

CRAGNOLIN ENGINEERING & DESIGN ASSOCIATES, DPC

SITE · CIVIL · STRUCTURAL ENGINEERING
LANDSCAPE DESIGN & ARBORIST SERVICES

August 1, 2017

Project: Helical Pile Install, Pile Log – 5A Cherokee Street Staten Island, New York

Owner: APP-025450

Installer: A.G. Development Marine LLC

Design Professional of Record:

Melanie Cragnolin, PE

Cragnolin Engineering & Design

223 Wall St. #293

Huntington, New York 11743

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Date of Review: 08/01/2017

Documents Reviewed:

1. Contract Documents
2. Foundation Plan/Pile Plan
4. Pile Log with installation depth and field torque readings

To the best of the Engineer's knowledge and ability, the work represented in the documents submitted for review are accurate, and in conformance with the applicable codes at the time of submission and has been prepared in conformance with customary standards of practice.

The review performed includes an evaluation of Foundation Plan/Pile Plan and Pile Log with field data (depth and torque results), indicating pile capacity with an appropriate factor of safety, and references to applicable codes and standards.

It is a violation of law for any person to alter a document in any way, unless acting under the direction of a Licensed Professional Engineer. If a document bearing the seal of the Engineer is altered, the altering Engineer shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

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FIGURE 1 – FOUNDATION/PILE PLAN (ATTACHED)

TABLE 1 - FIELD DATA/PILE LOG AS PROVIDED BY CONTRACTOR (ATTACHED)

TABLE 2 – AXIAL CAPACITIES (KIPS) BASED ON TORQUE VALUES WITH A FACTOR OF SAFETY (FOS) OF 2.50 (ATTACHED.)

Should additional information become available to us, we retain the right to amend this report accordingly.

Melanie Cragnolin, PE
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8/1/2017

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1 1/2 square, 7 lead, 10/12/14

Piers	FT	Torque	P (axial capacity in Lbs) (TONS - CHECK)			FOS 2.5
HPC-4	32	4500.0	45000.00	22.5	OK	9.00
HPC-3	32	4500.0	45000.00	22.5	OK	9.00
HPP-4	37	4500.0	45000.00	22.5	OK	9.00
HPP-2	32	4500.0	45000.00	22.5	OK	9.00
HPP-1	32	4500.0	45000.00	22.5	OK	9.00
HPP-3	37	4500.0	45000.00	22.5	OK	9.00
HPP-7	42	4500.0	45000.00	22.5	OK	9.00
HPP-8	32	4500.0	45000.00	22.5	OK	9.00
HPC-8	37	4500.0	45000.00	22.5	OK	9.00
HPP-5	32	4500.0	45000.00	22.5	OK	9.00
HPP-6	37	4500.0	45000.00	22.5	OK	9.00
HPP-7	32	4500.0	45000.00	22.5	OK	9.00
HPC-2	37	4500.0	45000.00	22.5	OK	9.00
HPC-1	37	4500.0	45000.00	22.5	OK	9.00
HPC-14	32	4500.0	45000.00	22.5	OK	9.00
HPC-6	37	4500.0	45000.00	22.5	OK	9.00
HPC-5	37	4500.0	45000.00	22.5	OK	9.00
HPC-11	32	4500.0	45000.00	22.5	OK	9.00
HPC-10	37	4500.0	45000.00	22.5	OK	9.00
HPC-9	32	4500.0	45000.00	22.5	OK	9.00
HPC-14	37	4500.0	45000.00	22.5	OK	9.00
HPP-10	52	4500.0	45000.00	22.5	OK	9.00
HPC-13	37	4500.0	45000.00	22.5	OK	9.00
HPC-12	32	4500.0	45000.00	22.5	OK	9.00
HPP-12	32	4500.0	45000.00	22.5	OK	9.00
HPP-11	32	4500.0	45000.00	22.5	OK	9.00

Engineer Notes:

$P = Kt T$

Kt is Torque Ratio

T is Torque

P is axial capacity

1.5" and 1.75" Square Shafts - $Kt = 10 \text{ ft-1}$

2.875" O.D. Round Shafts - $Kt = 9 \text{ ft-1}$

3.0" O.D. Round Shafts - $Kt = 8 \text{ ft-1}$

3.5" O.D. Round Shafts - $Kt = 7 \text{ ft-1}$



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A.G. DEVELOPMENT MARINE LLC

Project: Baumgardner House Lifting

Location: 5A Cherokee Street Staten Island NY

Installation Date: 3/17/16 to 3/21/16

Installation Equipment: Kamotsu PC-50 Excavator. Pro-Dig X12K5 Drive Head. Dixon GLP555 P.G.

1,100 P.S.I. = 4,500 Ft. Lbs

Pile Number	7' Lead 10" 12" 14" Desc	5' Extension	5' Extension	5' Extension	5' Extension	5' Extension	5' Extension	5' Extension	5' Extension	5' Extension	5' Extension	5' Extension	Total Length Installed	Total Length After Cut off	Date installed
Hpc 4	800 psi	800 psi	900 psi	900 psi	1000 psi	1500 psi							32'	30'	03/17/16
Hpc 3	800 psi	800 psi	800 psi	900 psi	1000 psi	1500 psi							32'	29'	03/17/16
Hpp 4	800 psi	800 psi	800 psi	900 psi	1000 psi	1300 psi	1500 psi						37'	33' 8"	03/18/16
Hpp 2	700 psi	800 psi	800 psi	900 psi	900 psi	1500 psi							32'	32'	03/18/16
Hpp 1	700 psi	800 psi	800 psi	800 psi	900 psi	1500 psi							32'	32'	03/18/16
Hpp 3	700 psi	800 psi	800 psi	800 psi	900 psi	1300 psi	1500 psi						37'	33' 7"	03/18/16
Hpp 7	800 psi	800 psi	800 psi	800 psi	800 psi	1000 psi	1000 psi	1500 psi					42'	38' 6"	03/18/16
Hpp 8	800 psi	800 psi	800 psi	700 psi	900 psi	1500 psi							32'	27' 9"	03/18/16
Hpc 8	800 psi	900 psi	900 psi	900 psi	1000 psi	1000 psi	1500 psi						37'	33' 7"	03/18/16
Hpp 5	700 psi	800 psi	900 psi	900 psi	900 psi	1500 psi							32'	29' 10"	03/18/16
Hpp 6	700 psi	800 psi	900 psi	900 psi	1200 psi	1100 psi	1500 psi						37'	33' 3"	03/18/16
Hpp 7	700 psi	800 psi	900 psi	900 psi	1000 psi	1500 psi							32'	28' 6"	03/18/16
Hpc 2	800 psi	800 psi	900 psi	900 psi	1000 psi	1100 psi	1600 psi						37"	33' 2"	03/18/16
Hpc 1	700 psi	800 psi	900 psi	1000 psi	1100 psi	1100 psi	1500 psi						37'	37'	03/18/16
Hpc 14	800 psi	800 psi	900 psi	900 psi	1300 psi	1500 psi							32'	29' 11"	03/18/16
Hpc 6	800 psi	700 psi	800 psi	900 psi	900 psi	1000 psi	1500 psi						37'	32' 11"	03/18/16
Hpc 5	800 psi	800 psi	800 psi	700 psi	900 psi	1000 psi	1500 psi						37'	35' 11"	03/18/16
Hpc 11	800 psi	800 psi	800 psi	900 psi	1000 psi	1500 psi							32'	28'	03/21/16
Hpc 10	800 psi	900 psi	900 psi	1000 psi	1100 psi	1000 psi	1600 psi						37'	36'	03/21/16
Hpc 9	800 psi	800 psi	800 psi	800 psi	1000 psi	1500 psi							32'	27' 7"	03/21/16
Hpc 14	800 psi	1000 psi	1000 psi	900 psi	800 psi	1100 psi	1500 psi						37'	36' 8"	03/21/16
Hpp 10	800 psi	900 psi	900 psi	900 psi	900 psi	1000 psi	1100 psi	900 psi	700 psi	1500 psi			52'	48' 9"	03/21/16
Hpc 13	600 psi	700 psi	800 psi	800 psi	900 psi	1000 psi	14000 psi						37'	33' 5"	03/21/16

