

**Community Development Block Grant Disaster Recovery Program (CDBG-DR)
Owner Occupied Rehabilitation and Rebuilding Program (OORR)**

#1224 – 25 JARVIS COURT, FAIRFIELD, CT

**Addendum # 01
February 26, 2015**

GENERAL COMMENTS:

BID DATE: Bids will be received by DOH at the office of Quisenberry Arcari Architects at 318 Main Street, Farmington, CT 06032 until **4:00 PM on March 13, 2015** and then at said office publicly opened and read aloud. The envelopes containing the bids must be sealed, addressed to Quisenberry Arcari Architects at 318 Main Street, Farmington, CT 06032 at and designated as bid for **24 Jarvis Court, Fairfield, CT 06824**.

RFI's: Every request for such interpretation should be in writing addressed to: **Michael Memmott michael@qa-architects.com**, 860-677-8534 Fax at Quisenberry Arcari Architects, LLC to be given consideration must be received at least seven days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instruction will be in the form of written addenda to the specifications which, if issued, will be forwarded by electronic mail and posted on DOH's Hurricane Sandy website to all prospective bidders (at the respective email addresses furnished for such purposes), not later than three days prior to the date fixed for the opening of bids. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his/her bid as submitted. All addenda so issued shall become part of the contract documents.

Pre-bid Attendance: Please review your contact information and notify Quisenberry Arcari Architects, LLC if any of your contact information is incorrect.

Drawing Location: Contract Documents including plans & specifications can be viewed and downloaded on-line at the Department of Housing Hurricane Sandy Recover website at www.ct.gov/doh/ and click on the "Hurricane Sandy" link. Contract Documents can also be purchased from Advanced Reprographics. Visit www.advancedrepro.net, select "Planroom", select "Access our Planroom here", select "Public Jobs" and select "**25 Jarvis Court, Fairfield, CT 06824**" or call 860-410-1020

ADD TO SPECIFICATIONS:

GEO Technical Report

END OF ADDENDUM #1



Consulting Engineers, P.C.

Structural Engineering
Geotechnical Engineering
Historic Preservation
Construction Support

**25 JARVIS COURT
FAIRFIELD**

June 2, 2014

Quisenberry Arcari Architects, LLC
318 Main Street
Farmington, Connecticut 06032

Attention: Mr. Michael Memmott

Re: Foundation Design Recommendations
Hurricane Sandy Relief Program in Connecticut
25 Jarvis Court, Fairfield, Connecticut
~~95 Old Dam Road, Fairfield, Connecticut~~
~~175 James Street, Fairfield, Connecticut~~
~~84 Longdean Road, Fairfield, Connecticut~~

Principals
Kenneth Gible, P.E.
James F. Norden, P.E.
Charles C. Brown, P.E.

Geotechnical Associate
David L. Freed, P.E.

Structural Associate
Richard A. Gentola, P.E.

Dear Mr. Memmott,

This letter summarizes the results of recent test borings and our recommendations for foundation design completed for four Fairfield Connecticut residences noted above. Our work was completed in accordance with your email authorization dated March 26, 2014. We understand that each of the above structures will undergo some degree of rehabilitation, including raising the structure to proper flood level. At this time, however, we are uncertain as to the precise amount that each house needs to be raised, but believe it is less than 8 ft.

On April 14 or 21, 2014, GNCB visited each of the above sites to observe conditions and to prepare a letter regarding possible impacts to the subject property from the Fall 2012 Hurricane Sandy event. Refer to our reports which were prepared for each of these properties; these reports describe each structure, site conditions, subsurface soils based on a review of readily-available geology maps, observations (if any) of possible impacts from Hurricane Sandy, and recommendations for additional investigations that include a test boring and a test pit at each site. The test borings will confirm information from available maps and will provide information to design new building foundations, while the test pits will confirm foundations of the existing structures. To expedite design information to your structural engineer, we have prepared this letter summarizing the results of the test

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borings and our foundation recommendations. The test pits are planned for the end of this week, and are only needed in the event it is planned to reuse the existing foundations.

SUBSURFACE CONDITIONS

In order to determine the subsurface soil conditions at depth, GNCB recommended, arranged for, and monitored a program of one test boring (B-1 to B-4) at each of the properties. These explorations were drilled on May 23 or 27, 2014, at the approximate locations shown on the attached drawings G1.2 (one plan for each site). GNCB located the explorations in the field by taping from the existing building corners and interpolated existing ground surface elevations from contours shown on the base survey plan, if available.

General Borings, Inc. of Prospect, Connecticut, under contract to GNCB, drilled the test borings using a special drill rig mounted on a rubber tired Case backhoe to advance 3-1/4 in. inside diameter hollow stem augers. Soil samples (ASTM D 1586) were obtained generally at 5 ft. intervals; however, near continuous sampling was completed within the upper 12 ft. The test borings ranged in depth from 31.9 ft. to 47.0 ft. At the 94 Longdean Road property, test boring (B-4) refusal was encountered at a depth of 29.9 ft., a two-ft. rock core was obtained to confirm that the refusal represented the bedrock surface. Logs of the test borings, prepared by the contractor and reviewed by GNCB, are attached. In addition, GNCB prepared the attached graphic vertical profile summarizing the test boring results.

Test borings revealed similar subsurface conditions at the four sites, consisting of two major strata, a surface man-placed fill underlain by Mill River Deposits. These results confirm the information we obtained during our initial review of geology maps. These soil conditions are described below, progressing downward from ground surface:

<u>Thickness (ft.)</u>	<u>General Description</u>
2 – 6 (at B-1)	Medium dense dark brown to brown medium to fine SAND, little to some silt and gravel, trace organic soil (MAN-PLACED FILL)
26.5 (at B-4) up to 44 ft. (B-3)	Medium dense to dense sand composed of an upper medium to fine SAND, little silt to a lower tan fine SAND (MILL RIVER DEPOSIT)
at B-4 only)	Quartz Bedrock

The man-placed fill is typical for sites where some residential construction has taken place. At the surface, each site has either a thin topsoil or paved surface. The underlying Mill River Deposit is medium dense to dense and as

describer, contains an upper coarse material underlain by fine sand. At only the 94 Longdean Road property was bedrock encountered.

Groundwater was encountered at each of the sites between about 4 and 7 ft. of ground surface. Observations of water observed during the drilling of the test borings are shown on the logs, however, these observations were made over a short period of time and probably do not represent the actual static groundwater level. In any event, water levels vary with precipitation, season, and other factors. As a result, water levels encountered during and after construction may differ from those observed in the observation well and explorations.

FOUNDATION RECOMMENDATIONS

Selection of a Foundation System: In our opinion, the man-placed fill is not suitable to support the building frame of a new residence. The underlying Mill River Deposits are a suitable bearing material, such as for a shallow foundation footing or a deep helical pile system. We suspect that the existing buildings are on a shallow foundation footing, however this can not be confirmed until completion of test pit excavations. However, our observations of each structure suggest that if present, shallow foundation footings are adequately supporting each structure.

If the sites are determined to be in a high hazard zone, the State of Connecticut building code requires that such structures be supported on a deep pile or caisson (pier) foundation. If this is the case for the subject sites, we recommend that the structures be supported on a helical pile foundation.

Below, we provide foundation recommendations for the two acceptable building foundations: shallow foundation footings and helical piles.

Shallow Foundation Footings: We recommended that new building foundations consist of spread footings that bear directly on the naturally-deposited granular soils (Mill River Deposit), or on compacted structural fill placed on these suitable natural soils.

Building footings should be proportioned for an allowable soil bearing pressure of 4 kips per square foot (ksf), provided the footings are at least 3 ft. wide. If less than 3 ft. wide, reduce the allowable soil bearing pressure by a proportionate amount (i.e. the allowable bearing pressure for a 2 ft. wide footing is 2.7 ksf). We anticipate that footings will settle less than 3/4 in. due to the static load.

Additional design recommendations for foundation footing design include:

1. For frost protection, locate that bottom of exterior footings at a depth of 3.5 ft. below the lowest adjacent ground surface exposed to freezing.
2. Where compacted structural fill is used to support footings, carry the foundation preparation and fill to lateral limits extending a distance beyond the edge of the footing equal to the depth of fill below the footing plus 2 ft.
3. We are not aware of any below grade foundation walls. We can provide design lateral earth pressures if needed.

Structural fill for use below foundation footings, as may be needed to replace unsuitable soils, should consist of a well graded sand and gravel that has a maximum percent finer by weight passing the No. 200 sieve of 10 percent. Soil fill should be placed in maximum 10 in. thick lifts, when compacted with heavy vibratory rollers or use maximum 6 in. thick lifts when compacted with hand vibratory compactors. Each lift should be compacted to a dry density at least 95 percent of the maximum dry density determined by ASTM D1557. If subgrade conditions are wet, or excavations extend below groundwater, consider using a lean concrete fill, or a fine crushed stone (maximum size of ½ in.) as fill.

Helical Piles: Helical piles consist of a vertical shaft, with a lead section consisting of circular plates, which is screwed into the ground to a selected bearing level. Typically, a backhoe with a special mounted calibrated torque device is used to insert the helical pile sections which typically vary from 5 to 10 ft. in length. Based on the test boring results, we suggest a vertical helical pile load of 20 to 30 kips; which we believe can be reached after penetrating 20 to 30 ft. into the ground. There are a number of helical pile manufacturers, such as A.B. Chance or MacLean Dixie, which provide a suitable pile; we suggest that the building contractor select a pile type for which the manufacturer can complete a computer analysis of specific site conditions and helical pile designs to meet the selected design load.

We recommend the following pile design criteria for 20 and 40 kip design capacity helical piles:

1. All helical piles shall be installed in accordance with the "Acceptance Criteria for Helical Foundation Systems and Devices", known as ICC-ES AC-358, latest update in June 2007.
2. Piles shall be MacLean Dixie HFS or equivalent in quality and workmanship.
3. Piles shall be designed for 20 kip or 30 kip vertical capacity; the above discussion identifies the potential bearing levels.
4. If the structure requires resistance against lateral loads by the piles, rather than the structure, a calculation can be made as to the lateral pile capacity, and or batter piles can be considered.
5. All helical piles shall have a lead section with two successive anchor plate diameters of 8 in. and 10 in.; the plates shall be spaced at least

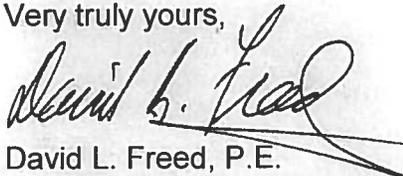
2 ft. apart. The lead section shaft shall be a solid square design with a minimum of 1.5 in. size for the 20 kip capacity and 1.75 in. for 30 kip capacity.

6. Selected contractors shall provide the correlation data for pile torque to achieve the required pile capacity.
7. All helical piles shall be hot-dipped galvanized per ASTM A123.

GNCB has worked with a helical specialty design firm, Premium Technical Services (representing MacLean Dixie piles) of East Meadow, NY – tel: 516-409-6000; either firm can provide assistance to your structural engineer with regard to the helical pile connections and/or details.

In the meantime, please give us a call if you have any questions or need additional information.

Very truly yours,



David L. Freed, P.E.
Geotechnical Associate

Enclosures:

- G1.2 - Soil Boring Location Plan (four sheets)
- Subsurface Profile (one sheet)
- Test Boring Logs (B-1 to B-4) – 7 sheets

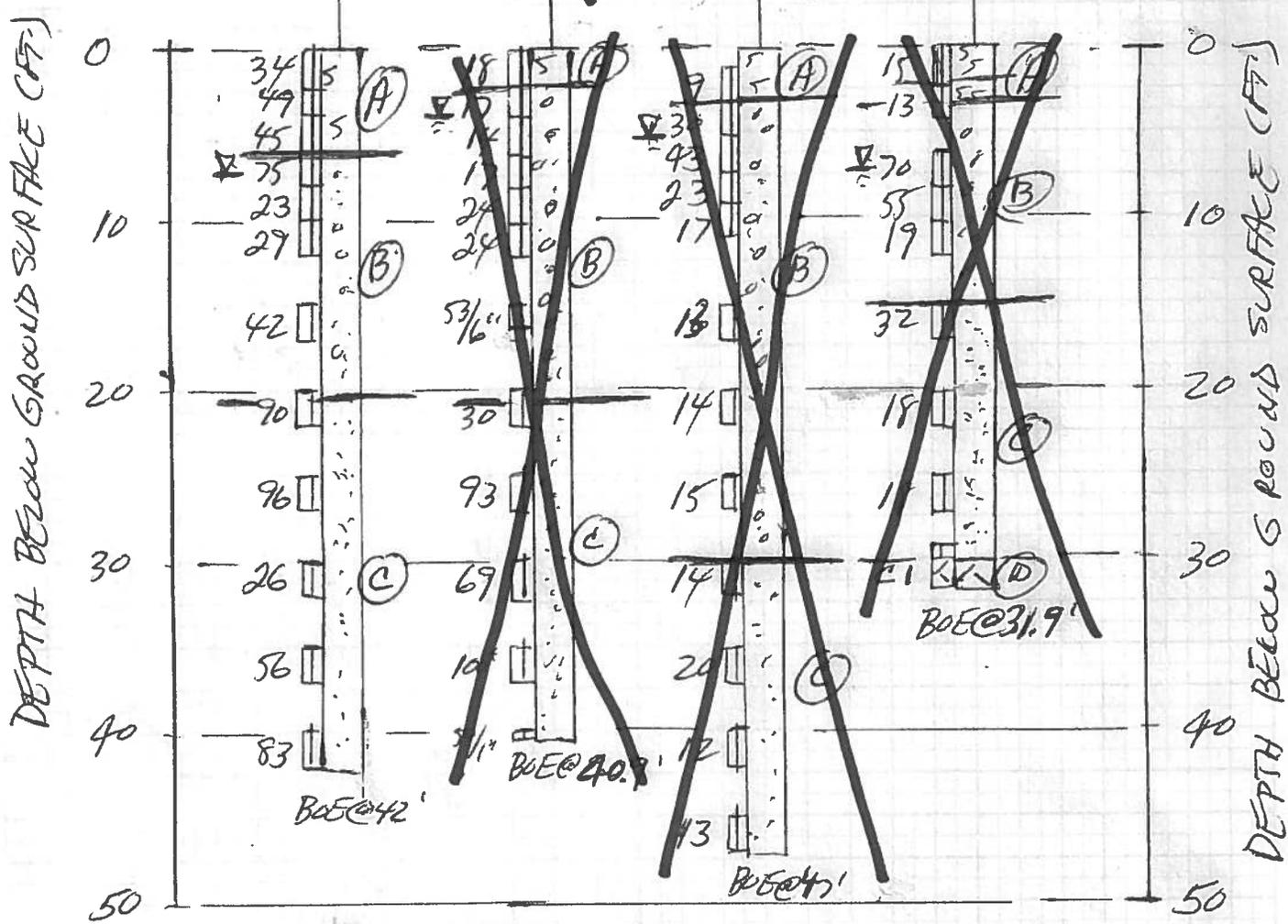


Consulting Engineers, P.C.
 130 Elm Street Post Office Box 802
 OLD SAYBROOK, CONNECTICUT 06475
 Telephone (860) 388-1224
 www.gncbengineers.com

PROJECT NAME: HURRICANE SANDY RELIEF
 PROJECT NO: 14033.09 SHEET NO. 1 OF 1
 BY: D. FREED DATE MAY 2014
 SCALE: VER - 1" = 10'
HOR - NONE

SUBSURFACE PROFILE

25 JARVIS CT. ~~35 OLD DAM~~ ~~17 JONES~~ ~~94 OLSON DEAN~~
 B1 ~~B2~~ ~~B3~~ ~~B4~~



LEGEND

- SPLIT SPOON SOIL SAMPLE; NO. REPRESENTS NO. BLOWS TO DRIVE REGB HAMMER 30 IN
- GROUNDWATER
- ROCK CORE
- STRATA CHANGE

STRATA TYPE

- (A) SS MAN PLACED FILL (INCLUDING TOPSOIL)
- (B) MEDIUM TO FINE SAND COARSE TO FINE SAND
- (C) FINE SAND
- (D) BEDROCK

SUBSURFACE PROFILE

CLIENT:
GNCB Consulting Engineers, P.C.
FOREMAN/DRILLER:
Robert Poynton

General Borings, Inc.
P. O. BOX 7135 PROSPECT, CT 06712

SOIL ENGINEER
DESIGN ENGINEER

PROJECT NAME: Ifrach Residence
INSPECTOR: Amy Jagaczewski
LOCATION: 25 Jarvis Ct, Fairfield, CT
Surface Elevation:
Date Started: 5/23/14
Date Finished: 5/23/14
Groundwater Observations

GBI JOB NO. 111-14
TYPE S Auger Casing Sampler Core Bar
H Auger HA S. S.
Size I. D. 3-1/4" 1-3/8"
AT 7.0 AFTER 0.0 HRS Hammer 140 LBS. Bit
AT AFTER HRS Fall 30"

Hole No. B-1
Line & Station
Offset L R
N Coordinate
E. Coordinate

DEPTH	Casing blows per foot	SAMPLE					BLOWS PER 6 INCHES ON SAMPLER				STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		DEPTH IN FEET FROM - TO	NO.	PEN. IN	REC. IN	TYPE	0-6	6-12	12-18	18-24		
5		0-2.0	1	24	12	SS	4	12	22	25	6.0'	1) Dense-Topsoil, Dark brown fine SAND, trace silt, trace organics. 2) Dense-Brown fine SAND, some weathered cobble. 3) Dense-Dark brown fine SAND, trace silt, trace organics.
		2.0-4.0	2	24	10	SS	20	22	27	19		
		4.0-6.0	3	24	12	SS	11	18	27	42		
10		6.0-8.0	4	24	18	SS	40	42	33	20	SAND	4) Very dense-Top 4" Same as S-3 Bottom 14" Medium SAND and some gravelly yellow brown, wet. 5) Medium-Brown fine-medium SAND, trace fine gravel, wet. 6) Medium-Same as S-5
		8.0-10.0	5	24	18	SS	6	12	11	12		
		10.0-12.0	6	24	24	SS	15	14	15	21		
15		15.0-17.0	7	24	22	SS	16	20	22	26	20.5'	7) Dense-Top 4" Same as S-5 Bottom 18" Brown fine SAND, trace silt.
20		20.0-22.0	8	24	24	SS	18	32	58	52	FINE SAND	8) Very dense-Fine light brown (trace red) SAND, trace silt. 9) Very dense-Same as S-8
25		25.0-27.0	9	24	24	SS	23	36	60	58	30.0'	10) Medium-Gray fine SAND, little silt, 11) Very dense-Same as S-10, little weathered cobble.
30		30.0-32.0	10	24	12	SS	12	15	11	50	FINE SAND	
35		35.0-37.0	11	24	24	SS	21	25	31	38		
40												

From Ground Surface to Feet Used in. Casing Then in. Casing For Feet
 Feet in Earth Feet in Rock No. of Samples Hole No. B-1
 SAMPLE TYPE CODING: SS = DRIVEN C = CORE A = AUGER U = UNDISTURBED PISTON
 PROPORTIONS USED: TRACE = 1-10% LITTLE = 10-20% SOME = 20-35% AND = 35-50%

CLIENT:
GNCB Consulting Engineers, P.C.
FOREMAN/DRILLER:
Robert Poynton

General Borings, Inc.
P. O. BOX 7135 PROSPECT, CT 06712

SOIL ENGINEER

INSPECTOR: Amy Jagaczewski

PROJECT NAME: Ifrach Residence
LOCATION: 25 Jarvis Ct, Fairfield, CT

DESIGN ENGINEER

Surface Elevation:

GBI JOB NO. 111-14

Date Started: 5/23/14

TYPE S Auger Casing Sampler Core Bar

Date Finished: 5/23/14

H Auger HA S.S.

Groundwater Observations

Size I. D. 3-1/4" 1-3/8"

AT 7.0 AFTER 0.0 HRS

Hammer 140 LBS. Bit

AT AFTER HRS

Fall 30"

DEPTH	Casing blows per foot	SAMPLE					BLOWS PER 6 INCHES ON SAMPLER				STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		DEPTH IN FEET FROM - TO	NO.	PEN. IN	REC. IN	TYPE	0-6	6-12	12-18	18-24		
		40.0-42.0	12	24	20	SS	20	26	57	50		12) Very dense-Same as S-11 and fine gravel.
											42.0'	END OF BORING 42.0'
45												
50												
55												
60												
65												
70												
75												
80												

From Ground Surface to Feet Used in. Casing Then in. Casing For Feet
 Feet in Earth 42 Feet in Rock 0 No. of Samples 12 Hole No. B-1
 SAMPLE TYPE CODING: SS = DRIVEN C = CORE A = AUGER U = UNDISTURBED PISTON
 PROPORTIONS USED: TRACE = 1-10% LITTLE = 10-20% SOME = 20-35% AND = 35-50%



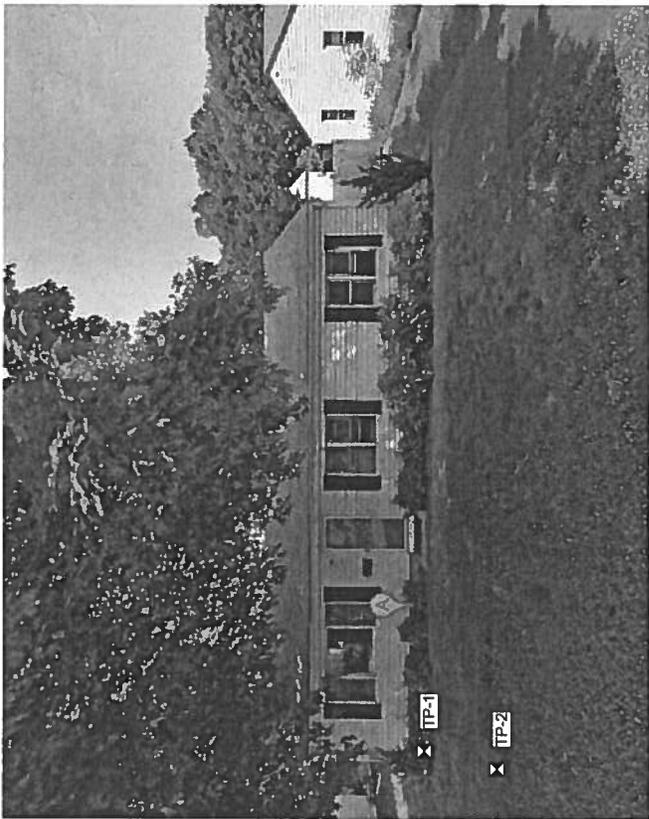
GNCB 
Consulting Engineers, P.C.

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**HURRICANE SANDY RELIEF PROGRAM IN CONNECTICUT
25 JARVIS COURT - SOIL EXPLORATION LOCATIONS**

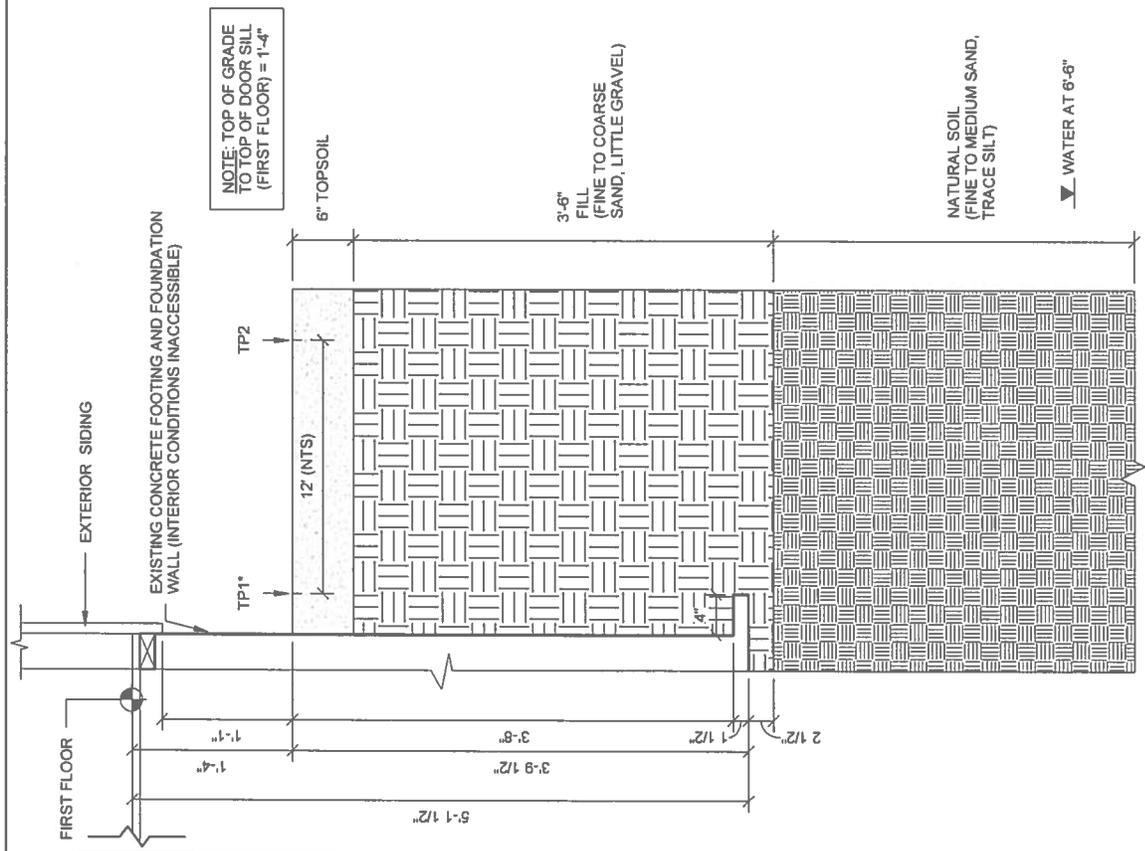
SCALE: NOT TO SCALE

5/13/2014



① 25 JARVIS COURT SOIL EXPLORATION
LOCATION TEST PIT
1" = 20'-0"

- NOTES
1. TEST PIT EXCAVATED ON JUNE 4, 2014.
 2. GNCB MADE OBSERVATIONS SHOWN HEREIN. MEASUREMENTS WERE TAKEN BY TAPE MEASURE.
 3. EXCAVATIONS NOT MADE BELOW FOOTINGS. SOIL SHOWN BELOW FOOTINGS IS INFERRED FROM TEST PIT.
 4. * INDICATES LOCATION WHERE SOIL SAMPLE TAKEN BELOW FOOTING.



② 25 JARVIS COURT TEST PIT DIAGRAM
1" = 1'-0"

GNCB
Consulting Engineers, P.C.

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GNCBENGINEERS.COM

HURRICANE SANDY RELIEF PROGRAM IN CT
RELIEF PROGRAM
25 JARVIS COURT - TEST PIT RESULTS
SCALE: As indicated
6/8/2014

TEST PIT REPORT

Project: 14033.09-05 25 Jarvis Court, Fairfield, CT _____ Project No. 14033.09-05 ____
 Client: Quisenberry Arcari Architects, LLC, Farmington, CT _____ Test Pit No: 1 _____
 Contractor: Pit dug by General Borings, Prospect, CT _____ Elevation: _____
 Equipment: Rubber-Tired Backhoe _____ Date: 6/4/2014 _____
 Field Rep.: AJ _____

Scale in Feet	Strata Change	Sample Number	Sample Depth Range	Description of Materials	Remarks
	0.5			Topsoil TOPSOIL	
- 1.0 -				Light brown, fine to coarse sand, little gravel	
- 2.0 -					
- 3.0 -					
- 4.0 -	4.0	1	3.75 to 4.25	FILL	
- 5.0 -				Bottom of test pit at 4.0 ft.	
- 6.0 -					
GROUNDWATER					SUMMARY
DATE	TIME*	DEPTH/FT.		$\frac{\text{---}}{\text{(L)}} \times \frac{\text{---}}{\text{(W)}} \times \frac{\text{---}}{\text{(D)}} = \text{---} \text{ Cu. Ft.}$ NOTE: Length (L) and Width (W) measurements made at ground surface; Volume reflects a reduced width with depth.	DEPTH 4.0ft _____
		NE			JAR SAMPLES _____
					BAG SAMPLES 1 _____
					GROUNDWATER NE _____
NOT ENCOUNTERED		X	* HRS. AFTER COMPL.	BOULDERS 8" TO 18" DIAM: NO. _____ = Vol. _____ Cu. Ft. OVER 18" DIAM: No. _____ = Vol. _____ Cu. Ft.	TEST PIT NO. 1

TEST PIT REPORT

Project: 14033.09-05 25 Jarvis Court, Fairfield, CT _____ Project No. 14033.09-05 _____
 Client: Quisenberry Arcari Architects, LLC, Farmington, CT _____ Test Pit No: 2 _____
 Contractor: Pit dug by General Borings, Prospect, CT _____ Elevation: _____
 Equipment: Rubber-Tired Backhoe _____ Date: 6/4/2014 _____
 Field Rep.: AJ _____

Scale in Feet	Strata Change	Sample Number	Sample Depth Range	Description of Materials	Remarks
	0.5			Topsoil TOPSOIL	
- 1.0 -				Light brown, fine to coarse sand, little gravel	
- 2.0 -					
- 3.0 -					
- 4.0 -	4.0			FILL	
	4.5			Gray, fine sand, trace silt FINE SAND	
- 5.0 -				Red-brown, fine to medium sand, trace silt	
- 6.0 -					
- 7.0 -	7.0			FINE SAND	
				Bottom of test pit at 7.0 ft.	
GROUNDWATER				$\frac{\text{---}}{\text{(L)}} \times \frac{\text{---}}{\text{(W)}} \times \frac{\text{---}}{\text{(D)}} = \text{---} \text{ Cu. Ft.}$ NOTE: Length (L) and Width (W) measurements made at ground surface; Volume reflects a reduced width with depth.	SUMMARY
DATE	TIME*	DEPTH/FT.			DEPTH <u>7.0ft</u>
6/4/14	12:00pm	6.5			JAR SAMPLES _____
					BAG SAMPLES _____
					GROUNDWATER <u>6.5ft</u>
NOT ENCOUNTERED		* HRS. AFTER COMPL.		8" TO 18" DIAM: NO. _____ = Vol. _____ Cu. Ft. OVER 18" DIAM: No. _____ = Vol. _____ Cu. Ft.	TEST PIT NO. 2

Community Development Block Grant Disaster Recovery Program (CDBG-DR)

Owner Occupied Rehabilitation and Rebuilding Program (OORR)

#1224 - 25 JARVIS COURT, FAIRFIELD, CT

PRE-BID WALK-THROUGH SIGN-IN SHEET

Name	Company	Address	Phone & Fax	Email
Michael Memmott	Quisenberry Arcari Architects, LLC	318 Main Street Farmington, CT 06032	860-677-4594 x15	michael@qa-architects.com
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