STARK
FOUNDATIONS

4400 NE 77th Ave, Suite 275
Vancouver, WA 98662
P: 360.566.7343
E: starkd@starkfdn.com

January 20, 2021

Project No.: 20.163.TFS

Josh Peterson
TerraFirma Foundation Systems - Portland
13110 SW Wall Street
Portland, Oregon 97223

RE: Special Inspection - 5739 SW Downs View Ct, Portland, OR
Permit No.: 2020-188312-RS

Dear Josh:

I have performed the special inspection of the installation of the push piers per IBC Chapter 17 for the above-referenced project.

Push Pier Installation:

The push pier used for installation was a 2 7/8 inch diameter pipe using a FS35DC Drive Cylinder with a working area of 9.62 square inches. The installation was performed by TerraFirma Foundation Systems - Portland certified installers for Foundation Supportworks products.

The maximum axial load requirement for this project is 10,000 lbs working load, 20000 lbs ultimate load. The piers were driven to depths of 40 to 40 feet, with a minimum installation pressure of 2,200 psi. This results in an ultimate axial capacity of 21164 lbs, exceeding the required ultimate load per the design documents.

The following part numbers were installed:
Lead P/N: PP288 w/ Friction Reduction Collar
Extension(s) P/N: PP288
Bracket P/N: FS288BL w/ Guide Sleeve

Summary:

Based on my special inspection and structural observation, the push piers were installed according to the engineering design load requirements and according to IBC Chapter 17.

Regards,

Daniel Stark, P.E.
Stark Foundations

REGISTERED PROFESSIONAL ENGINEER
74940PE
OREGON
JULY 13, 2004
JONATHAN DANIEL WAYNE STARK
EXPIRES: 06/30/22

20-188312-RS

Model 288 Drive Stand Specifications when used with the RED[5] Drive Cylinder (FS35DC)

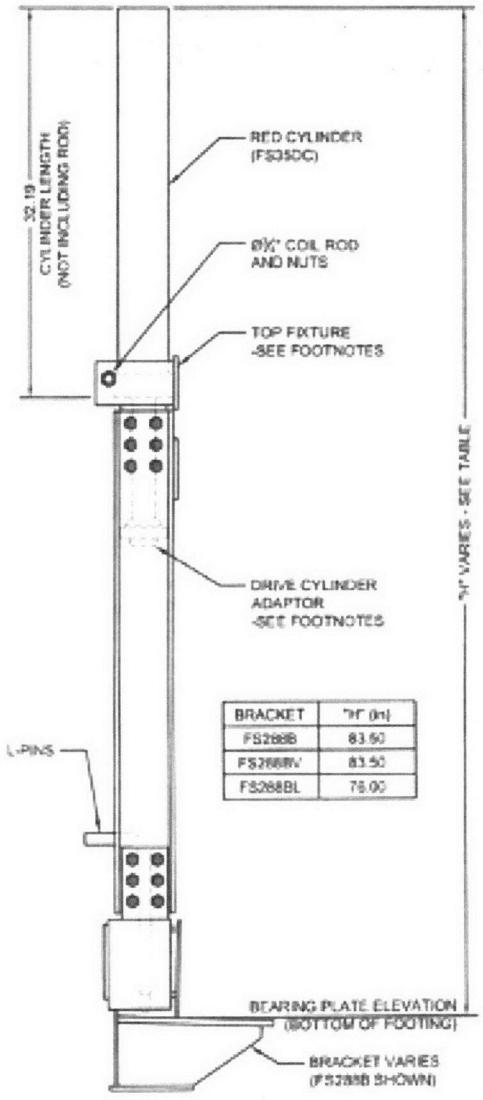
Compatible Brackets[3]:
FS288B, FS288BV,
FS288BL, FS288BFM

Drive Cylinder[5] (FS35DC):
Stroke = 22"
Cylinder action = double
Bore = Ø3.50"
Hydraulic area = 9.62 in²
Max operating pressure[2] = 8,000 psi

Drive Cylinder Adaptor[4]:
FSDCA (reversible)

Drive Stand Hardware[1]:
(1) - Ø¾" x 12" long coil rod with nuts
(2) - Ø1" x 15" long L-pins

Drive Stand Rated Drive Load[2,3]: 60.0 kips			
Hydraulic Pressure (psi)	**Drive Force[2,3] (kips)**	**Hydraulic Pressure (psi)**	**Drive Force[2,3] (kips)**
400	3.8	4,200	40.4
800	7.7	4,400	42.3
1,200	11.5	4,600	44.3
1,600	15.4	4,800	46.2
2,000	19.2	5,000	48.1
2,400	23.1	5,200	50.0
2,800	26.9	5,400	52.0
3,200	30.8	5,600	53.9
3,400	32.7	5,800	55.8
3,600	34.6	6,000	57.7
3,800	36.6	6,200	59.7
4,000	38.5	6,235	60.0



BRACKET	"H" (in)
FS288B	83.50
FS288BV	83.50
FS288BL	78.00

TERRAFIRMA
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Tube by Tube Push Pier Logs

Customer Name Brewer Foremans Name: Blake

Project Number 93912

Pier Installation Date: _____ Drive Head: _____ Installation Torque Coefficient {ft-1}: _____

Pier # 1 Date Tube #	Depth (ft)	Gauge Pressure IN (psi)	Pier # 2 Date Tube #	Depth (ft)	Gauge Pressure IN (psi)	Pier # 3 Date Tube #	Depth (ft)	Gauge Pressure IN (psi)	Pier # 4 Date Tube #	Depth (ft)	Gauge Pressure IN (psi)
Starter Tube	4	500	Starter Tube	4	500	Starter Tube	4	500	Starter Tube	4	500
1	7	500	1	7	500	1	7	500	1	7	500
2	10	600	2	10	600	2	10	600	2	10	600
3	13	800	3	13	800	3	13	800	3	13	800
4	16	800	4	16	800	4	16	800	4	16	800
5	19	1000	5	19	1000	5	19	1000	5	19	1000
6	22	1000	6	22	1000	6	22	1000	6	22	1000
7	25	1000	7	25	1000	7	25	1000	7	25	1000
8	28	1400	8	28	1400	8	28	1400	8	28	1400
9	31	1600	9	31	1600	9	31	1600	9	31	1600
10	34	1800	10	34	1800	10	34	1800	10	34	1800
11	37	2000	11	37	2000	11	37	2000	11	37	2000
12	40	2200	12	40	2200	12	40	2200	12	40	2200
13	43		13	43		13	43		13	43	
14	46		14	46		14	46		14	46	
15	49		15	49		15	49		15	49	
16	52		16	52		16	52		16	52	
17	55		17	55		17	55		17	55	
18	58		18	58		18	58		18	58	
# of Couplers			# of Couplers			# of Couplers			# of Couplers		
External Sleeve:			External Sleeve:			External Sleeve:			External Sleeve:		
Total Depth (ft): 40'			Total Depth (ft): 40'			Total Depth (ft): 40'			Total Depth (ft): 40'		
Lift Pressure (psi): 2200			Lift Pressure (psi): 2200			Lift Pressure (psi): 2200			Lift Pressure (psi): 2200		
Amount of Lift (inches): 1/4			Amount of Lift (inches): 1/4			Amount of Lift (inches): 1/4			Amount of Lift (inches): 1/4		

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TERRAFIRMA
FOUNDATION SYSTEMS

Tube by Tube Push Pier Logs

Customer Name Brewer Foremans Name:

Project Number

Pier Installation Date: _____ Drive Head: _____ Installation Torque Coefficient {ft-1}: _____

Pier # 5 Date Tube #	Depth (ft)	Gauge Pressure IN (psi)	Pier # Date Tube #	Depth (ft)	Gauge Pressure IN (psi)	Pier # Date Tube #	Depth (ft)	Gauge Pressure IN (psi)	Pier # Date Tube #	Depth (ft)	Gauge Pressure IN (psi)
Starter Tube	4	500	Starter Tube	4		Starter Tube	4		Starter Tube	4	
1	7	500	1	7		1	7		1	7	
2	10	650	2	10		2	10		2	10	
3	13	800	3	13		3	13		3	13	
4	16	800	4	16		4	16		4	16	
5	19	1000	5	19		5	19		5	19	
6	22	1000	6	22		6	22		6	22	
7	25	1000	7	25		7	25		7	25	
8	28	1400	8	28		8	28		8	28	
9	31	1600	9	31		9	31		9	31	
10	34	1900	10	34		10	34		10	34	
11	37	2000	11	37		11	37		11	37	
12	40	2200	12	40		12	40		12	40	
13	43		13	43		13	43		13	43	
14	46		14	46		14	46		14	46	
15	49		15	49		15	49		15	49	
16	52		16	52		16	52		16	52	
17	55		17	55		17	55		17	55	
18	58		18	58		18	58		18	58	
# of Couplers			# of Couplers			# of Couplers			# of Couplers		
External Sleeve:			External Sleeve:			External Sleeve:			External Sleeve:		
Total Depth (ft): 40'			Total Depth (ft):			Total Depth (ft):			Total Depth (ft):		
Lift Pressure (psi): 2200			Lift Pressure (psi):			Lift Pressure (psi):			Lift Pressure (psi):		
Amount of Lift (inches): ¼'			Amount of Lift (inches):			Amount of Lift (inches):			Amount of Lift (inches):		

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