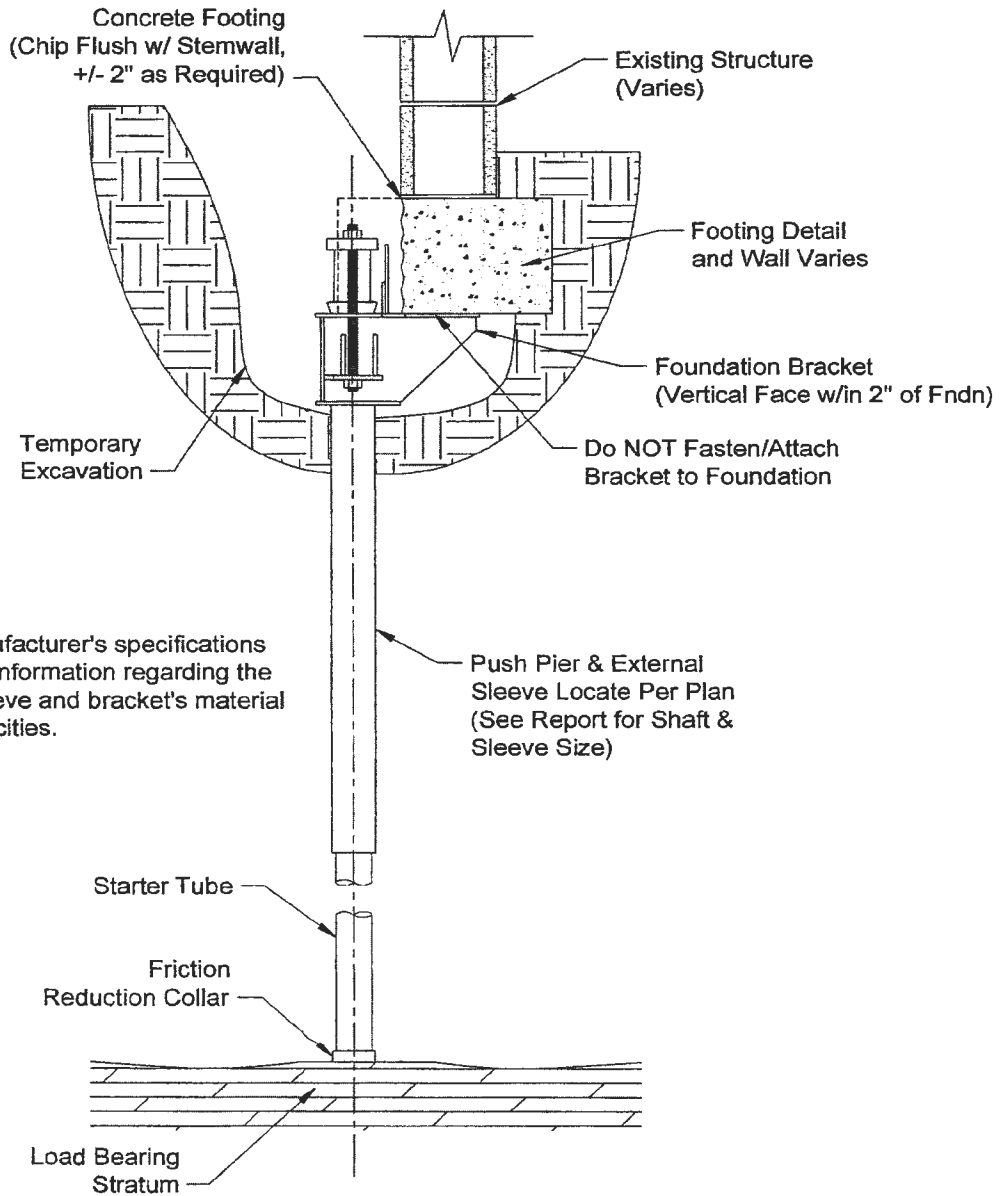
8. All design loads are based on guidance from the applicable building code.
9. Push piers are designed to support axial compression load only.
10. Maximum, worst-case, total load on a push pier is **27,600 lbs** (allowable stress combinations).
11. We recommend installing push piers with a 2-7/8" dia. shaft (PP288) and a 48" external sleeve.
12. Add/drive pier sections until a suitable load bearing stratum is encountered. The structure will lift **OR** target pressure is achieved.
13. An install hydraulic drive pressure of **5,800 psi** using drive cylinder FS35DC (288 - Red) should achieve the desired ultimate load or lift the structure. If the structure begins to lift prior to hitting the target pressure w/ depth greater than 5 ft, stop driving - pier is adequate for structure support.
14. Do not place pier directly under door or window (near footing). Contact engineer if condition exists.
15. Push pier spacing along the foundation shall not exceed 6'-0" O.C. and 2-ft from a corner.
16. A factor of safety of 2.0 is conservatively used for push pier systems since the drive and lock-off loads are easily measured. Geotechnical testing information was not provided for this design.

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PUSH PIER TO FOOTING DETAIL

FDN Engineering, LLC
 2412 N 179th St.
 Omaha, NE 68116
 (402) 739-9642



Chad Keller
 05/02/2023

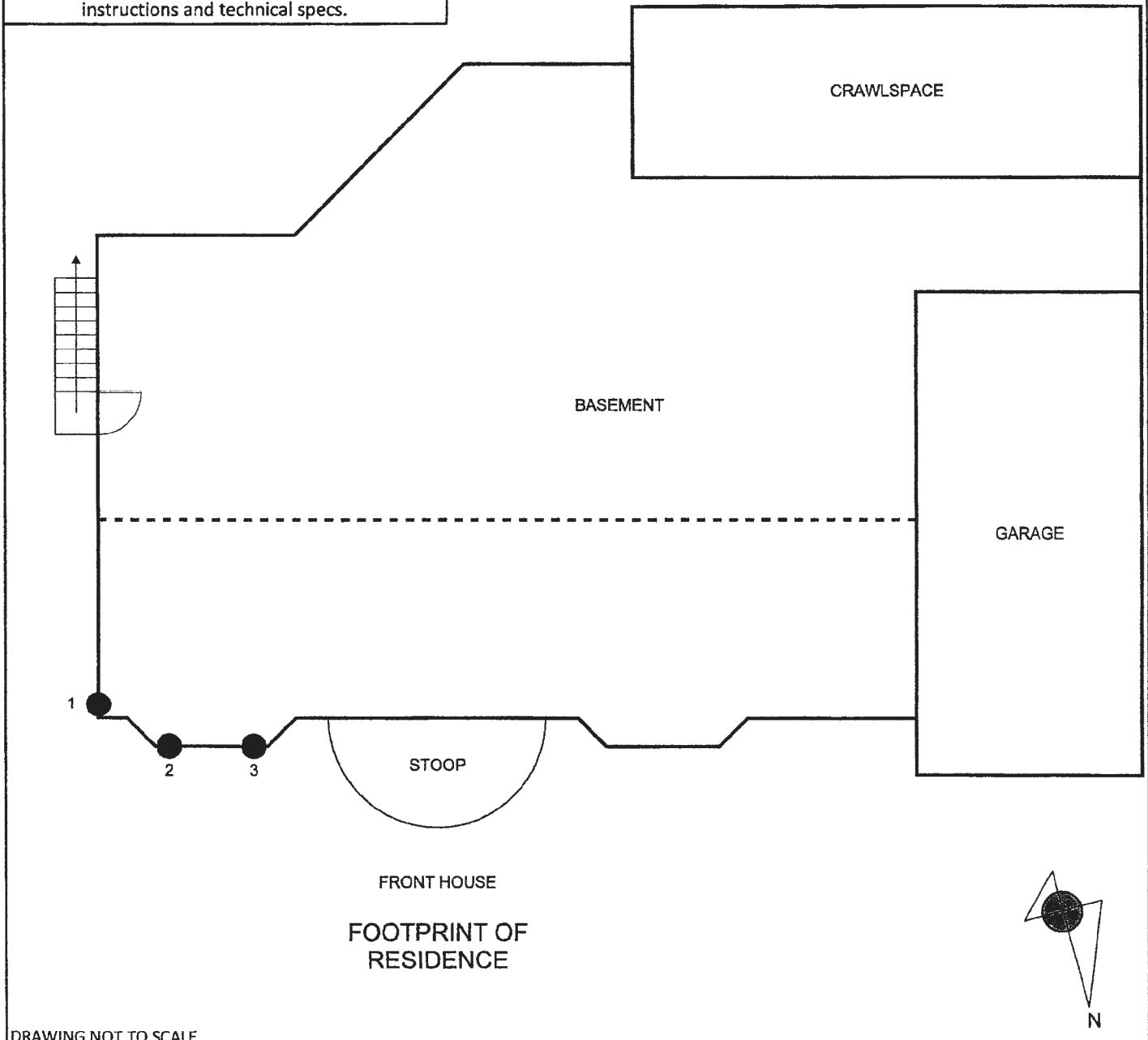
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Push Pier Notes:

1. Residential construction, two-story.
2. Layout of (3) push piers, Model PP288.
3. Hydraulic drive pressure = **5,800 psi**
4. Calculated ultimate load = **55,200 lbs**
5. Pier max spacing is 6'-0", UNO.
Start 2' from corners.
6. Recommended to use spreader beams when pier is placed below an opening.
7. Install per push pier manufacturer's instructions and technical specs.

LEGEND:

● Indicates Push Pier and Mark Number



DRAWING NOT TO SCALE

Project:
Davidson Residence
13805 Forsythe Road
Sykesville, MD 21784

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