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Geotechnical, Environmental & Construction Materials Testing

Report No. 1

April 30, 2023

N23-108

DESCRIPTION

: Witnessing the Testing of an Elevating Pile Sleeve Repair System

REPORTED TO

**: Anders Construction Inc.
2333 Brooklyn Ave.
Harvey, LA 70058**

Attn: Mr. John Anders

Purpose of Report:

The report covers the testing services that were conducted at Boh Brother's Fabrication Yard on April 4, 2023. The testing was conducted to document the performance of the elevating sleeve pile repair system designed by John Anders.

Methodology:

The repair system is designed to replace a damaged section of a foundation pile where the capacity has been compromised by corrosion or other damage.

The area around the pile is shored and the damaged section of the pile removed. The elevating sleeve pile system is then inserted. Using pressurized grout or pea gravel concrete, the requested load is then placed into the system. For this test, two (2) methods of measuring the load in the sleeve were utilized. One gauge was placed into the sleeve itself and the other gauge was part of a calibrated hydraulic ram set in line with the repair sleeve system. See attached photos.

Inspection Results:

The ultimate load that was initially obtained on the hydraulic ram set gauge was 4,000 psi which equates to 66,250 pounds and the gauge pressure (200 psi) on the sleeve indicated a load of 40,200 pounds. The pressure difference could be attributed to the sand pea gravel aggregate in the concrete mix affecting or clogging the gauge and thus affecting the pressure reading.

After 24 hours, the pressure in the sleeve gauge did not change. The pressure on the gauge for the hydraulic ram set dropped 2,600 psi to 51,000 pounds. We believe that the concrete's plastic shrinkage properties could be the reason for the difference.

Concrete Strength Tests:

Test samples were cast on the concrete mix for compressive strength testing. The 56 day strength tests indicated a compressive strength of 8,310 psi. Attached is the compressive test report and delivery ticket information on the mix that was used.

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Tests witnessed by: K. Meyn. P.E.

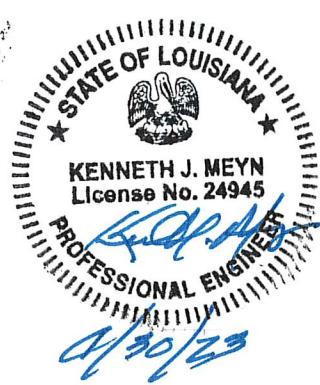
4-04-23

Respectfully submitted,
SOUTHERN EARTH SCIENCES, INC



Ken J. Meyn, P.E.
District Manager

KJM
/Attachments – Photos, Concrete Mix Information



Theoretical Load Conversion Chart

BEERMAN PRECISION, INC.
 4206 HOWARD AVENUE
 504-207-6005 FAX: 504-207-6070

JACK CAP.: 100 TON CYLINDER
 EFF. AREA: 19.63 SQUARE INCHES
 GRADUATIONS: 1 TONS

TONS on RAM	GAUGE in PSI	TONS on RAM	GAUGE in PSI
1.0	102	51.0	5196
2.0	204	52.0	5298
3.0	306	53.0	5400
4.0	408	54.0	5502
5.0	509	55.0	5604
6.0	611	56.0	5706
7.0	713	57.0	5807
8.0	815	58.0	5909
9.0	917	59.0	6011
10.0	1019	60.0	6113
11.0	1121	61.0	6215
12.0	1223	62.0	6317
13.0	1325	63.0	6419
14.0	1426	64.0	6521
15.0	1528	65.0	6623
16.0	1630	66.0	6724
17.0	1732	67.0	6826
18.0	1834	68.0	6928
19.0	1936	69.0	7030
20.0	2038	70.0	7132
21.0	2140	71.0	7234
22.0	2241	72.0	7336
23.0	2343	73.0	7438
24.0	2445	74.0	7539
25.0	2547	75.0	7641
26.0	2649	76.0	7743
27.0	2751	77.0	7845
28.0	2853	78.0	7947
29.0	2955	79.0	8049
30.0	3057	80.0	8151
31.0	3158	81.0	8253
32.0	3260	82.0	8355
33.0	3362	83.0	8456
34.0	3464	84.0	8558
35.0	3566	85.0	8660
36.0	3668	86.0	8762
37.0	3770	87.0	8864
38.0	3872	88.0	8966
39.0	3974	89.0	9068
40.0	4075	90.0	9170
41.0	4177	91.0	9272
42.0	4279	92.0	9373
43.0	4381	93.0	9475
44.0	4483	94.0	9577
45.0	4585	95.0	9679
46.0	4687	96.0	9781
47.0	4789	97.0	9883
48.0	4890	98.0	9985
49.0	4992	99.0	10087
50.0	5094	100.0	10188



Compressive Strength of Concrete

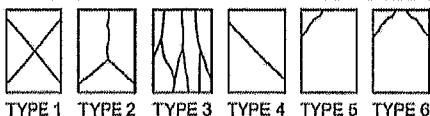
Test Method: ASTM C 39

Report Date: 12/19/2024
Sample: 77141

New Orleans Branch Office
725 S. Genois Street
New Orleans, LA 70179
Phone: 504 486 5595
Fax: 504 486 5598

Client:	Project:		
ANDERS CONSTRUCTION, INC. 2333 BROOKLYN AVE. HARVEY, LA 70058	N23-108	ELEVATING PILE SLEEVE REPAIR SYSTEM	
	NEW ORLEANS, LA		

Sample Details											
Set #:	1	Technician:	MEYN, KENNETH	Batched:	10:53 CDT						
Specimen Size:	4" X 8"	Cast By:	MEYN, KENNETH	Sampled:	11:00 CDT						
Specimens In Set:	6	Date Cast:	04/04/23	Cast:	11:10 CDT						
Truck / Ticket #:	749 / 229312	Sampled From:	Chute	Truck Empty:	13:00 CDT						
Contractor:		Placement Method:	Pump	Placement Time:	127 (min)						
Location											
Placement Location:	Various										
Location Details:	Demo										
Sample Location / Notes:	on site										
Batch Log					Specifications						
Supplier:	Carlo Ditta	Mix Design:	203PG			Strength:	4000 (psi)				
On-Site Admixtures: None											
Field Measurements											
Weather:	Slump (in):			9 (ASTM C-143)			Plastic Unit Weight:				
Air Temperature (F):	Concrete Temp (F):			82 (ASTM C-1064)			Air Content:	1.5 (ASTM C-231)			
										Load Volume:	2.00 (yd ³)
Standard Cure					Field Cure						
Lab Test Results											
Testing Lab: New Orleans CMT Lab, 725 S. Genois Street, New Orleans, LA, 70119											
Specimen Number	Test Age Days	Test Date	Field / Lab Cure Days	Average Cylinder Diameter (in)	Cylinder Area (in ²)	Max Load (lbs)	Strength (psi)	Fracture Type	Break Remark	Capping Method	
1-1	7	04/11/23	1 / 6	4.00	12.57	72,750	5,790	4		U	
1-2	7	04/11/23	1 / 6	4.00	12.57	72,840	5,800	3		U	
1-3	31	05/05/23	1 / 30	4.00	12.57	89,355	7,110	4		U	
1-4	31	05/05/23	1 / 30	4.00	12.57	91,630	7,290	4		U	
1-5	31	05/05/23	1 / 30	4.00	12.57	89,655	7,130	4		U	
1-6	56	05/30/23	1 / 66	4.00	12.57	104,430	8,310	4		U	
Test Age Average Strengths (psi): 7 Day - 5790, 31 Day - 7180, 56 Day - 8310										Capping Methods	
Tested By: FRANK DAUZAT (1,2,3,4,5,6)										U: Unbonded Caps (ASTM C1231)	
Checked In : 04/05/2023 (1,2,3,4,5,6)											





SOUTHERN EARTH SCIENCES, INC.

Geotechnical, Environmental & Construction Materials Testing

Time Arrived at Jobsite: 10:15 AM
Time Departed from Jobsite: 1:30 PM
Time at Site Verified by: _____ (initials)

Company Name: _____
Travel: _____ Hours _____ Miles
Sheet: 1 of 1

(x=Actual Stamp Deter. O=Visual Stamp Deter.)

CONCRETE FIELD DATA SUMMARY

Project: <u>Executive Park Second Garage</u>	Supplier: <u>Chesapeake</u>
Required: Stamp Range <u>40-45</u>	Air Content <u>0%</u>
<input type="checkbox"/> Mix Used: <u>203 PC 400 psi Mix Concrete</u>	<input type="checkbox"/> Regular <input type="checkbox"/> Architectural <input type="checkbox"/> Semi-Lightweight <input type="checkbox"/> Special
<input type="checkbox"/> Field Tests Only	<input type="checkbox"/> Plant and Jobsite Monitoring <input type="checkbox"/> Lab Trial Batch <input type="checkbox"/> Other
Samples (were / were not) site cured as per ACI-301. Tail Gate <u> </u> Pumped <u> </u>	
Remarks: <u>Sampled 7 times at plant</u>	

TICKET NUMBER	TRUCK NUMBER	TIME BARTED	TIME ARRIVED	TIME COMPLETED	SLUMP AS ARRIVED	WATER ADDED	SLUMP AFTER WATER ADDED	TEMPERATURE CONC.	TEMPERATURE AMB.	% AIR CONTENT	UNIT WT.	REVS WHEN SAMPLED	SETTING /	TIME SAMPLED	VIDS WHEN SAMPLED
227312	729	10:53	11:00	11:00	32	0	32	73	65	-	704	11	11:00	2	

Pour Location:

Technician(s): K. Mays

Date Samples Received in Laboratory: _____

Report Checked By: _____

Delivery Details	
Sold To ANDERS CONSTRUCTION, INC	
Delivery Location BOH BROS ALMANASTER YD NEW ORLEANS, LA	
Delivery Instructions	

Order Details	
#127713	
Job #	000013
Delivered/Ordered	2 of 2 CY
PO#	0
Payment Method	OPEN ACCOUNT

Ticket Details	
#229312	
Origin	Tchoupitoulas
Truck	747
Driver	ALFREDO RIVERO
Current Load	1 of 1
Load Size	2 CY
Target Slump	4 in

Product Specifications			
Quantity	Code	Description	Extra Product
2 CY	203PG	4000# PEA-GRAVEL	
2 CY	1018	EUCON AWA (ANTI-WASH OUT)	
1 LD	FUEL	FUEL SURCHARGE	

Status times		Assigned	Completed	Duration
		10:51 AM	--:--:--	0:2:16
Load Complete	To Job	Arrive Job	Begin Pour	Stop Pour
				To Yard
				Completed

WATER OR OTHER INGREDIENTS ADDED TO THIS CONCRETE MAY REDUCE ITS QUALITY AND
SHALL BE ADDED ONLY AT CUSTOMER'S REQUEST AND RISK. THE UNDERSIGNED ASSUMES FULL
RESPONSABILITY FOR DAMAGE TO CURBS, SIDEWALKS, DRIVEWAYS, BUILDING, SHRUBS OR

Truck	Driver	User	Disp	Ticket Num	Ticket ID	Time	Date
747	7381	user	229312	0		10:53	4/4/23
Load Size	Mix Code	Returned	Qty	Mix Age	Seq	Load ID	
2.00 CY	203PG				D	103812	

Material	Design Qty	Required	Batched	% Var
PEA-GRAVEL	1666 lb	3322 lb	3320 lb	-0.07%
SAND	1443 lb	2888 lb	2880 lb	-0.21%
CEMENT	826.0 lb	1052.0 lb	1050.0 lb	-0.19%
FLYASH	132.0 lb	264.0 lb	265.0 lb	+ 7.95%
WATER	31.5 gl	40.1 gl	40.1 gl	0.18%
LR 1	30.00 oz	60.00 oz	59.00 oz	-1.67%
SP	12.80 oz	25.80 oz	24.00 oz	-6.25%

Actual Load	7875 lb	Design W/C:	0.400	Water/Cement:	0.394	T	Design	626.7 lb	To Add:	180.5 lb	Manual	10:53:26
Slump:	4.00 in	Water In Truck:	0.0 gl	Adjust Water:	0.0 gl	/ Load	Trim Water:	-10.9 gl	/ CY			
Actual W/C Ratio:	0.269	Actual Water:	345 lb	Batched Cement:	1335 lb		Allowable Water:	180 lb		Max Allow:	180.1 lb	