

Date:	August 15, 2016
Subject:	Bid for Construction of NW 89 th Avenue, NW 93 rd Street and NW 95 th
	Street Roadway and Drainage
Solicitation Number:	ITB 2016-004
OCPDS Number:	SW-0103
Opening Date / Time:	August 17, 2016 at 3:00 PM August 24, 2016 at 3:00 PM
ADDENDUM Number:	3

To all interested proposers:

The Town of Medley defines a solicitation "Addendum" as an addition to or amendment of the original terms, conditions, specifications, or instructions of a procurement solicitation (e.g. Invitation for Bids, Request for Proposals or Request for Qualifications), including but not limited to questions and answers, which are considered a material part of the solicitation.

Please note the following updates:

Revisions to the Project Manual (Solicitation Documents) as follows (deletions strikethrough, additions underlined):

Page "Part 1-24":

4.	OPENING OF BIDS	August 17, 2016
		August 24, 2016
5.	SELECTION COMMITTEE RECOMMENDATION OF AWARD	August 24, 2016
		August 31, 2016

Bidder Questions (answers in *italics*):

1. Do you have Geotechnical Report for this project? Geotechnical report and geotechnical report addendum are attached.

2. Who pays for the Density Tests?

The contractor is responsible for the required density testing per the plans and specifications.

3. The Contractor must clean the new and existing drainage system? (Sheet 4- General Notes, Item # 45)

Per note 45 on sheet 4 of the Plans, the Contractor shall clean and seal existing manholes and inlets to remain. New drainage system shall be cleaned prior to final inspection.

- **4.** Additionally the Contractor must seal all existing structures? (same item) See answer to question 3 above.
- 5. The Items concerning to striping must include the Paint Striping, correct?



Temporary paint striping shall be included in pay item 102-1, Maintenance of Traffic. Refer to Note 36, Sheet No. 4, Phase I plans and Note 38, Sheet No. 18, Phase II plans.

- 6. The relocation of trees is on the same area?

 Relocated trees will be installed at locations directed by the Town within 15 miles of their original location.
- 7. In Phase II, plans call for relocation of fire hydrants from one station to another. How this operation will take place? By tapping on the existing line or cut in a tee? Please clarify. Fire hydrant will be installed by tapping into the existing water main. All materials shall be provided by the contractor, tap will be performed by Town forces or under the supervision of Town forces.
- 8. In Phase II, plans call for a 16" Steel Sleeve for 12" Water main line in conflict with the proposed structures. What is the length of sleeve required for each conflict structure? There is no detail. Can you provide one?

 The sleeve shall be per FDOT Index 307.
- 9. Structures S-102B and S-304 are indicated as Driveway inlets, but the bid form does not have an item for them. Please clarify.

 S-102B and S-304 are included in the bid form under item no. 28 (INLETS, CURB, TYPE P-5 <10').



GEOTECHNICAL ENGINEERING | FOUNDATION ENGINEERING | GEOTECHNICAL TESTING | SOIL BORINGS/MONITORING WELLS | CONSTRUCTION MATERIALS TESTING

November 11, 2014

Mr. Barton Fye, P.E. **Kimley Horn** 1221 Brickell Avenue, Suite 400 Miami, Florida 33131

Re: Percolation Tests and Preliminary Pavement Design Recommendations

Medley Flood Mitigation Project

Medley, Florida

NV5 Project No. 146678

Dear Mr. Fye:

As requested, NV5, Inc., previously Vertical V-Southeast, Inc. and Bureau Veritas North America, Inc. (BVNA), performed soil borings and percolation tests in the area of the proposed pavement along NW 93rd Street between the F.E.C Rail Road track and NW 87th Avenue. Soil borings and percolation tests were also performed in 2008 by BVNA and the result of the tests are included in Appendix 4 of this report.

SITE AND PROJECT INFORMATION

The project site is located at in the Town of Medley, generally from NW 90th Street to NW 106th Street and between NW 95th Avenue and the F.E.C. Rail Road track to the east. The streets and avenues tested are currently paved. However, a new pavement is planned for the tested areas. It is estimated that grade is at about Elevation +6.0 feet with respect to the 1929 National Geodetic Vertical Datum (NGVD). A site and vicinity map is presented on Drawing 1.

LOCAL GEOLOGY

Miami-Dade County is located on the southern flank of a stable carbonate platform on which thick deposits of limestones, dolomites and evaporites have accumulated. The upper two hundred feet of the soil profile is composed predominantly of limestone and quartz sand. These sediments were deposited during several glacial and interglacial stages when the ocean was at elevations higher than present.

In many portions of Miami-Dade County, surface sand deposits of the Pamlico Formation are encountered. The Pamlico sands overlie the Miami Limestone. In western Miami-Dade County, portions of the Everglades Region interfinger with the Pamlico sand. The Everglades soil consists of peat and calcareous silt (marl).

The Miami Limestone is a soft to moderately hard, white, porous to very porous, sometimes sandy, oolitic calcareous cemented grainstone. The Miami Limestone outcrops in

Kimley Hom Medley Flood Mitigation Project Percolation Tests and Pavement Recommendations November 11, 2014 Page 2 NV5 Project No.: 146678

portions of Miami-Dade County. The Miami Limestone has a maximum thickness of about 35 feet along the Atlantic Coastal Ridge and thins sharply near the coastline and more gradually in a westerly direction. The Miami Limestone was formed about 130,000 years ago at a time when the sea level was twenty-five feet higher than it is today. This environment facilitated formation of concentrically layered sand sized carbonate grains called oolites. These grains formed by repeated precipitation of calcium carbonate around the nucleus of a sand or shell grain.

The Miami Limestone can be separated into two facies: the barrier bar oolitic facies and the tidal shoal limestone facies. The barrier bar facies is characterized by lenses of oolitic limestone separated by intermittent, 1-inch thick or less, uncemented sand layers (cross-bedded limestone). Zones of higher porosity are characteristic and parallel the bedding planes of the cross-bedded limestone. The tidal shoal limestone facies is characterized by a distinct lack of bedding planes. In addition, burrowing organisms have churned previously deposited sediments, which have resulted in high porosity channels in the rock. These ancient channels give the rock an appearance of a hardened sponge in some areas.

The Fort Thompson Formation underlies the Miami Limestone, and includes sand, sandstone, and limestone. The upper zones of the Fort Thompson Formation consist of sand having a thickness ranging from 5 to 35 feet. The remainder of the formation consists of coralline limestone, quartz sandstone, sandy limestone and freshwater limestone. The type of soils within the formation and the degree of cementation vary with lateral extent and depth.

The Fort Thompson Formation is underlain by the Tamiami Formation. The Tamiami Formation consists of sands, silts, clays, and sometime fossiliferous limestone. The upper portions of the Tamiami Formation are permeable and make up the lower reaches of the Biscayne Aquifer. This Formation ranges in thickness from zero to 300 feet in South Florida.

FIELD EXPLORATION

BORINGS

The subsurface conditions at the site were additionally explored with five engineering test borings drilled to a depth of 15 feet below the existing grade. BVNA also performed a subsurface Exploration Study in 2008. Test locations for this and the 2008 study are shown on Drawing 1. The 2014 test locations were marked and identified in the field by NV5. The borings were drilled with a truck-mounted drill rig utilizing the rotary wash method. Samples of the subsurface materials were recovered at roughly 2-foot intervals within the upper 10 feet of the borings and at approximately 5-foot intervals thereafter using a Standard Penetration Test split-spoon sampler (SPT) in substantial accordance with ASTM D-1586, "Standard Test Method for Standard Penetration Test and Split-Barrel Sampling of Soils." The 2008 tests were advanced to 14 feet below grade. This test procedure drives a 1.4-inch I.D. split-tube sampler into the subsurface profile using a 140-pound hammer falling 30 inches. The total number of blows required to drive the sampler the second and third six-inch increments is the



Kimley Hom Medley Flood Mitigation Project Percolation Tests and Pavement Recommendations November 11, 2014 Page 3 NV5 Project No.: 146678

SPT N-value, in blows per foot, and is an indication of material strength. Upon completion of the borings, the lower portions of the boreholes were backfilled with the soil cuttings, and the remaining portions closed with cement grout.

The soil/rock samples recovered from the borings were classified by a geotechnical engineer. The collected samples were later re-examined to confirm field classifications. Visual soil classifications were made in accordance with ASTM D2487 and ASTM D2488. The results of the classification and consequent generalized stratification are shown in the records of test borings in Appendix A (sheets A-1 through A-7). The 2008 soil boring test results are presented in Appendix C. Strata contacts shown on these drawings are approximate. The boring data reflect conditions at the specific test locations only, and at the time the borings were drilled.

FIELD PERMEABILITY TESTS

In addition to the borings, NV5 performed also, two field permeability tests at the locations shown on Drawing 1. The 2008 study included 25 percolation tests. The tests were performed to a depth 15 feet each. The 2014 tests are denoted as P-1 (2014) and P-2 (2014). The tests were performed in general accordance with the South Florida Water Management District's *Usual Open Hole Procedure*. The results for the 2014 study are presented in Appendix B (P-1 (2014), and P-2 (2014)), and the results for the 2008 study are presented in Appendix C.

PRELIMINARY PAVEMENT RECOMMENDATIONS

For use in the design of heavy duty pavement (tractor trailer roadway areas), NV5 estimates the traffic load at 3,000,000 total 18-kip Equivalent Single Axle Load Repetitions. We estimate that the subgrade material has a minimum Soil Support Value of 6 and a minimum Modulus of Subgrade Reaction of 200 pounds per cubic inch when prepared as recommended herein. Using a twenty-year design life, this data yields a flexible pavement structural number of about 1.2.

We recommend the following preliminary minimum flexible asphalt pavement section. Final pavement thickness design should be confirmed by the project civil engineer based on anticipated traffic loadings. Pavements should be designed and constructed in accordance with the current editions of the appropriate Florida Department of Transportation's pavement design manuals. Pavement subgrades should be prepared as described herein.

Flexible asphalt pavement section comprise the following as a minimum:

- 3 inches of FDOT S-1 surface course installed in two 1.5-inch-thick lifts
- 8 inches of limerock base course compacted to at least 100 percent relative compaction when compared with the AASHTO T-180. The limerock base should have a minimum Limerock Bearing Ratio (LBR) of 100. The base course can also be an asphaltic concrete material (FDOT specified ABC-3 or equivalent with a minimum Marshall Stability of 1,000 lbs).



November 11, 2014 Page 4 NV5 Project No.: 146678

 12 inches of stabilized subgrade compacted to at least 95 percent relative compaction. The subgrade should have a minimum with a minimum LBR of 40 percent as specified by Florida Department of Transportation (FDOT) requirements for Type B or Type C Stabilized Subgrade.

We recommend that the bottom of the stabilized subgrade be at least 18-inches above the seasonal high groundwater table.

SITE PREPARATION AND GRADING

- 1. Pavement areas should be proof rolled with a heavy roller operating at its maximum vibrational frequency and a travel speed of not more than two feet per second. The proof rolling should be observed by NV5 to identify and mitigate any weak subgrade conditions evidenced by yielding or rutting at the wheels of the roller or truck. Proof-rolling should include planned development footprints plus a five-foot perimeter.
- 2. In general base material should consist of inorganic crushed limestone with a maximum rock size of 1.5 inches. The subgrade material should consist of at least twelve (12) inches of either crushed limerock or inorganic sand and limestone with less than 10 percent passing the number 200 sieve, or crushed limestone with a maximum particle size of three inches.

We appreciate the opportunity to be of service. In the event you have questions about information in this report, please contact the undersigned at 305.666.3563.

Sincerely,

NV5, Inc.

Alfredo Budik, P.E. Senior Engineer

Florida License No. 43884

Distribution: Copy via Email

Copy to NV5 File

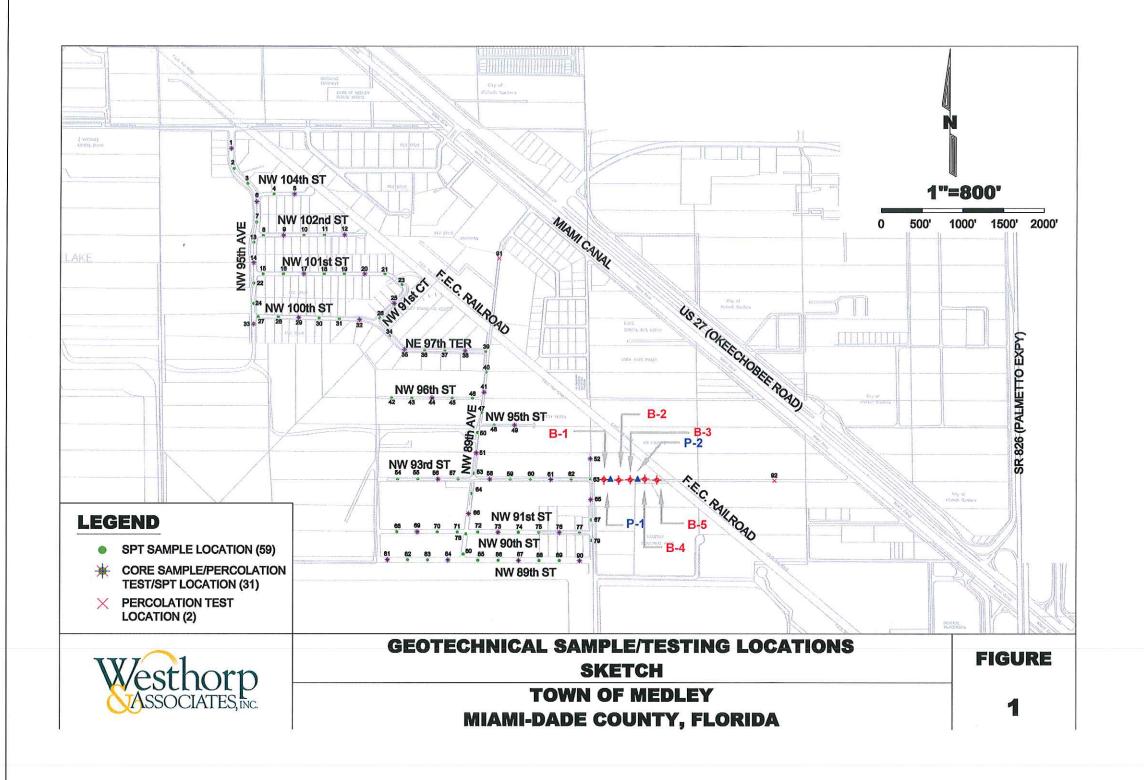
Attachments: Drawing No.1 – Site Vicinity Map and Test Location Plan

Record of Test Borings (Sheets A-1 to A-7)

Results of Constant Head Field Borehole Drainage Tests P-1 and 2

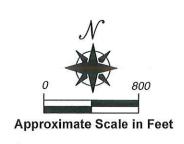
APPENDIX Subsurface Exploration and Percolation Tests by Bureau Veritas North America







Site Vicinity Map



LEGEND:



- Soil Boring Test Location (2014)



- Drainage Test Location (2014)

NOTES:

- 1. Test locations shown are approximate.
- 2. Test location symbols are not to scale.
- Base drawing taken Westhorp & Associates drawing figure 1



DRAWING TITLE: Site Vicinity Map & Test Location Plan

PROJECT NAME: Medley Flood Mitigation

PROJECT LOCATION: Medley , Florida

PROJECT NO:

146678

DATE: 11/05/14

DWG NO:

APD BY

DWN BY: WO

CKD BY: \mathcal{AB}

Medley Flood Mitigation, Medley FL

FINISH: 11/01/2014

4 feet (depth)

BORING NO:

B-1

PROJECT NO:

146678

START 11/01/2014 WEATHER:

Sunny Carson/Parada

BORING LOCATION:

CME-75 DRILL:

Refer to Test Location Plan

DRILL CONTRACTOR:

DATE CHECKED:

DRILLER:

11/01/2014

BORING METHOD:

GROUNDWATER: ELEVATION (EST.): + 6 Feet (NGVD)

Rotary drill with wash, mud & casing

FLUID LOSS: None

NOTES:

	SOIL SYMBOLS			AGNATS	RD PEN	ETRATION TEST
ELEV. / DEPTH	AND FIELD TEST DATA	MAJOR SOIL COMPONENT	OTHER COMPONENTS	DEPTH	N	CURVE
60	48 24 18 21	LIMESTONE FRAGMENTS & SAND (PROBABLE FILL)	Dense, gray	0, –5,	42	10 30 50
3 3	13 10 10 4	LIMESTONE	Very soft, gray, with some sand	2' -4'	20	
	11701/ 2014	SAND	Dark brown sand, some limestone fragments	4′ -5′	¥1	
0 — 6	14 16 19 36 18	LIMESTONE	Medium hard, tan, with some sand Moderately hard, gray,	5′ -6′	35	
	33 25 20		with some sand	6′ -8′	58	
-3 9	12 11 20 27		Medium hard, tan, with some sand	8' -10'	31	
-6 12					,	
	13 – 13 – 13 – 13 – 13 – 13 – 13 – 13 –	SAND	Loose, gray			
-9 15				13′ -15′	6	6
			,			
-12 10						
1						
†						
-15 21						

Refer to Notes and Legend on separate sheet for additional information. This Record of Test Boring is part of the project Geotechnical Report. It should not be assumed that changes in the 'N-Value' are a linear function. Soil and rock samples recovered using a ASTM D-1586 test proceedures.

Medley Flood Mitigation, Medley FL

146678 PROJECT NO:

START: 11/01/2014 FINISH: 11/01/2014

BORING NO:

B-5

WEATHER:

Sunny

BORING LOCATION:

Refer to Test Location Plan

DRILLER:

Carson/Parada

DRILL: CME-75 DRILL CONTRACTOR:

ELEVATION (EST.): + 6 Feet (NGVD)

GROUNDWATER:

4 feet (depth)

DATE CHECKED

11/01/2014

BORING METHOD: NOTES:

Rotary drill with wash, mud & casing

FLUID LOSS:

None

	SOIL SYMBOLS			STANDA	RD PEN	ETRATION TEST
ELEV. / DEPTH	AND FIELD TEST DATA	MAJOR SOIL COMPONENT	OTHER COMPONENTS	DEPTH	N	CURVE
6-0	10 10 10 10 10 10 10 10 10 10 10 10 10 1	LIMESTONE FRAGMENTS & SAND (PROBABLE FILL) LIMESTONE	Dense, gray Soft, tan, with some sand	0′ -2′	40	10 30 50
33	11701/ 11701/ 2014 115 116 115	ETHESTEINE	Medium hard, gray, with	2'-4'	26	
0 — 6	2014 15 41 27 19 17		some sand Medium hard, gray, with some sand	4' -6'	31	
+	10 12 11 11 16		Soft, tan, with some sand	6′ -8′	36	
-3 9				8' -10'	23	#
-6 12	111 22		Medium dense, gray			
-9 15	7577			13' -15'	12	
-12 18			s			
-15 21		1				

Refer to Notes and Legend on separate sheet for additional information.
This Record of Test Boring is part of the project Geotechnical Report.
It should not be assumed that changes in the 'N-Value' are a linear function.
Soil and rock samples recovered using a ASTM D-1586 test proceedures.

Medley Flood Mitigation, Medley FL

BORING NO:

B-3 Sunny

PROJECT NO

146678

START

FINISH: 11/01/2014

WEATHER:

Carson/Parada

BORING LOCATION:

Refer to Test Location Plan

DRILLER:

DRILL: CME-75 DRILL CONTRACTOR:

11/01/2014

GROUNDWATER: ELEVATION (EST.): + 6 Feet (NGVD)

4 feet (depth)

DATE CHECKED:

11/01/2014

BORING METHOD:

Rotary drill with wash, mud & casing

FLUID LOSS: None

NOTES:

	SDIL SYMBOLS			AGNATZ	RD PENE	TRATIO		
DEPTH	AND FIELD TEST DATA	MAJOR SOIL COMPONENT	OTHER COMPONENTS	DEPTH	N	CL	J R V	E
6 — 0	29 21 20 20	LIMESTONE FRAGMENTS & SAND (PROBABLE FILL)	Dense, gray Soft, tan, with some sand	0′ -2′	50	10	30	50
33	16	LIMESTONE SAND	Dark brown sand	2' -4'	30			
0-6	11701/ 2014 111 10 10 10 10 10 10 10 10 10 10 10 10	LIMESTONE	Soft, tan, with some sand Hard, gray, with some	4' -5' 5' -6'	21			
	49 49 48 48		sand Hard, tan, with some sand	6′ -8′	98			98 →
-3 9	51 49 47			8' -10'	100			00
-6 —— 15 —————————————————————————————————					3			
-9 15	■ 50/2'	SAND	Very dense, gray	13' -13' 2"	100		- 01	ΩΩ →
+								
-12 18		a						
-15 21		3			el .			

Refer to Notes and Legend on separate sheet for additional information.
This Record of Test Boring is part of the project Geotechnical Report.
It should not be assumed that changes in the 'N-Value' are a linear function.
Soil and rock samples recovered using a ASTM D-1586 test proceedures.

Medley Flood Mitigation, Medley FL

BORING NO:

B-4

PROJECT NO:

146678

START: 11/01/2014 FINISH: 11/01/2014

WEATHER:

Sunny

BORING LOCATION:

Refer to Test Location Plan

DRILLER:

Carson/Parada

DRILL: CME-75

DRILL CONTRACTOR:

11/01/2014

ELEVATION (EST.): + 6 Feet (NGVD)

GROUNDWATER:

4 feet (depth) DATE CHECKED:

BORING METHOD:

FLUID LOSS None

NOTES:

Rotary drill with wash, mud & casing

E. E	SOIL SYMBOLS			STANDA	RD PEN	ETRATION TEST
DEPTH	AND FIELD TEST DATA	MAJOR SOIL COMPONENT	OTHER COMPONENTS	DEPTH	N	CURVE
60	47 26 20 20 13	LIMESTONE FRAGMENTS & SAND (PROBABLE FILL)	Dense, gray	0' -2'	46	10 30 50
33	17 14 11 8	LIMESTONE	Soft, tan, with some sand	2' -4'	25	
†	11/01/ 2014 48 45 39 30	,	Hard, tan, with some sand	4' -6'	84	•84 →
0 — 6	36 32 32 32 21	e e	Hard, tan, with some sand	6′ -8′	64	€64 →
-3 9	37 42 30 29		Hard, tan, with some sand	8' -10'	72	● 72
Ī		a a				
-6 12	111 8 9 9 116	-	Very soft, gray, with			
-9 15				13′ –15′	17	6
+						
-12 19						
-15 21						

Refer to Notes and Legend on separate sheet for additional information.
This Record of Test Boring is part of the project Geotechnical Report.
It should not be assumed that changes in the 'N-Value' are a linear function.
Soil and rock samples recovered using a ASTM D-1586 test proceedures.

Medley Flood Mitigation, Medley FL

BORING NO:

B-5

PROJECT NO:

146678

11/01/2014 START

FINISH: 11/01/2014

4 feet (depth)

WEATHER:

Sunny

BORING LOCATION:

Refer to Test Location Plan

DRILLER:

Carson/Parada

DRILL: CME-75 DRILL CONTRACTOR:

ELEVATION (EST.): + 6 Feet (NGVD)

GROUNDWATER:

DATE CHECKED:

11/01/2014

BORING METHOD:

Rotary drill with wash, mud & casing

FLUID LOSS:

None

Ev. /	SOIL SYMBOLS			AGNATS	RD PEN	ETRATION TEST
PTH	AND FIELD TEST DATA	MAJOR SOIL COMPONENT	OTHER COMPONENTS	DEPTH	N	CURVE
	25 - 25	LIMESTONE FRAGMENTS &	Dense, gray			10 30 5
	25 17 17	SAND	Derise, gray		1000	
†	2.	(PROBABLE FILL)		0' -2'	42	
1			J			\vdash
	110	LIMESTONE	Medium hard, tan, with			H + H
-3	6		20114	2'-4'	33	
						H + A + A + A + A + A + A + A + A + A +
†	11701/	SILTY SAND	Brown	4' -5'		++/++
	Elelelelel			42.		H
	75 8	LIMESTONE	Very soft, tan, with some	5′ -6′	13	
-6	25 16 26	-	Medium hard, gray, with			$+\lambda+$
	16 26 16 13		some sand	6′ -8′	42	HM
Ī				6 -8	46	
-	15		Soft, tan, with some sand			
	15 16 14 13					
— 9				8' -10'	30	1 1
2022						
			1			
+						
l						
12						
+			Very soft, gray, with			
			some sand			
t				13' -15'	13	•
15						
188	1					
†	62					
1						
T						
18						
+						

Refer to Notes and Legend on separate sheet for additional information. This Record of Test Boring is part of the project Geotechnical Report. It should not be assumed that changes in the 'N-Value' are a linear function. Soil and rock samples recovered using a ASTM D-1586 test proceedures.

Symbol	KEY TO SYMBOLS Description	
Strata sy	mbols	
9,4 · · · · · · · · · · · · · · · · · · ·	LIMESTONE FRAGMENTS & SAND	
	LIMESTONE	
	SILTY SAND	
	Sand	
	PEAT	
Misc. Syr	mbols	
	Groundwater level measured at boring completion. The date checked is indicated.	
	Boring continues	
\uparrow	End of Boring	
Soil Sam	plers	
	Standard penetration test. 140 lb. hammer dropped 30"	
Notes:		
1. Explorate	ory borings were drilled on 11/01/14 using a 4-inch diameter rotary drill with wash, mud and casing.	
2. Groundw	vater was encountered at depth of 4 feet below grade upon boring completion.	
3. Boring lo	ocations were taped from existing features and elevations estimated.	
4. These lo	gs are subject to the limitations, conclusions, and recommendations in this report.	



5. Results of tests conducted on samples recovered are reported on the logs.

NOTES RELATED TO RECORDS OF TEST BORING AND GENERALIZED SUBSURFACE PROFILE

- 1. Groundwater level was encountered and recorded (if shown) following the completion of the soil test boring on the date indicated. Fluctuations in groundwater levels are common; consult report text for a discussion.
- 2. The boring location was identified in the field by offsetting from existing reference marks and using a cloth tape and survey wheel.
- 3. The borehole was backfilled to site grade following boring completion, and patched with asphalt cold patch mix when pavement was encountered.
- 4. The Record of Test Boring represents our interpretation of field conditions based on engineering examination of the soil samples.
- The Record of Test Boring is subject to the limitations, conclusions and recommendations presented in the report text.
- 6. "Field Test Data" shown on the Record of Test Boring indicated as 11/6 refers to the Standard Penetration Test (SPT) and means 11 hammer blows drove the sampler 6 inches. SPT uses a 140-pound hammer falling 30 inches.
- 7. The N-value from the SPT is the sum of the hammer blows required to drive the sampler the second and third 6-inch increments.
- 8. The soil/rock strata interfaces shown on the Record of Test Boring are approximate and may vary from those shown. The soil/rock conditions shown on the Record of Test Boring refer to conditions at the specific location tested; soil/rock conditions may vary between test locations.
- 9. Relative density for sands/gravels and consistency for silts/clays and limestone are described as follows:

SPT Blows/ Foot	Sands/Gravels Relative Density	SPT Blows/Fo ot	Silt/Clay Relative Consistency	SPT Blows/ Foot	Limestone Relative Consistency
0-4	Very loose	0-2	Very Soft	0-20	Very Soft
5-10	Loose	3-4	Soft	21-30	Soft
11-30	Medium Dense	5-8	Firm	31-45	Medium Hard
31-50	Dense	9-15	Stiff	46-60	Moderately Hard
050	V D	16-30	Very Stiff	61-50/2"	Hard
Over 50	Very Dense	Over 30	Hard	Over 50/2"	Very Hard

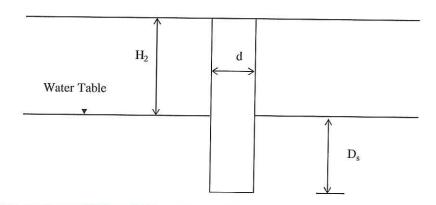
10. Grain size descriptions are as follows:

NAME	SIZE LIMITS
Boulder	12 inches or more
Cobbles	3 to 12 inches
Coarse Gravel	3/4 to 3 inches
Fine Gravel	No. 4 sieve to 3/4 inch
Coarse Sand	No. 10 to No. 4 sieve
Medium Sand	No. 40 to No. 10 sieve
Fine Sand	No. 200 to No. 40 sieve
Fines	Smaller than No. 200 sieve

Definitions related to adjectives used in soil/rock descriptions:

PROPORTION	ADJECTIVE 1	APPROXIMATE ROOT DIAMETER	ADJECTIVE
About 10%	with a trace	Less than 1/32"	Fine roots
About 25%	with some	1/32" to 1/4"	Small roots
About 50%	and	1/4" to 1"	Medium roots
		Greater than 1"	Large roots

SOUTH FLORIDA WATER MANAGEMENT DISTRICT " USUAL OPEN - HOLE TEST "



HYDRAULIC CONDUCTIVITY

 $K = Hydraulic Conductivity = 4Q/[\pi d(2H_2^2 + 4H_2Ds + H_2d)]$

4.45E-03 CFS/FT²-FT HEAD

Q = Average Flow Rate =

0.169329 CFS

d = Diameter of Test Hole =

0.5 feet

 H_2 = Head on Water Table =

2.0 feet

D_s = Saturated Hole Depth =

11.0 feet

TEST LOCATION:

TEST ELEVATION:

Dee Drawing No. 1

DEPTH TO WATER TABLE:

4.0'

+6.0 Feet NGVD Below Existing Grade

DEPTH OF TEST HOLE:

15.0'

Below Existing Grade

AVERAGE FLOW RATE:

76.00

SOIL PROFILE:

0.0' - 2.0'

Gray Limestone Fragments and Sand

2.0' - 4.0' 4.0' - 5.0' Tan Limestone

Brown Sand

5.0' - 15.0'

Tan and Gray Limestone

NOTES:

The soil profile is determined by cuttings & should not be relied upon as an accurate record of soil type or for transition zones. Unable to raise the water table to ground surface. K value calculated based on actual head on groundwater surface while performing this test.

DE		001	AT	IAAI	Part Services
PI	- H				TEST

Test Date

Project No. 146678

Test No. P-1 (2014) Tested By TC/HP

Checked by:

11/01/14 NV5, Inc.

Geotechnical, Environmental and Construction **Materials Testing Engineers**

14486 Commerce Way, Miami Lakes, Florida 33016

Telephone: (305) 666-3563 Facsimile: (305) 666-3069

Flood Mitigation Project

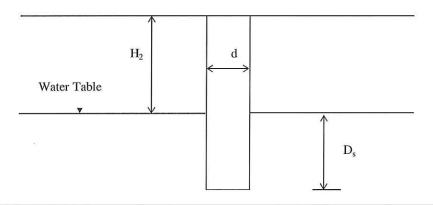
NW 93rd Street

Between NW 87th Ave. & FEC RR Tracks

Medley, Florida



SOUTH FLORIDA WATER MANAGEMENT DISTRICT " USUAL OPEN - HOLE TEST "



HYDRAULIC CONDUCTIVITY

 $K = Hydraulic Conductivity = 4Q/[\pi d(2H_2^2 + 4H_2Ds + H_2d)]$

2.81E-03 CFS/FT²-FT HEAD

Q = Average Flow Rate =

0.167101 CFS

d = Diameter of Test Hole =

0.5 feet

H₂ = Head on Water Table =

3.0 feet

 D_s = Saturated Hole Depth =

11.0 feet

TEST LOCATION:

Dee Drawing No. 1

TEST ELEVATION:

+6.0 Feet NGVD

DEPTH TO WATER TABLE:

4.0' Below Existing Grade

DEPTH OF TEST HOLE:

15.0' Below Existing Grade

AVERAGE FLOW RATE:

75.00

SOIL PROFILE:

0.0' - 2.0'

Gray Limestone Fragments and Sand

2.0' - 15.0'

Tan and Gray Limestone

NOTES:

The soil profile is determined by cuttings & should not be relied upon as an accurate record of soil type or for transition zones. Unable to raise the water table to ground surface. K value calculated based on actual head on groundwater surface while performing this test.

PF	- 12	റവ	L	۱ТІ	Or	U T	ES
		vv			0		

Test Date

Project No. 146678

Test No. P-2 (2014) Tested By TC/HP

Checked by:

11/01/14

NV5, Inc. Geotechnical, Environmental and Construction **Materials Testing Engineers**

14486 Commerce Way, Miami Lakes, Florida 33016

Flood Mitigation Project

NW 93rd Street

Between NW 87th Ave. & FEC RR Tracks Medley, Florida



Telephone: (305) 666-3563 Facsimile: (305) 666-3069

APPENDIX





June 23, 2008

Town of Medley 7331 N.W. 74th Street Medley, Florida 33166 October 30, 2007

Attention: The Honorable Ramon Rodriguez

Reference: Standard Penetration Tests

Flood Mitigation Grant

Medley, Florida Project No. 144891

Gentlemen,

In accordance with your authorization, Bureau Veritas North America, Inc. has performed Standard Penetration Tests (SPT's) at the above referenced site, as detailed in the attached Boring Logs B-1 to B-79 and Location Plan. Boring locations were determined by Westhorp & Associates. Depths were terminated for each test, as per your instructions and were performed in general accordance with ASTM D-1586. Please refer to the attached Notes Related to Standard Penetration Test Boring Logs.

Ninety Standard Penetration Tests were scheduled for the project. This report includes the first sixty nine SPT's performed up to date.

Bureau Veritas appreciates the opportunity to provide our engineering services on this project. If you have any questions regarding these tests or if we may be of further assistance, please don't hesitate to contact us.

Respectfully submitted,

BUREAU VERITAS NORTH AMERICA, INC.

Victor R. Lopez, E.I. Project Engineer Alfredo Budik, P.E. Vice President Florida License No. 43884

Distribution: 2 – Client

1 - Westhorp & Associates

Enclosures: Notes Related to Standard Penetration Test Boring Logs

Boring Logs B-1 to B-79 (69 Tests)

Borings Location Plan



BUREAU VERITAS NORTH AMERICA, INC. 308 N.W. 170 Street

North Miami Beach Telephone: 786-248-3180

BORING NUMBER B-1 PAGE 1 OF 1

LIENT Town of Medley ROJECT NUMBER _ 21008-144890 ATE STARTED _ 6/7/08 COMPLETED _ 6/7/08 RILLING CONTRACTOR _ Bureau Veritas NA RILLING METHOD	PROJEC GROUNI GROUNI	D ELEVA			95th A	ve & 9	Oth to 106th St, Medley, FL					
RILLING CONTRACTOR Bureau Veritas NA RILLING METHOD OGGED BY _LG CHECKED BY _V. Lopez	GROUNI		LION	PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL								
OGGED BY LG CHECKED BY V. Lopez	_	GROUND WATER LEVELS:										
OGGED BY LG CHECKED BY V. Lopez	∇											
OTES Drill Equipment= D-50	_ AT	END OF	DRILL	ING 5.0 ft	t							
	AF	TER DRI	LLING									
MATERIAL DESCRIPTION 0.0		SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	A SPT N VALUE A 20 40 60 80 PL MC LL 20 40 60 80 □ FINES CONTENT (%) 20 40 60 80					
Asphalt (1-inch) Tan fine to medium grained SAND with LIMESTONE FRAG	MENTS	SS 1	67	37-30-24- 27 (54)			^					
2.5 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		SS 2	63	30-21-18- 43 (39)			A					
Tan SANDY LIMESTONE, some Silt		SS 3	63	23-15-13- 16 (28)								
7.5		SS 4	63	11-12-13- 14 (25)			^					
		SS 5	67	8-8-11-12 (19)								
0.0		SS 6	58	8-7-8-10 (15)	-		1					
2.5		SS 7	58	7-8-8-9 (16)			A					
Bottom of hole at 14.0 feet.		1										

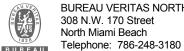


SEOTECH BH PLOTS TOWN OF MEDLEY.GPJ GINT US LAB.GDT 6/24/08

BORING NUMBER B-2

PAGE 1 OF 1

Fax: 786-248-3190 **PROJECT NAME** FLOOD MITIGATION GRANT **CLIENT** Town of Medley PROJECT NUMBER 21008-144890 PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL DATE STARTED 6/7/08 COMPLETED 6/7/08 GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch DRILLING CONTRACTOR Bureau Veritas NA **GROUND WATER LEVELS:** $\sqrt{2}$ AT TIME OF DRILLING 5.0 ft DRILLING METHOD _____ LOGGED BY LG CHECKED BY V. Lopez TAT END OF DRILLING 5.0 ft NOTES Drill Equipment= D-50 AFTER DRILLING ---POCKET PEN. (tsf) DRY UNIT WT. (pcf) ▲ SPT N VALUE ▲ SAMPLE TYPE NUMBER RECOVERY 9 (RQD) BLOW COUNTS (N VALUE) 40 60 MC MATERIAL DESCRIPTION 40 60 20 80 ☐ FINES CONTENT (%) ☐ 0.0 40 60 Asphalt (2-inches) Tan fine to medium grained SAND with LIMESTONE FRAGMENTS 33-33-25-SS 75 29 (58)2.5 28-31-21-SS 67 (52)Tan SANDY LIMESTONE 42-31-24-5.0 SS 20 (55)10-16-16-SS 63 (32)7.5 Tan fine grained SAND SS 6-7-10-13 (17)10.0 SS 6-11-11-10 (22)12.5 SS 7-10-9-11 (19)Bottom of hole at 14.0 feet.



308 N.W. 170 Street North Miami Beach

BORING NUMBER B-3
PAGE 1 OF 1

VERITAS Fax: 78 CLIENT Town of Med		PROJEC	T NAME	FLOC	DD MITIGAT	TION C	SRANT				
PROJECT NUMBER _	21008-144890	PROJEC	T LOCA	TION _	NW 87th to	95th A	ve <u>&</u> 9	0th to 106th	St, Med	dley, FL	
DATE STARTED 6/7	/08 COMPLETED 6/7/08	GROUNE	ELEVA	TION _	Not furnishe	ed	HOLE	SIZE 2 7/8	8-inch		
DRILLING CONTRAC	TOR Bureau Veritas NA	GROUNE	WATER	R LEVE	LS:						
DRILLING METHOD _					LING <u>5.5 f</u>						
LOGGED BY LG	CHECKED BY _V. Lopez	▼ AT	END OF	DRILL	LING 5.5 ft						
NOTES Drill Equipme	ent= D-50	AF	TER DR	ILLING							
			Щ	%		j	<u>.</u>	▲ SP	T N VAL	LUE 🔺	
프 우			SAMPLE TYPE NUMBER	RECOVERY (RQD)	TS UE)	POCKET PEN. (tsf)	T WT.	20 ⁴ PL	40 60 MC	0 80 LL	
DEPTH (ft) GRAPHIC LOG	MATERIAL DESCRIPTION) IMB	NSE SPE	BLOW COUNTS (N VALUE)	(tsf)	DRY UNIT (40 60	——	
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- 0. (\)											
2.5			$\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $								
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				63	70 (112)			:			
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Tan S	SANDY LIMESTONE		\mathbb{N}								
5.0			ss		25-51-33-						
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7.5				54	(57)				<i>†</i>		
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Browi	n fine grained SAND		\Box								
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			/ \								
1	Bottom of hole at 14.0 feet.										
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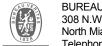
308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-4
PAGE 1 OF 1

CLIENT Town of Medley			FLO(DD MITIGAT	TION (SRANT	Г			
PROJECT NUMBER 21008-144890							90th to 106th St, Medley, FL			
DATE STARTED 6/4/08 COMPLETED 6/4/08 DRILLING CONTRACTOR Bureau Veritas NA	GROUND	ELEVA	TION _	Not furnishe			SIZE 2 7/8-inch			
DRILLING METHOD	∑ at	TIME OF	DRIL	LING _4.7 f	ft					
LOGGED BY JR CHECKED BY V. Lopez	 AT	END OF	DRILL	.ING _4.7 ft	4.7 ft					
NOTES Drill Equipment= B-57	AF	TER DRII	LLING							
MATERIAL DESCRIPTION 0.0		SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	20 40 60 80 PL MC LL 20 40 60 80 FINES CONTENT (%) □ 20 40 60 80			
Asphalt (2.5-inches) Tan fine to medium grained SAND with LIMESTONE FR	RAGMENTS	SS 1	83	27-23-17- 12 (40)			A			
Z.5 Tan SANDY LIMESTONE		SS 2	92	10-11-16- 21 (27)			4			
5.0		SS 3	83	15-17-9-11 (26)						
7.5		SS 4	92	7-7-5-6 (12)						
10.0		SS 5	92	4-5-4-5 (9)						
		SS 6	92	6-7-8-7 (15)						
12.5		SS 7	83	12-10-10- 12 (20)						
Bottom of hole at 14.0 feet.		Y 1			-					



308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-5 PAGE 1 OF 1

LIENT Town of Medley		PROJEC [*]	T NAME	FLO	OD MITIGAT	TION G	RANT	-
PROJECT NUMBER 21008-1								0th to 106th St, Medley, FL
<u> </u>	COMPLETED 6/9/08							SIZE 2 7/8-inch
RILLING CONTRACTOR B	ureau Veritas NA	GROUND	WATE	R LEVE	LS:			
RILLING METHOD		_ ∑ AT	TIME C	F DRIL	LING _4.3 1	t		
OGGED BY LG	CHECKED BY V. Lopez	_ AT	END O	F DRILL	LING _4.3 ft			
IOTES Drill Equipment= D-5	0	_ AF	TER DR	ILLING	i			
GRAPHIC LOG	MATERIAL DESCRIPTION		SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	A SPT N VALUE A 20 40 60 80 PL MC LL 20 40 60 80 □ FINES CONTENT (%) 20 40 60 80
Asphalt (1-inc	h) edium grained SAND with LIMESTONE FRAG	GMENTS	SS 1	92	43-35-17- 13 (52)			<u> </u>
1, 1,	ILTY SAND with Organics		SS 2	92	13-15-23- 28 (38)			A
▼ Tan SANDY L	IMESTONE		SS 3	83	20-20-16- 14 (36)			
.5			SS 4	92	12-8-8-8 (16)			
0.0			SS 5	83	7-10-8-15 (18)			4
			SS 6	92	10-8-8-7 (16)			
2.5			SS 7	92	5-5-5-4 (10)			
			7 Y	1	1	1	I	1 : : : :



308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180

BORING NUMBER B-6 PAGE 1 OF 1

VERITAS Fax: 786-248		DDO 150	T NIA 84-	El 01		rion: c	\D ^ L '~	_			
CLIENT Town of Medley	09 144900				DD MITIGAT				t Madlay El		
PROJECT NUMBER 2100 DATE STARTED 6/7/08					NW 87th to 95th Ave & 90th to 106th St, Medley, FL Not furnished HOLE SIZE 2 7/8-inch						
	Bureau Veritas NA					<u></u>	HOLL	<u> 2 110-1</u>	HOH		
		←			LING <u>6.0 f</u>	ft					
	CHECKED BY V. Lopez										
IOTES _Drill Equipment= I			TER DRI								
		_	ı					A CDT	N VALUE ▲		
_ 0			SAMPLE TYPE NUMBER	% >	ဖြစ္ပ	Ä N	WT.	20 40	60 80		
GRAPHIC LOG	MATERIAL DESCRIPTION		1 E T	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN (tsf)	I ⊢ -	PL	MC LL		
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2.5 Ø			\mathbb{N}/\mathbb{I}								
				67	33-23-61- 52				<u>\</u>		
(° (<u>)</u>			2	07	(84)				<i></i>		
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	DY LIMESTONE								. / !		
			\/		37-32-30-						
5.0			SS 3	63	31				<u> </u>		
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12.5			\ /					H			
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	Bottom of hole at 14.0 feet.										
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308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-7
PAGE 1 OF 1

		Fax: 786-248-3190 wn of Medley	PROJEC:	TNAME	FLOC	DD MITIGAT	LION G	RANT	r		
		<u> </u>							90th to 106th St, Medley, FL		
									SIZE 2 7/8-inch		
DRILI	LING C	ONTRACTOR Bureau Veritas NA	$\overline{\underline{Y}}$ AT TIME OF DRILLING $\underline{5.0}$ ft								
		ETHOD									
LOGO	GED BY	LG CHECKED BY V. Lopez									
NOTE	S Dri	Equipment= D-50	AF	TER DRI	LLING						
					%		z	WT.	▲ SPT N VALUE ▲		
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	> \	Tan fine to medium grained SAND with LIMESTONE FRAGME	ENTS	\mathbb{N}							
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		Dark brown SILTY SAND with traces of Organic stain		1							
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7 -				$\begin{vmatrix} 1 & 33 \\ 4 & 4 \end{vmatrix}$	50	(2)			†		
7.5				/ \							
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-	1										
-		Tan SANDY LIMESTONE					-				
12.5				\		10 10 10					
-	井			SS 7	50	10-12-13- 14					
-				[/\ ′		(25)					
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		Bottom of hole at 14.0 feet.									
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308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-8
PAGE 1 OF 1

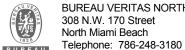
VERITAS Fax:										
CLIENT Town of M				_		D MITIGAT				
PROJECT NUMBER									0th to 106th St, Medley, I	FL
_	6/4/08 COMPLETED 6/4/08						ed	HOLE	SIZE 2 7/8-inch	
	ACTOR Bureau Veritas NA	$\overline{}$				_				
)									
	CHECKED BY V. Lopez									
NOTES Drill Equip	ment= B-57	AF	TER	DRIL	LING					
			Ⅱ		%		į Ž	<u>-</u>	▲ SPT N VALUE	A
프 일				ER	¥.€	^ TS UE)	H	X	20 40 60 8 PL MC LL	
DEPTH (ft) GRAPHIC LOG	MATERIAL DESCRIPTION		SAMPLE TYF	JMB	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	' UNIT WT. (pcf)	20 40 60 8	
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				SS	92	12-15-7-7				
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4	ht brown SILTY SAND									
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<u>''''</u> Da	rk brown SILTY SAND with Organics		$ \Lambda $	3		(2)				
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+ + + + + + + + + + + + + + + + + + + +	Bottom of hole at 14.0 feet.									
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308 N.W. 170 Street

North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-9
PAGE 1 OF 1

	rdx. 700-240-3190	PROJECT NAME FLOOD MITIGATION GRANT								
CLIENT Tow		PROJECT NAME _FLOOD MITIGATION GRANT PROJECT LOCATION _NW 87th to 95th Ave & 90th to 106th St, Medley, FL								
	MBER 21008-144890								<u> </u>	
	ED 6/8/08						<u>ea</u>	HOLE	SIZE 2 7/8-inch	
	ONTRACTOR Bureau Veritas NA						F4			
						LING <u>5.01</u> .ING <u>5.0 f</u> t				
							[
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				SAMPLE TYPE NUMBER	%		z	WT.	▲ SPT N VALUE ▲	
DEPTH (ft) GRAPHIC LOG				BER	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	 }	20 40 60 80 PL MC LL	
DEPTH (ft)	MATERIAL DESCRIPTION		;	M P	SS SS	Selection	X (함)	(pcf)	20 40 60 80	
				A Z Z	REC	OS	l S	DRY	☐ FINES CONTENT (%)	
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\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	 Asphalt (1.25-inches) Tan fine to medium grained SAND with LIMESTONE FRAGE 	GMENTS	\mathbb{N}	1						
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	Dark brown SILTY SAND with Organics									
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	Tan SANDY LIMESTONE			3		(12)				
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	Brown SILTY SAND		\ /							
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10.0			L	<u> </u>						
	Tan SANDY LIMESTONE		1							
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			V	SS		4-4-5-4				
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	BORIOTH OF HOTE AL 14.0 feet.									
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SEOTECH BH PLOTS TOWN OF MEDLEY.GPJ GINT US LAB.GDT 6/24/08

BUREAU VERITAS NORTH AMERICA, INC. 308 N.W. 170 Street

BORING NUMBER B-10

Fax: 786-248-3190 **PROJECT NAME** FLOOD MITIGATION GRANT **CLIENT** Town of Medley PROJECT NUMBER 21008-144890 PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL DATE STARTED 6/4/08 COMPLETED 6/4/08 GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch DRILLING CONTRACTOR Bureau Veritas NA **GROUND WATER LEVELS:** $\sqrt{2}$ AT TIME OF DRILLING 5.0 ft DRILLING METHOD _____ LOGGED BY JR CHECKED BY V. Lopez **T** AT END OF DRILLING 5.0 ft NOTES Drill Equipment= B-57 AFTER DRILLING ---POCKET PEN. (tsf) DRY UNIT WT. (pcf) ▲ SPT N VALUE ▲ SAMPLE TYPE NUMBER RECOVERY 9 (RQD) BLOW COUNTS (N VALUE) 40 60 MC MATERIAL DESCRIPTION 40 60 20 80 ☐ FINES CONTENT (%) ☐ 0.0 40 60 Asphalt (2-inches) Tan fine to medium grained SAND with LIMESTONE FRAGMENTS 18-16-18-SS (34) Dark brown SILTY SAND, some Limestone Fragments 2.5 SS 4-4-4-4 92 (8) Dark brown SILTY SAND with Organics <u>\ \ / /</u> 5.0 SS 2-2-4-10 Tan SANDY LIMESTONE 11-10-11-SS 83 15 (21)7.5 8-10-10-10 SS (20)10.0 12-14-12-SS 10 (26)12.5 14-18-13-SS 83 10 (31)Bottom of hole at 14.0 feet.



308 N.W. 170 Street North Miami Beach

BORING NUMBER B-11
PAGE 1 OF 1

VERITAS Fax: 786								_
CLIENT Town of Med					DD MITIGAT			
PROJECT NUMBER _2								Oth to 106th St, Medley, FL
DATE STARTED 6/4/						<u>ea</u>	HOLE	SIZE 2 7/8-inch
		\leftarrow			LS: LING <u>4.71</u>	F4		
	CHECKED BY V. Lopez							
NOTES Drill Equipme			TER DRI					
	III.— D-07	_ ^ı	l	T				
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DEPTH (ft) GRAPHIC LOG	MATERIAL DESCRIPTION		E T.	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN (tsf)	1 ⊢ -	PL MC LL
DEI SRA LC	WATERIAL DESORT HON		MPL	S S	N V P	S _±	5@ ≻	
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	rown SILTY SAND with Organics			92	(6)			
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	ANDY LIMESTONE							
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308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-12
PAGE 1 OF 1

VERITAS Fax: 786-248-3190				E! 00	NO MAITICA	TION: O	\D ^ ^ !~	_
			-		OD MITIGAT			
PROJECT NUMBER 21008-144890 DATE STARTED 6/8/08 C								Oth to 106th St, Medley, FL SIZE 2 7/8-inch
DRILLING CONTRACTOR Bureau Verita			VATER			<u>-u</u>	HOLL	2 170-IICII
DRILLING METHOD	_				LING <u>6.0 f</u>	ft		
LOGGED BY LG C		_						
NOTES _ Drill Equipment= D-50	<u> </u>		R DRII					
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U			SAMPLE TYPE NUMBER	% ≻	w _ω	Ä Ä	WT.	▲ SPT N VALUE ▲ 20 40 60 80
(f) (f) (graphic Log Log	RIAL DESCRIPTION		.Е.Т. ЛВЕІ	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN (tsf)	(pcf)	PL MC LL
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			SA	뀚		P.	DRY	☐ FINES CONTENT (%)
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Tan fine to medium graine	d SAND with LIMESTONE FRAGMENTS	s \	/		36-17-11-			
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		\	ss		9-11-11-8			
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Brown fine grained SAND								
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		1 X	SS 4	58	7-6-6-6 (12)			🛉
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		\	SS	F 4	7-9-19-24			
		/	5	54	(28)			🕇
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· + + + + + + + + + + + + + + + + + + +)	SS 6	50	18-16-15- 15			
· ‡‡		/	$\ $		(31)			
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12.5		<u></u>	1					
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· † †		Įχ	7	50	10 (22)			
· + + + + + + + + + + + + + + + + + + +		/	\setminus		(22)			
Rotte	om of hole at 14.0 feet.		1					
	on note at 14.0 lock.							



308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-13
PAGE 1 OF 1

CLIENT Town of Medley					D MITIGAT				F'
PROJECT NUMBER _21008-144890								Oth to 106th St, Medie	ey, FL
DATE STARTED 6/8/08 COMPLETED 6/8/08						<u>ea</u>	HOLE	SIZE 2 7/8-inch	
DRILLING CONTRACTOR Bureau Veritas NA						4			
DRILLING METHOD									
LOGGED BY LG CHECKED BY V. Lopez					-				
NOTES _Drill Equipment= D-50	AF	TER [DRILLI	ING		1			
		Ⅱ	%	0	_	z	<u>ا</u> ـ	▲ SPT N VALU	
MATERIAL DESCRIPTION MATERIAL DESCRIPTION		SAMPLE TYF	퓠	(RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	UNIT WT. (pcf)	20 40 60 PL MC	80 LL
MATERIAL DESCRIPTION		빌		Rai	SEO OUN VAL	KET (tsf)	S g	20 40 60	\dashv
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Brown SILTY SAND with LIMESTONE FRAGMENTS	S							\	
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J. P. J.								/	:
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Bottom of hole at 14.0 feet.		<u> </u>	-						:
DOLLOTT OF HOTE At 14.0 feet.									:
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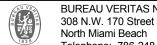
SEOTECH BH PLOTS TOWN OF MEDLEY.GPJ GINT US LAB.GDT 6/24/08

BUREAU VERITAS NORTH AMERICA, INC.

308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 **BORING NUMBER B-14**

PAGE 1 OF 1

Fax: 786-248-3190 **PROJECT NAME** FLOOD MITIGATION GRANT **CLIENT** Town of Medley PROJECT NUMBER 21008-144890 PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL **DATE STARTED** 6/8/08 **COMPLETED** 6/8/08 GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch DRILLING CONTRACTOR Bureau Veritas NA **GROUND WATER LEVELS:** $\sqrt{2}$ AT TIME OF DRILLING <u>5.5 ft</u> DRILLING METHOD _____ LOGGED BY LG CHECKED BY V. Lopez **T** AT END OF DRILLING 5.5 ft NOTES Drill Equipment= D-50 AFTER DRILLING ---POCKET PEN. (tsf) DRY UNIT WT. (pcf) ▲ SPT N VALUE ▲ SAMPLE TYPE NUMBER RECOVERY 9 (RQD) BLOW COUNTS (N VALUE) 40 60 MC MATERIAL DESCRIPTION 40 60 20 80 ☐ FINES CONTENT (%) ☐ 0.0 40 60 Asphalt (0.5-inches) Tan fine to medium grained SAND with LIMESTONE FRAGMENTS 40-26-20-SS 23 (46)2.5 30-17-14-SS 63 20 (31)19-20-15-5.0 SS 10 (35)Dark brown SILTY SAND with Organics <u>///</u> SS 8-7-4-4 50 (11) 7.5 Brown SANDY LIMESTONE 8-8-6-7 SS (14)10.0 Tan SANDY LIMESTONE 11-10-12-SS 50 12 (22)10-10-11-SS 50 11 (21)Bottom of hole at 14.0 feet.



SEOTECH BH PLOTS TOWN OF MEDLEY.GPJ GINT US LAB.GDT 6/24/08

BUREAU VERITAS NORTH AMERICA, INC.

BORING NUMBER B-15

Telephone: 786-248-3180 Fax: 786-248-3190 **PROJECT NAME** FLOOD MITIGATION GRANT **CLIENT** Town of Medley PROJECT NUMBER 21008-144890 PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL DATE STARTED 6/4/08 COMPLETED 6/4/08 GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch DRILLING CONTRACTOR Bureau Veritas NA **GROUND WATER LEVELS:** $\sqrt{2}$ AT TIME OF DRILLING 4.7 ft DRILLING METHOD _____ LOGGED BY JR CHECKED BY V. Lopez **TATEND OF DRILLING** 4.7 ft NOTES Drill Equipment= B-57 AFTER DRILLING ---POCKET PEN. (tsf) DRY UNIT WT. (pcf) ▲ SPT N VALUE ▲ SAMPLE TYPE NUMBER RECOVERY 9 (RQD) BLOW COUNTS (N VALUE) 40 60 MC MATERIAL DESCRIPTION 40 60 20 80 ☐ FINES CONTENT (%) ☐ 0.0 40 60 Asphalt (2-inches) Tan fine to medium grained SAND with LIMESTONE FRAGMENTS SS 27-17-8-8 (25)2.5 SS 4-2-1-1 75 (3) Light brown SILTY SAND 5.0 0-1-1-1 SS Light brown SANDY LIMESTONE, some SILT SS 1-0-0-1 25 (0) 7.5 Tan SANDY LIMESTONE SS 2-6-6-6 (12)10.0 SS 4-8-3-6 (11)SS 5-10-8-6 75 (18)Bottom of hole at 14.0 feet.



308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180

BORING NUMBER B-16 PAGE 1 OF 1

VER		Fax: 786-248-3190		DDO IEO	т.	1 A B/F	EL OC		ION C	`D	-		
CLIENT Town of Medley PROJECT NUMBER 21008-144890			PROJECT LOCATION NW 97th to 95th Avg 8 90th to 106th St. Modlov, El										
DATE STARTED 6/4/08 COMPLETED 6/4/08 DRILLING CONTRACTOR Bureau Veritas NA DRILLING METHOD CHECKED BY JR CHECKED BY V. Lopez			PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch										
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			AT TIME OF DRILLING 5.0 ft										
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_	ပ				SAMPLE TYPE NUMBER	%	υ S E	ŒN.	W.	20			
DEPTH (ft) GRAPHIC LOG	MATERIAL DESCRIPTION				WBE T	VER QD)	O.O. UNTS	POCKET PEN. (tsf)	UNIT WT. (pcf)	PL MC LL			
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308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-17
PAGE 1 OF 1

VERITAS Fax: 786-248						TIC: -							
CLIENT Town of Medley			-										
PROJECT NUMBER _21008-144890			PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL										
DATE STARTED _6/8/08 COMPLETED _6/8/08 DRILLING CONTRACTOR _Bureau Veritas NA DRILLING METHOD LOGGED BY _LG CHECKED BY _V. Lopez													
IOTES Drill Equipment= D			TER DE										
					1			A CDI					
l _o			ͳ	% >	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	UNIT WT. (pcf)	20 4	「N VALUE ▲ 10 60 80				
OEPTH (#) GRAPHIC LOG	MATERIAL DESCRIPTION		ET MBEI	RECOVERY (RQD)				PL MC LL					
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I an fine to	medium grained SAND with LIMESTONE FRAG	GMENIS	\/		37-26-40-								
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	Bottom of Hole at 14.0 feet.												



308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-18
PAGE 1 OF 1

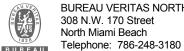
VERITAS Fax: 786-2 CLIENT Town of Medley		PROJEC	T NAME	FLO	OD MITIGAT	TION (GRANT	-					
PROJECT NUMBER _21008-144890			PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL										
DATE STARTED 6/4/08	COMPLETED 6/4/08	GROUNE	D ELEV	ATION _	Not furnishe	ed	HOLE	SIZE 2 7/8-inch					
DRILLING CONTRACTO	R Bureau Veritas NA				_								
DRILLING METHOD		_											
OGGED BY JR	CHECKED BY V. Lopez	_ AT	END O	F DRILI	LING 5.0 ft	t							
NOTES Drill Equipment	= B-57	AF	TER DE	RILLING									
			Щ	%		_	<u> </u>	▲ SPT N VALUE ▲					
GRAPHIC LOG	MATERIAL DESCRIPTION		<u></u>	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	T WT.	20 40 60 80 PL MC LL					
(f) (f) SRAPHIC LOG			J.E.	NS IN			(pcf)	20 40 60 80					
, [g			SAMPLE TYPE NUMBER	RECOVERY (RQD)		00	DRY (☐ FINES CONTENT (%) I					
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Asphalt ((2-inches) to medium grained SAND with LIMESTONE FRA	GMENTS	11										
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BUREAU VERITAS NORTH AMERICA, INC. 308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180

BORING NUMBER B-19 PAGE 1 OF 1

VERITAS Fax: 786-248-3 CLIENT Town of Medley	190	PRO IFC	T NAMF	FI OC	DD MITIGAT	LION G	RANT	r
PROJECT NUMBER _21008-	 144890							Ooth to 106th St, Medley, Fl
	COMPLETED 6/4/08							SIZE _2 7/8-inch
DRILLING CONTRACTOR _B				_				
			TIME O	F DRIL	LING _5.0 f	t		
	CHECKED BY V. Lopez	▼ AT	END OF	DRILL	ING 5.0 ft			
IOTES Drill Equipment= B-5	57	AF	TER DRI	LLING				
			ш	%		<u> </u>	Ī	▲ SPT N VALUE ▲
_			SAMPLE TYPE NUMBER	 } 	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	POCKET PEN (tsf)	UNIT WT. (pcf)	20 40 60 80
(#) (RAPHIC LOG	MATERIAL DESCRIPTION		LE .	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	(ET)		PL MC LL
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-			/\		(110)			
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			\mathbb{N}					
1					22-19-16-			
				100	16 (35)			
.5			/ \		(3-3)			
+			\rightarrow	1		-		
			\					
				100	8-14-14-14			
<u> </u>					(28)			
0.0			/					
						1		
			\/		15-16-12-			
+				92	10			
			/\		(28)			
2.5			\mathbb{N}					
					18-18-17-			
++				92	(35)			•
 			/ \		(3.2.)			
	Bottom of hole at 14.0 feet.		V \			-		
	Bottom of Hole at 14.0 leet.							



GEOTECH BH PLOTS TOWN OF MEDLEY.GPJ GINT US LAB.GDT 6/24/08

BUREAU VERITAS NORTH AMERICA, INC.

308 N.W. 170 Street

North Miami Beach

BORING NUMBER B-20 PAGE 1 OF 1

	ITAS	Fax: 786-248-3190							
		wn of Medley				D MITIGAT			
		UMBER 21008-144890							0th to 106th St, Medley, FL
		TED 6/9/08 COMPLETED 6/9/08					ed	HOLE	SIZE 2 7/8-inch
		ONTRACTOR Bureau Veritas NA	GROUND						
		ETHOD				LING 5.7 f			
		CHECKED BY V. Lopez				ING <u>5.7 ft</u>			
NOTE	S <u>Dri</u>	Il Equipment= D-50	AF	TER DRII	LING				
O DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION		SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	A SPT N VALUE A 20 40 60 80 PL MC LL 20 40 60 80 □ FINES CONTENT (%) □ 20 40 60 80
 		Asphalt (1-inch) Light brown fine to medium grained SAND with LIMESTONE FRAGMENTS		SS 1	96	25-25-35- 75 (60)			•
2.5) .o			SS 2	100	98-50/1"			>>4
5.0		▼		SS 3	42	6-8-14-14 (22)			
		Brown SILTY SAND, some Limestone fragments							
 7.5		, C		SS 4	42	12-10-12- 12 (22)			
 10.0		Tan SANDY LIMESTONE		SS 5	42	15-19-25- 27 (44)			
 				SS 6	50	18-10-7-8 (17)			+
12.5				SS 7	50	10-11-11- 10 (22)			
		Bottom of hole at 14.0 feet.		•					

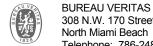


SEOTECH BH PLOTS TOWN OF MEDLEY.GPJ GINT US LAB.GDT 6/24/08

BORING NUMBER B-21

PAGE 1 OF 1

Telephone: 786-248-3180 Fax: 786-248-3190 **PROJECT NAME** FLOOD MITIGATION GRANT **CLIENT** Town of Medley PROJECT NUMBER 21008-144890 PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL **DATE STARTED** 6/5/08 **COMPLETED** 6/5/08 GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch DRILLING CONTRACTOR Bureau Veritas NA **GROUND WATER LEVELS:** $\sqrt{2}$ AT TIME OF DRILLING 5.0 ft DRILLING METHOD _____ LOGGED BY JR CHECKED BY V. Lopez **TAT END OF DRILLING** 5.0 ft NOTES Drill Equipment= B-57 AFTER DRILLING ---POCKET PEN. (tsf) DRY UNIT WT. (pcf) ▲ SPT N VALUE ▲ SAMPLE TYPE NUMBER RECOVERY 9 (RQD) BLOW COUNTS (N VALUE) 40 60 MC MATERIAL DESCRIPTION 40 60 20 80 ☐ FINES CONTENT (%) ☐ 0.0 40 60 Asphalt (2.5-inches) Tan fine to medium grained SAND with LIMESTONE FRAGMENTS SS 16-17-9-7 (26)2.5 SS 5-5-9-18 92 (14)38-19-10-5.0 SS 19 (29)Dark brown SILTY SAND Tan SANDY LIMESTONE SS 5-10-11-19 (21)7.5 15-15-12-SS 13 (27)10.0 SS 11-8-11-8 (19)SS 6-8-8-8 (16)Bottom of hole at 14.0 feet.



CLIENT Town of Medley

DATE STARTED 6/20/08

PROJECT NUMBER 21008-144890

BUREAU VERITAS NORTH AMERICA, INC.

308 N.W. 170 Street

_____ COMPLETED _6/20/08

Telephone: 786-248-3180 Fax: 786-248-3190

PROJECT NAME FLOOD MITIGATION GRANT

PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL

BORING NUMBER B-22

PAGE 1 OF 1

GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch

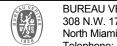
		ONTRACTOR Bureau Veritas NA									
		ETHOD									
		/ JR CHECKED BY _V. Lopez					·	<u> </u>			
NUIE	<u>ااال</u> د	I Equipment= B-57	AF			LING					
O DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION		SAMPLE TYPE	NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	A SPT N VALUE A 20 40 60 80 PL MC LL 20 40 60 80 □ FINES CONTENT (%) □ 20 40 60 80	
		Asphalt (1-inch) Tan fine to medium grained SAND with LIMESTONE FRAGME	ENTS		SS 1	71	42-25-22- 12 (47)			•	
2.5				\bigvee	SS 2	83	7-4-4-9 (8)			1	
5.0		Brown SILTY SAND with LIMESTONE FRAGMENTS			SS 3	71	9-6-9-9 (15)				
7.5		Tan SANDY LIMESTONE ▼			SS 4	54	15-14-12- 13 (26)				
- - 10.0					SS 5	42	12-17-8-9 (25)			•	
· -					SS 6	50	6-11-8-11 (19)				
12.5					SS 7	46	13-5-9-8 (14)				
		Bottom of hole at 14.0 feet.		- 1							



BUREAU VERITAS NORTH AMERICA, INC. 308 N.W. 170 Street

BORING NUMBER B-23
PAGE 1 OF 1

PROJECT NUMBER 21008-144890 DATE STARTED 6/5/08 COMPLETED 6/5/08 PRILLING CONTRACTOR Bureau Veritas NA PRILLING METHOD CHECKED BY JR CHECKED BY V. Lopez NOTES Drill Equipment= B-57 MATERIAL DESCRIPTION	PROJECT GROUND GROUND	T LOCAT DELEVATOR WATER TIME OF END OF TER DRII	ION <u>I</u> ION _ LEVE DRILI	Not furnishe LS: LING 5.0 f	95th A ed	ve & 9	Oth to 106th St, Medley, FL SIZE _2 7/8-inch									
DATE STARTED 6/5/08 COMPLETED 6/5/08 DRILLING CONTRACTOR Bureau Veritas NA DRILLING METHOD CHECKED BY V. Lopez NOTES Drill Equipment= B-57	GROUNE GROUNE AT AT	ELEVATOR WATER TIME OF END OF TER DRII	ION _ LEVE DRILI	Not furnishe LS: LING 5.0 f	ed_		<u> </u>									
ORILLING METHOD OGGED BY _JR	∑ AT ▼ AT	TIME OF END OF TER DRII	DRILL DRILL	LING <u>5.0 f</u>	ŧ											
NOTES Drill Equipment= B-57	▼ AT	END OF	DRILL		ft	ROUND WATER LEVELS:										
NOTES _Drill Equipment= B-57		TER DRII		ING 50ff	AT FIND OF DRILLING 5.0 ft ▼ AT FIND OF DRILLING 5.0 ft											
	AF		LING	<u>J.0.010</u>	:											
### DESCRIPTION MATERIAL DESCRIPTION																
0.0		SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	A SPT N VALUE A 20 40 60 80 PL MC LL 20 40 60 80 □ FINES CONTENT (%) [20 40 60 80									
Asphalt (2-inches) Tan fine to medium grained SAND with LIMESTONE FRAGM	MENTS	SS 1	92	30-22-30- 15 (52)			^									
2.5		SS 2	92	11-15-23- 13 (38)												
5.0 Dark brown SILTY SAND		SS 3	96	12-11-8-6 (19)												
Brown SILTY SAND Tan SANDY LIMESTONE		SS 4	88	6-3-1-11 (4)												
10.0		SS 5	92	9-14-8-12 (22)												
		SS 6	83	8-7-5-5 (12)												
12.5		SS 7	75	5-7-7-8 (14)												
Bottom of hole at 14.0 feet.		Y \			1											



308 N.W. 170 Street

North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-24
PAGE 1 OF 1

MATERIAL DESCRIPTION	CLIENT Town	ax: 786-248-3190 of Medley	PROJEC	T NAME	FLOC	DD MITIGAT	ION G	RANT	
DRILLING WETHOD CHECKED BY Lopez Logo Lo	PROJECT NUM	BER 21008-144890	PROJEC	T LOCAT	ION _	NW 87th to	95th A	ve & 9	0th to 106th St, Medley, FL
DRILLING METHOD CHECKED BY Lope2 TAT NIME OF DRILLING 6.5 ft							ed	HOLE	SIZE 2 7/8-inch
ASPT NOTES Drill Equipment D-50 ASPT NOTES Drill Equipment D-50 Drill Equipment						_			
NOTES Drill Equipment D-50 AFTER DRILLING Drill Equipment D-50 ASPT N VALUE A SPT N VALUE A									
Asphalt (2-inches) Tan line to medium grained SAND with LIMESTONE FRAGMENTS SS 26-28-21-9 Carry fine to medium grained SAND with Driganics SS 42 11-11-10-5 SS 43 11-12-13-15 SS 15 15 15 15 15 15						<u></u>			
Asphalt (2-inches) Tan fine to medium grained SAND with LIMESTONE FRAGMENTS SS 41-22-24 (47) (48) (27) (47) (48) (27) (47) (48) (27) (47) (48) (27) (47) (48) (27) (48) (27) (48) (27) (48) (27) (48) (27) (48) (27) (48) (27) (48) (27) (48) (27) (48) (27) (48) (4	NOTES Drill Ed	quipment= D-50	AF	TER DRII	LLING				
Asphalt (2-inches) Tan fine to medium grained SAND with LIMESTONE FRAGMENTS SS 67 41-22-24-19 (46)	(ft) (RAPHIC LOG	MATERIAL DESCRIPTION		PLE TYPE JMBER	OVERY % RQD)	3LOW DUNTS VALUE)	KET PEN. (tsf)	UNIT WT. (pcf)	20 40 60 80 PL MC LL
Tan fine to medium grained SAND with LIMESTONE FRAGMENTS SS 67 41-22-24-19 (46) Gray fine to medium grained SAND with LIMESTONE FRAGMENTS SS 58 26-26-21-9 (47) Dark brown SILTY SAND with Organics Tan SANDY LIMESTONE Tan SANDY LIMESTONE SS 100 100/2" SS 38 12-13-12-13-15 (25) SS 38 11-12-13-15 (25)				SAM	REC (TOZ	POC	DRY	☐ FINES CONTENT (%)
2.5	*	Asphalt (2-inches) Tan fine to medium grained SAND with LIMESTONE FRAGM	MENTS		67	19			^
Dark brown SILTY SAND with Organics 5.0	.0	Gray fine to medium grained SAND with LIMESTONE FRAG	MENTS		58				
Tan SANDY LIMESTONE Tan SANDY LIMESTONE	5.0	Dark brown SILTY SAND with Organics			58				
7.5 SS 42 11-11-10- 13 (21)		Tan SANDY LIMESTONE			100	100/2"			
10.0 SS 38 12-13-12-14 (25) SS 7 38 11-12-13-15 (25)	-								
10.0 SS 38 12-13-12-14 (25)									
SS 38 12-13-12-14 (25) 12.5	10.0				42	13			
SS 7 38 11-12-13- 15 (25)	-				38	14			
Bottom of hole at 14.0 feet.	12.5				38	15			
		Bottom of hole at 14.0 feet.		/ \					



308 N.W. 170 Street

North Miami Beach Telephone: 786-248-3180 Fax: 786-248-3190 BORING NUMBER B-25
PAGE 1 OF 1

		1 47. 7 6 2 1 6 7 1 6 7										
										0th to 106th St, Medley, FL		
								ed	HOLE	SIZE 2 7/8-inch		
			ROUND									
		ETHOD										
		Y LG CHECKED BY V. Lopez					.ING <u>6.5 ft</u>					
NOTE	ES Dri	Il Equipment= D-50	AF	TER	DRII	LING				_		
				ш	J	%			Ŀ	▲ SPT N VALUE ▲		
_	ပ			<u> </u>	NUMBER	, ₹	_\S⊕	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	20 40 60 80		
DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION		[ABE.	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	ET (st)	E G	PL MC LL		
	GR/				Ž	S.R.		اڭ چ	<u>`</u>	20 40 60 80		
				\ \d	5	R		β.	씸	☐ FINES CONTENT (%) ☐		
0.0	,	Asphalt (1-inch)		1						20 40 60 80		
	- N	Tan fine to medium grained SAND with LIMESTONE FRAGME	NTS	\mathbb{N}/\mathbb{I}								
				I۷I	SS	58	49-31-30- 18					
	0			$ \Lambda $	1	50	(61)					
	† ∵∵			$\ \cdot\ $								
	- [.∾. (:)	Light brown fine to medium grained SAND with LIMESTONE		$\left(\cdot \right)$				1				
2.5	0	FRAGMENTS		\mathbb{N}/\mathbb{I}								
	6 O			IVI	SS		41-31-32-					
-	$\rceil \circ \bigcirc$			$ \Lambda $	2	50	22 (63)					
				/ \			` ′			/		
	<u> </u>	Dark hazarra CII TV CAND with Organica		$(\)$				-				
	1, 11,	Dark brown SILTY SAND with Organics		\mathbb{N}								
5.0	1			IVI	SS		8-9-14-16					
_ 0.0	1, 11,			١X١	3	58	(23)			 		
	7.7			/ \								
	1			U								
ı	H	Tan SANDY LIMESTONE ▼		NA								
	ᄔ	-		V	SS		6-6-17-28					
	╁			X	4	67	(23)					
7.5	+			/ \								
<u> </u>	芹			Ц								
	片			M								
	1				00		31-30-24-					
	廿				SS 5	75	23					
	廿			/			(54)					
10.0										<u> </u>		
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	\top			$ \cdot $	00		14-12-10-					
	Ħ				SS 6	71	10			🙀 : : :		
				/	-		(22)					
_	口											
12.5				1								
12.0				$ \cdot $			10-10-12-					
	Ш				SS 7	67	10			🕌		
	屽				•		(22)					
	H			V								
	1 '	Bottom of hole at 14.0 feet.		Γ΄				1				
	1									<u> </u>		



308 N.W. 170 Street

North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-26
PAGE 1 OF 1

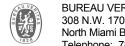
PROJECT NUMBER 21008-144890 DATE STARTED 6/5/08 COMPLETED 6/5/08 DRILLING CONTRACTOR Bureau Veritas NA DRILLING METHOD LOGGED BY JR CHECKED BY V. Lopez NOTES Drill Equipment= B-57 MATERIAL DESCRIPTION O.0 Asphalt (2.5-inches) Tan fine to medium grained SAND with LIMESTONE FRACE	GROUNI GROUNI AT	D EL D W/ T TIM T EN	ATER I L L L L L L L L L L L L L L L L L L	ION _ LEVE	Not furnished LS: LING 5.0 ft LING 5.0 ft	ed	UNIT WT. (pcf)	Oth to 106th St, Medley, FL SIZE 2 7/8-inch ▲ SPT N VALUE ▲ 20 40 60 80 PL MC LL 20 40 60 80
DRILLING CONTRACTOR Bureau Veritas NA DRILLING METHOD LOGGED BY JR CHECKED BY V. Lopez NOTES Drill Equipment= B-57 HELD OF REPORT OF THE PROPERTY OF THE P	GROUNI AT	D W. Γ TIM Γ EN	NUMBER DOLL NUMBER	DRILL LING	LS: LING <u>5.0 ft</u> ING <u>5.0 ft</u>	t	UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80
DRILLING METHOD LOGGED BY JR CHECKED BY V. Lopez NOTES Drill Equipment= B-57 HL (±) O Asphalt (2.5-inches)	_ ¥A1 _ ¥A1	T TIM	NUMBER NUMBER	DRILI DRILL LING	LING 5.0 ft ING 5.0 ft		UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80
NOTES Drill Equipment= B-57 Hard String Str	_ Ai	TER	NUMBER NO DO	DRILL LING	.ING _5.0 ft		UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80
MATERIAL DESCRIPTION Asphalt (2.5-inches)	_ Al	TEF	NUMBER NUMBER	LING %			UNIT (pcf)	20 40 60 80
MATERIAL DESCRIPTION 0.0 Asphalt (2.5-inches)		1	NUMBER	%		OCKET PEN. (tsf)	UNIT (pcf)	20 40 60 80
0.0 Asphalt (2.5-inches)	SMENTS	SAMDICIAND		RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	OCKET PEN. (tsf)	UNIT (pcf)	20 40 60 80
0.0 Asphalt (2.5-inches)	SMENTS			RECOVE (RQI	BLOV COUN (N VAL	OCKET (tsf)	(pcf	20 40 60 80
Asphalt (2.5-inches)	SMENTS			α.		_	DRY	☐ FINES CONTENT (%)
Tan fine to medium grained SAND with LIMESTONE FRAC	SMENTS (\bigvee				Д	Ω	20 40 60 80 : : : :
1.7581		\mathbb{N}	SS 1	96	28-28-18- 18 (46)			<u>^</u>
Dark brown SILTY SAND with Organics		\bigvee	SS	83	18-22-11-8			A
Tan SANDY LIMESTONE			2		(33)			
5.0			SS 3	83	14-20-11- 12 (31)			1
			SS	75	13-10-11-8			
5		\bigwedge	4	70	(21)			T
0.0			SS 5	75	7-6-8-9 (14)			A
			SS 6	71	10-9-7-6 (16)			•
2.5								
		$\left \right $	SS 7	83	11-8-9-10 (17)			L
Bottom of hole at 14.0 feet.		/ \						



308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180

BORING NUMBER B-27 PAGE 1 OF 1

		FdX. 700-240-3190	DDC :50			EL 0.0	ND MITTO		\D & \ '~			
CLIENT Town of Medley PROJECT NUMBER 21008-144890		PROJECT NAME FLOOD MITIGATION GRANT PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL										
										-		
		COMPLETED 6/10/08 COMPLETED 6/10/08						<u>ea</u>	HOLE	SIZE 2 7/8-inch		
		ONTRACTOR Bureau Veritas NA	-					1				
		/ LG CHECKED BY V. Lopez					LING <u>5.0 f</u>					
		Equipment= D-50										
	<u>اات ح</u> .			_						A ODTALLALIE :		
				[٦ ٦	% ×	(Q)	Ä.	WT.	▲ SPT N VALUE ▲ 20 40 60 80		
DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION		{	SAMPLE 17PE NUMBER	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT (pcf)	PL MC LL		
DE (t	3RA LC	WATERIAL DECORAL TION		3	Z Z Z	SS SS	COL N ∨	Š	⊡ ≿	20 40 60 80		
0.0				;	Ας L	RE		P0	꿈	☐ FINES CONTENT (%) [
0.0		Asphalt (2-inches)		1						20 40 60 80		
-	, N	Tan fine to medium SAND with LIMESTONE FRAGMENTS					57-26-27-					
-):			I X	SS 1	67	37			 		
-				/			(53)					
_	\ \ \			<u> </u>								
2.5))			1								
	, O.			V	SS		17-9-8-7]		
-	· ^			ΙĂ	2	67	(17)					
-				$ \setminus $								
	D.	Brown SANDY LIMESTONE		(-				
-		BIOWITO WAS I ENWESTIGHT		\mathbb{N}								
5.0		Ţ		Į Į	SS	63	9-11-4-16					
					3		(15)					
-				$V \setminus$								
-	丗	Tan SANDY LIMESTONE						1				
-				$ \rangle /$			24-16-16-					
-	丗			X	SS 4	54	23					
7.5	H			/			(32)					
				\square								
_				1								
-	Щ			V	SS		12-13-13-					
	卅			ĮΪ	5	58	12 (26)			<i>†</i>		
-	曲			$\ / \ $			(==/					
10.0	曲			\vdash				-				
-				Λ								
_				I۷	SS	50	10-7-4-24					
					6		(11)					
-	曲			$ \rangle $								
10.5								1				
12.5				$ \rangle /$			12-15-14-					
-				X	SS 7	50	14			 		
_	H			/	'		(29)					
				/ \								
		Bottom of hole at 14.0 feet.										
	I			1		1	I	I	1	1		



308 N.W. 170 Street

North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-28
PAGE 1 OF 1

		Fax: 786-248-3190								
		wn of Medley			_		D MITIGAT			
		UMBER 21008-144890 TED 6/5/09 COMPLETED 6/5/09								Oth to 106th St, Medley, FL
1		TED _6/5/08						t u	HULE	SIZE 2 7/8-inch
1		ONTRACTOR Bureau Veritas NA					LS: _ING <u>_4.7 f</u>	+		
		/ JR CHECKED BY V. Lopez					ING <u>4.7 t</u> ING 4.7 ft			
1		Il Equipment= B-57				LING	·			
<u> </u>	- <u></u>	4. F	- "							A COT NIVALLIE A
O DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION		SAMPLE TYPE	NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	A SPT N VALUE A 20 40 60 80 PL MC LL 20 40 60 80 □ FINES CONTENT (%) □ 20 40 60 80
 		— Asphalt (2.5-inches) Tan fine to medium grained SAND with LIMESTONE FRAGI	MENTS		SS 1	96	27-30-20- 28 (50)			<u></u>
) 0 0 0				SS 2	96	22-14-14- 11 (28)			
 _ 5.0 		Tan SANDY LIMESTONE ▼			SS 3	92	5-3-8-11 (11)			
 7.5					SS 4	92	7-7-6-7 (13)			•
 10.0					SS 5	67	3-5-3-6 (8)			
				\bigvee	SS 6	75	8-10-11-36 (21)			
12.5				M	SS 7	100	50/5"			>
12.5		Bottom of hole at 12.5 feet.								



SEOTECH BH PLOTS TOWN OF MEDLEY.GPJ GINT US LAB.GDT 6/24/08

BUREAU VERITAS NORTH AMERICA, INC.

308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 **BORING NUMBER B-29**

PAGE 1 OF 1

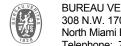
Fax: 786-248-3190 **PROJECT NAME** FLOOD MITIGATION GRANT **CLIENT** Town of Medley PROJECT NUMBER 21008-144890 PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL **DATE STARTED** 6/9/08 **COMPLETED** 6/9/08 GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch DRILLING CONTRACTOR Bureau Veritas NA **GROUND WATER LEVELS:** $\sqrt{2}$ AT TIME OF DRILLING 5.0 ft DRILLING METHOD _____ LOGGED BY JR CHECKED BY V. Lopez ▼ AT END OF DRILLING 5.0 ft NOTES Drill Equipment= B-57 AFTER DRILLING ---POCKET PEN. (tsf) DRY UNIT WT. (pcf) ▲ SPT N VALUE ▲ SAMPLE TYPE NUMBER RECOVERY 9 (RQD) BLOW COUNTS (N VALUE) 40 60 MC MATERIAL DESCRIPTION 40 60 20 80 ☐ FINES CONTENT (%) ☐ 0.0 40 60 Asphalt (1.5-inches) Light brown fine to medium grained SAND with LIMESTONE FRAGMENTS 62-33-46-SS 16 (79)Tan fine to medium grained SAND with LIMESTONE FRAGMENTS 2.5 12-28-17-SS 92 (45)Tan SANDY LIMESTONE 5.0 6-7-7-6 SS 75 (14)SS 8-10-7-8 71 (17) 7.5 SS 5-5-5-6 (10)10.0 SS 5-3-4-4 71 (7) 4-10-15-18 SS (25)Bottom of hole at 14.0 feet.



308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180

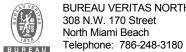
BORING NUMBER B-30 PAGE 1 OF 1

PROJECT NUMBER 21008-144890 PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch GROUND WATER LEVELS: DRILLING METHOD LOGGED BY JR CHECKED BY V. Lopez NOTES Drill Equipment= B-57 PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch GROUND WATER LEVELS: AT TIME OF DRILLING 5.0 ft AFTER DRILLING ASPT N VALUE A 20 40 60 80	PROJECT NUMBER 21008-144890 DATE STARTED 6/5/08 COMPLETED 6/5/08 DRILLING CONTRACTOR Bureau Veritas NA DRILLING METHOD LOGGED BY JR CHECKED BY V. Lopez NOTES Drill Equipment= B-57 HERE OF ASPhalt (2-inches)	PROJECT GROUND GROUND VALUE AT	T LOCAT D ELEVA D WATER T TIME OF T END OF	TION _I	Not furnished LS: LING 5.0 ft	95th A	ve & 9	Oth to 106th St, Medley, FL SIZE 2 7/8-inch
DATE STARTED 6:508 COMPLETED 6:508 GROUND ELEVATION Not furnished ROUND SURFACE START STA	DATE STARTED _6/5/08 COMPLETED _6/5/08 DRILLING CONTRACTOR _Bureau Veritas NA DRILLING METHOD	GROUNI GROUNI GROUNI	D ELEVA D WATER T TIME OF END OF TER DRI	TION _ LEVE DRILL DRILL LLING	Not furnished LS: LING 5.0 ft	ed	HOLE	SIZE _2 7/8-inch
DRILLING CONTRACTOR Bureau Veritas NA DRILLING METHOD S.0.ft	DRILLING CONTRACTOR Bureau Veritas NA DRILLING METHOD LOGGED BY JR CHECKED BY V. Lopez NOTES Drill Equipment= B-57 HELE STANDARD ASPHAlt (2-inches)	GROUN	D WATER T TIME OF TEND OF	DRILL	LS: LING <u>5.0 f</u> .ING <u>5.0 ft</u>	t	I	I
Code December Code Cod	NOTES Drill Equipment= B-57 HAGE O.0 Asphalt (2-inches)	_ \(\frac{\nabla}{\pi} \) A1	T TIME OF T END OF TER DRI	DRILL DRILL LLING	LING <u>5.0 f</u>		I	I
Cordinate Cord	NOTES Drill Equipment= B-57 HEAD OF Asphalt (2-inches)	_ Y A	TER DRI	DRILL LLING	ING <u>5.0 ft</u>		I	I
NOTES Drill Equipment	MATERIAL DESCRIPTION Asphalt (2-inches)		TER DRI	LLING			l	I
Asphalt (2 inches)	MATERIAL DESCRIPTION 0.0 Asphalt (2-inches)		1	%		И	Ŀ.	▲ CDT NI V/ALLIE ▲
Asphalt (2-Inches) Tan fine grained SAND with LIMESTONE FRAGMENTS Solid 100 18-15-19- 100 22 (34)	0.0 Asphalt (2-inches)		AMPLE TYPE NUMBER	OVERY %	W TS -UE)	И	⊢.	I A CDT NI \/NI I I L
Asphalt (2-Inches) Tan fine grained SAND with LIMESTONE FRAGMENTS Solid 100 18-15-19- 100 22 (34)	Asphalt (2-inches)			EC.	BLO COUN (N VAL	OCKET P (tsf)	UNIT (pcf)	20 40 60 80 PL MC LL 20 40 60 80
Tan fine grained SAND with LIMESTONE FRAGMENTS Brown SILTY SAND with LIMESTONE FRAGMENTS Gray fine to medium grained SAND with LIMESTONE FRAGMENTS SS 100 18-15-19-22 (34) SS 20 (34) SS 100 28-35-28-32 (63) Frown SILTY SAND Light brown fine grained SAND Light brown fine grained SAND SS 3 96 6-5-6-7 (11) Light brown fine grained SAND SS 92 10-9-7-5 (16) SS 92 10-9-7-5 (16) SS 96 5-6-5-4 (11)	Asphalt (2-inches) Tan fine grained SAND with LIMESTONE FRAGMENTS		ν Ι	ď		Ь	Δ	
25	Brown SILTY SAND with LIMESTONE FRAGMENTS		SS 1	100	22			
SS 96 6-5-6-7 (11) SS 96 1-1-10-10 (11) SS 92 10-9-7-5 (10) SS 92 10-9-7-5 (11) SS 96 5-6-5-4 (11) SS 98 6-6-7-4 (13) SS 83 6-6-7-4 (13) SS SS SS SS SS SS SS	Gray fine to medium grained SAND with LIMESTONE FR	AGMENTS		100	52			
Tan SANDY LIMESTONE SS 96 1-1-10-10				96	l			
SS 96 5-6-5-4 (11) SS 83 6-6-7-4 (13)	Tan SANDY LIMESTONE			96				
SS 96 5-6-5-4 (11) SS 7 83 6-6-7-4 (13)	10.0			92				
SS 7 83 6-6-7-4 (13)				96				A
Bottom of hole at 14.0 feet.	12.5			83				
	Bottom of hole at 14.0 feet.		1					



308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-31
PAGE 1 OF 1

VERITAS Fax: 786-								_
CLIENT Town of Medie		=			DD MITIGAT			
PROJECT NUMBER 2								Oth to 106th St, Medley, FL
	8	_				ed	HOLE	SIZE 2 7/8-inch
	DR Bureau Veritas NA	—			LS: LING <u>5.0 f</u>	4		
	CHECKED BY V. Lopez							
NOTES Drill Equipmen			TER DRII					
Dilli Equipmen	I- D-3 <i>1</i>	_ AF		LLING	_ 		1	
			SAMPLE TYPE NUMBER	% /	, m	Ż.	WT.	▲ SPT N VALUE ▲ 20 40 60 80
DEPTH (ft)	MATERIAL DESCRIPTION		E T BEF) E	NOW	(tsf)	UNIT (pcf)	PL MC LL
DEPTH (ft) (ft) GRAPHIC LOG	WATERIAL DESCRIPTION		MPL	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN (tsf)	5e >	
			SAI	R		8	DRY	☐ FINES CONTENT (%) ☐
0.0 Asphalt	(2.5-inches)		1					20 40 60 80
\omega\text{order} Tan fine	e to medium grained SAND with LIMESTONE FRAG	MENTS	\/		30-20-20-			
- N			SS 1	96	18			A
			/\		(40)			
2.5 6 6 Brown S	SILTY SAND with LIMESTONE FRAGMENTS		\					/: : : : :
			V ss	92	10-4-3-4			
7.4.7				92	(7)			
			/ \					
			\/					
5.0	NDY LIMESTONE		V SS 3	83	3-3-2-15 (5)			
Tail of t	NOT ENVESTORE		$/\!\!\setminus\!\!\!\mid$		(0)			
			\					
			V ss		5-12-17-15			
7.5			4	83	(29)			│
7.5			/\					
+ + + + + + + + + + + + + + + + + + + +						1		
· + + + + + + + + + + + + + + + + + + +			\		14 44 44			
. ##			SS 5	75	14-14-14- 14			
			/\		(28)			
10.0			/ \					
			\					
			₩ ss		 17-14-12-8			
• ====			6	83	(26)			†
• ++			/\					
· -						-		
12.5			\					
. ##			V ss	75	9-9-11-7			
			7		(20)			
			/ \					
1 1	Bottom of hole at 14.0 feet.		·					
				1		1		<u> </u>



308 N.W. 170 Street North Miami Beach

BORING NUMBER B-32
PAGE 1 OF 1

		Fax: 786-248-3190 wn of Medley	PROJEC	T NAME	FLOC	DD MITIGAT	TION (RANT	
		UMBER 21008-144890							0th to 106th St, Medley, FL
		TED _6/10/08							SIZE 2 7/8-inch
		ONTRACTOR Bureau Veritas NA				_			
		ETHOD				LING <u>5.5 f</u>			
		CHECKED BY V. Lopez				LING 5.5 ft	İ		
NOTE	S Dri	I Equipment= D-50	AF	TER DF	RILLING				
				SAMPLE TYPE NUMBER	%		z Z	WT.	▲ SPT N VALUE ▲ 20 40 60 80
DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION		TH	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	 	PL MC LL
DEF (f	NÄZI L	MATERIAL DESCRIPTION		MPL MDM	SS	SOS Sos		DRY UNIT (20 40 60 80
0.0				SAI	RE	ا عق	PO	R	☐ FINES CONTENT (%) [
0.0		Asphalt (0.75-inches)		1					20 40 60 80 : : : :
-	. 0	Tan fine to medium grained SAND with LIMESTONE FRAG	MENTS	\mathbb{N}/\mathbb{I}		30-17-16-			
-). Ø			SS	67	12			
-	ф O:			/\ .		(33)			
_	$ \circ \bigcirc$								
2.5). . o			\mathbb{N}					
	ф. O.			V ss	5 58	7-11-8-7			
	[· · ()			2	58	(19)			1
-	Ø			/ \					
-		Brown SILTY SAND with LIMESTONE FRAGMENTS					1		
				\/		<u> </u>			
5.0					58	14-15-9-14 (24)			
-		Ţ		 /\					
-	6 M	Tan SANDY LIMESTONE					-		
_		TOTAL OPERATOR LINE OF TOTAL		\mathbb{N}					
_				V ss	54	14-16-18- 19			
7.5	HE			4		(34)			
	片			\mathbb{L}	1				
				\sqrt{I}					
-	T+			$\left \right \right _{SS}$		26-15-22-			
-	片			\ 50 \ 5	54	19 (37)			
-				$/\!\!/$		` ′			
10.0					+	-	-		
-	廿			$ \rangle / $		14 40 40			
-	廿				50	14-13-13-			
_				/\		(26)			
_	H						_		
12.5				\mathbb{N}					
				$\left \right \right _{SS}$	5 50	11-12-13-			
_				7	50	10 (25)			
-	片			/ \					
-		Bottom of hole at 14.0 feet.		<u> </u>			1		
	1						1		



North Miami Beach

308 N.W. 170 Street Telephone: 786-248-3180 BORING NUMBER B-33
PAGE 1 OF 1

CLIENT TO	Fax: 786-248-3190 wn of Medley	PROJEC	ΤN	AME .	FLOC	DD MITIGAT	TION G	RANT					
PROJECT N	UMBER 21008-144890	PROJEC	TL	OCAT	NOI	NW 87th to	95th A	ve & 9	0th to 10	06th S	t, Med	dley, F	L
	TED 6/20/08 COMPLETED 6/20/08												
	ONTRACTOR Bureau Veritas NA												
	ETHOD												
	CHECKED BY V. Lopez												
NOTES Dril	I Equipment= D-50	AF	TEI	R DRII	LING								_
			إ	<u>т</u>	%		z	WT.		SPT			
DEPTH (ft) GRAPHIC LOG			}	SAMPLE IYPE NUMBER	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	 	20 F		MC	0 <u>8</u> LL	
DEPTH (ft)	MATERIAL DESCRIPTION		2	<u></u>	SS SS		 품(화	DRY UNIT (20	40	60	8 (2	0
_ 5			:	Ž Z Z	REC	02	P0(DR)	□FIN	NES C	ONTE	NT (%	6) 🗆
0.0	Asphalt (0.5-inch)								20	40	60	0 8	<u>0</u>
	Tan fine to medium grained SAND with LIMESTONE FRAG	MENTS	$\mathbb{N}/$										
			IV	SS	67	30-27-15- 20							
			$ \Lambda $	1	01	(42)				- [:
			$/ \setminus$:		
	Gray fine to medium grained SAND with LIMESTONE FRAC	SMENTS	\Box				1						
2.5			\mathbb{N}						- :	- i	- i		
			I X	SS 2	78	12-12-27- 50/5"				:	:		>
-			$ \rangle$:
	y												
φ			\mathbb{N}										/
5.0			\mathbb{N}	SS		32-29-32-							
3.0 B			lχ	3	63	20 (61)				- :	/:		
			$ \rangle$			(0.)					/		
	Tan SANDY LIMESTONE						-				/		
	TATI SANDT LINESTONE		$\mathbb{N}/$							/:			
			IV	SS	63	17-10-20- 42							:
7.5			$ \Lambda $	4		(30)				T :	:		:
			$/ \setminus$							/	:		
-			\Box				1		<i>!</i>	:			
			$ \rangle / $						/:	:			
				SS 5	50	28-5-8-40 (13)			★ :				
			$ /\rangle$			(13)				:			
10.0			\square										
			Λ							:	:		
			V	SS		10-10-5-4				:	į		
· † † †			$ \Lambda $	6	46	(15)			^ :	:	:		
										:	:		
			\vdash				1			:	:		
12.5			$\mathbb{N}/$							- :	:		<u>:</u>
				SS	50	10-5-4-8				:			
			$ \rangle $	7		(9)				:	:		
			$/ \setminus$:	:		
1 1	Bottom of hole at 14.0 feet.						1			:	į		
										:			
			1			l	1	1	:	:	:		:



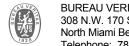
308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-34
PAGE 1 OF 1

VERITAS Fax: 786-248	-3190									
CLIENT Town of Medley		_			OD MITIGAT					
PROJECT NUMBER 21008		PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL								
DATE STARTED 6/20/08										
	Bureau Veritas NA									
	CHECKED BY V. Lopez									
NOTES Drill Equipment= B	3-57	_ AF	TER DR	ILLING	·					
			出	%		j	WT.	▲ SPT N VALUE ▲		
표 일			두띪	\¥ (a)	NE()	H	> _	20 40 60 80 PL MC LL		
OEPTH (ft) (ft) (CAPHIC LOG	MATERIAL DESCRIPTION		SAMPLE TYF NUMBER	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN (tsf)	UNIT (pcf)	20 40 60 80		
G R			N A A	EC.	moz	Ö	DRY	☐ FINES CONTENT (%) ☐		
0.0			S	ľ		Ъ		20 40 60 80		
Asphalt (1.5	5-inches) medium grained SAND with LIMESTONE FRAG	MENTS	\mathbb{N}							
7.0			ss		24-9-16-12					
			$\left \begin{array}{c} 1 \\ 1 \end{array} \right $	50	(25)					
			/ \							
4.0										
2.5			\mathbb{N}/\mathbb{I}							
_			V∣ss	54	10-18-9-13					
7.0				54	(27)					
			/ \l							
Brown SILT	TY SAND with LIMESTONE FRAGMENTS		()			1				
5.0				42	14-8-9-11					
					(17)					
			/ \							
						1				
-[- - - - - - - - - - - -			\/							
4941			SS 4	58	8-12-8-9 (20)					
7.5			/\		(==)					
			/ \							
Tan SAND	Y LIMESTONE		N /							
			$\left \right \right $		12-12-11-					
• -				46	13 (23)					
			 / \		(23)					
10.0			\longrightarrow							
			\mathbb{N}							
			$ \rangle $ ss		10-11-11-					
. 1				54	14 (22)					
• •			/ \ <u> </u>							
. + + + + + + + + + + + + + + + + + + +						1				
12.5										
- +				50	6-9-9-13					
			/ ′		(18)					
			/ \							
1 1	Bottom of hole at 14.0 feet.					1				
								<u> </u>		



308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-35
PAGE 1 OF 1

CLIENT Tow	Fax: 786-248-3190 n of Medley	PROJEC	T NA	ME	FLOC	D MITIGAT	ION G	RANT			
	MBER 21008-144890								0th to 106th St,	Medley, FL	
	ED 6/14/08 COMPLETED 6/14/08	·							SIZE 2 7/8-in		
DRILLING CO	NTRACTOR Bureau Veritas NA	GROUNE) WA	TER	LEVE	LS:					
	THOD										
	LG CHECKED BY V. Lopez	_ ▼ AT	END	O OF	DRILL	.ING _5.0 ft					
NOTES Drill	Equipment= B-57	AF	TER	DRIL	LING						
				ı	%		z	WT.		VALUE ▲	
DEPTH (ft) GRAPHIC LOG			=	3ER	ERY D)	BLOW COUNTS (N VALUE)	r PE	 - -	20 40 PL N	60 80 //C LL	
DEPTH (ft)	MATERIAL DESCRIPTION			UME	SS/	SEC	XE E	N 9	20 40	● 60 80	
_ 0			SAM	NUMBER	RECOVERY (RQD)	l os	POCKET PEN. (tsf)	DRY UNIT (☐ FINES CO	NTENT (%)	
0.0	Asphalt (0.5-inches)		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \					_	20 40	60 80	
	Tan fine to medium grained SAND with LIMESTONE FRAG	MENTS									
_				SS	67	42-24-22- 12			_		
			$ \Lambda $	1		(46)					
7			V								
2.5			\Box								
.0			$ \cdot $	00		13-16-20-					
			X	SS 2	67	16 (36)			 		
)						(30)					
- 10	Brown SANDY LIMESTONE		$\langle \cdot \rangle$								
- ##	DIOWIT OPHINE I CHIE		Λ								
5.0	<u> </u>		IVI	SS	63	18-18-17- 11					
			$ \Lambda $	3	03	(35)					
			VV								
· +	Tan SANDY LIMESTONE										
. +			$ \cdot $								
- +				SS 4	54	6-5-4-8 (9)			 		
7.5			$ \cdot $						\		
- ##			\vdash								
			\mathbb{N}								
			V	SS	58	 14-15-14-9					
			$ \Lambda $	5	50	(29)					
10.0			V V								
10.0			\Box							: :	
			/								
- +				SS 6	54	7-9-10-11 (19)			📥		
- ##				-							
12.5			\mathbb{N}								
			V	SS	- 0	9-10-10-10					
			$ \Lambda $	7	50	(20)					
• ##			V V								
• + + + + + + + + + + + + + + + + + + +	Bottom of hole at 14.0 feet.		1								
							1				



308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-36
PAGE 1 OF 1

	own of Medley	PRO.IFC	T NAME	FI OC	DD MITIGAT	ION G	RANT					
	NUMBER 21008-144890							0th to 106th St, Medley, FL				
	RTED 6/20/08 COMPLETED 6/20/08	GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch										
	CONTRACTOR Bureau Veritas NA											
	METHOD											
	Y JR CHECKED BY V. Lopez											
NOTES _D	rill Equipment= B-57	AF'	TER DRI	LLING			1					
			SAMPLE TYPE NUMBER	% /		z Z	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80				
OEPTH (ft) GRAPHIC	MATERIAL DESCRIPTION		E TY IBER	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	(f)	PL MC LL				
## PE	MATERIAL DESCRIPTION		MPL	SS	A S S S S S	윉횂	5ĕ ≻	20 40 60 80				
			SAI	R	"=	PO	R	☐ FINES CONTENT (%)				
0.0	Asphalt (1.5-inches)		\ /					20 40 60 80				
- `(Tan fine to medium grained SAND with LIMESTONE FRAGM	VIENTS			32-15-14-							
-): p				71	14 (29)			 				
- ₀ ○			/ \		(23)							
-[0. (\$		/ <u> </u>									
2.5	1		\setminus / \mid		45.05.44							
- 0 · · · · ·			SS 2	50	15-25-14- 12)				
]; o . (3 -{		/\ -		(39)							
Ø												
Ţ.	Brown SILTY SAND with LIMESTONE FRAGMENTS		\									
5.0				63	9-10-11-7							
J(4)			3	00	(21)			1 T				
	d		/ \									
	Tan SANDY LIMESTONE		\ /									
			₩ ss		7-9-6-11							
,5	- ▼ -		4	46	(15)			 				
	-		/\									
]											
	1		\/									
+	1		SS 5	67	9-18-16-14 (34)			 				
+	1		/\									
0.0]		/ /									
	1		\setminus / \mid									
#			 SS 6	58	13-7-9-10 (16)							
	1		/\ ``		(10)							
井	1											
2.5]		\ /									
豆	3			46	 10-11-9-11							
				40	(20)							
1	-		/ \									
+	Bottom of hole at 14.0 feet.		1			-						
1				1				<u> </u>				



308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-37
PAGE 1 OF 1

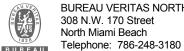
VERITAS Fax: 786-											
CLIENT Town of Medic		-			DD MITIGAT						
PROJECT NUMBER 2		PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch									
DATE STARTED 6/20/				_		ed	HOLE	SIZE 2 7/8-inch			
	DR Bureau Veritas NA										
	CUECKED DV. V. Lance										
	CHECKED BY V. Lopez										
NOTES Drill Equipmen	t= B-5/	. AF	TER DR	LLING							
			Б Т	%		ż	'UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80			
DEPTH (ft) GRAPHIC LOG	MATERIAL RECORDINA		SAMPLE TYF NUMBER	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	 - -	PL MC LL			
DEF (#)	MATERIAL DESCRIPTION		APL!	SS	BLC SOUCE VA	CKET (tsf)	5ĕ	20 40 60 80			
			SAN	RE	02	<u>B</u>	DRY	☐ FINES CONTENT (%) ☐			
0.0 Asphalt	t (1.5-inches)		1					20 40 60 80			
Tan fine	e to medium grained SAND with LIMESTONE FRAG	MENTS	\ /								
-			V SS 1	67	30-15-12- 10			A			
			\mathbb{N}		(27)						
			/ \								
2.5			\								
			₩ ss		5-15-13-15						
Dark br	own SILTY SAND with Organic stain		1 2	79	(28)	1		🛉			
· - '/ \\ \\ /			/ \l								
Prown	SILTY SAND with LIMESTONE FRAGMENTS										
	OLIT OF WAR WITH EINED FOR THE THE GIMENTO		\ /								
5.0			V ss	71	13-8-13-5						
Tan SA	NDY LIMESTONE		3		(21)						
			/ \								
			\								
++			\/								
			V SS	83	4-8-8-12 (16)			🛉			
7.5			/\								
			/			-					
		ľ	\ /								
			V ss	75	13-14-14- 12						
			∫ 5	'3	(28)						
10.0			/ \								
10.0											
+++			\/								
			V SS 6	54	9-9-12-11 (21)			🗼			
			/\		(=1)						
. []			/ \								
12.5			\								
			$\bigvee \mid_{SS}$		6-8-5-8						
1			SS 7	63	(13)			^			
+++			/ \								
+	Bottom of hole at 14.0 feet.		' \			1					



308 N.W. 170 Street

North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-38
PAGE 1 OF 1

OUTNIT Town of A		BBC :==			E1 0 -	ND 1 4171 2 1 -	101.	\D • • · ·					
CLIENT Town of N		PROJECT NAME FLOOD MITIGATION GRANT PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL											
PROJECT NUMBER													
	ACTOR Bureau Veritas NA						4						
	CHECKED BY V. Lopez					LING <u>0.51</u> LING <u>6.5 ft</u>							
NOTES Drill Equip													
Dilli Equip	ment- b-97		AFTER DRILLING										
			[SAMPLE TYPE NUMBER	%		z Z	WT.	▲ SPT N VALUE ▲ 20 40 60 80				
DEPTH (ff) GRAPHIC LOG	MATERIAL RECORDINGS			BER	 E G	BLOW COUNTS (N VALUE)	 L E	 - 	PL MC LL				
PER GEN	MATERIAL DESCRIPTION		;	A M M	ŠS	BLC	윉 화	5ª	20 40 60 80				
			:	SAN	RECOVERY (RQD)	02	POCKET PEN. (tsf)	DRY UNIT (pcf)	☐ FINES CONTENT (%) [
0.0	phalt (3-inches)		+	,					20 40 60 80				
o Tai	n fine to medium grained SAND with LIMESTONE FRA	AGMENTS	1\/										
			IV	SS	79	25-22-13- 11							
			\mathbb{I}	1		(35)			l				
700			$ \rangle$										
- []													
2.5			\mathbb{N}										
Da	rk brown SILTY SAND with Organics		$\frac{1}{2}$	SS 2	71	5-10-18-18 (28)							
- <u>'/ \'/</u> Da	IN DIOWIT SIETT SAIND WITH OTGAINGS			-		(20)							
71/7			\										
Tai	n SANDY LIMESTONE		1										
5.0			V	SS		5-10-15-7							
5.0			ΙX	3	75	(25)			 				
- 💾			$\ \cdot \ $										
- 💾			\vdash				-						
			\mathbb{N}										
			V	SS	F0	10-12-10-							
7.5			$ \Lambda $	4	50	10 (22)							
			$ \rangle$										
-							-						
- 💾			\mathbb{N}			40.44.40							
- 1	over fire avaired CAND		-	SS 5	42	12-14-10- 10							
- 10000 Bro	own fine grained SAND			5		(24)							
10.0			\										
	n SANDY LIMESTONE		/										
			$ \cdot $	60		11-10-13-							
			\	SS 6	42	10			🛉				
- =====================================			$ \rangle$			(23)							
. ##													
12.5			1										
			V	SS		12-10-9-8							
			X	7	42	(19)							
· +			$\ \cdot \ $										
	Bottom of hole at 14.0 feet.												
	BOLLOTT OF HOTE AL 14.0 leet.												
			_										



BORING NUMBER B-39
PAGE 1 OF 1

CLIENT Town of Medley PROJECT NUMBER 21008-144890 DATE STARTED 6/14/08 COMPLETED 6/14/08 DRILLING CONTRACTOR Bureau Veritas NA DRILLING METHOD LOGGED BY LG CHECKED BY V. Lopez NOTES Drill Equipment= B-57 MATERIAL DESCRIPTION 0.0 Asphalt (2-inches) Tan fine to medium grained SAND with LIMESTONE FRAGE 2.5	PROJEC GROUNI GROUNI	T LO D EL D W. T TIN T EN	EVAT ATER ME OF D OF R DRIL	ION _M TON _ LEVE	Not furnishe LS: LING 6.0 f	95th A	HOLE	0th to 106th St, Medley, FL SIZE 2 7/8-inch A SPT N VALUE ▲ 20 40 60 80
DATE STARTED 6/14/08 COMPLETED 6/14/08 DRILLING CONTRACTOR Bureau Veritas NA DRILLING METHOD LOGGED BY LG CHECKED BY V. Lopez NOTES Drill Equipment= B-57 MATERIAL DESCRIPTION 0.0 Asphalt (2-inches) Tan fine to medium grained SAND with LIMESTONE FRAGE	GROUNI AT	D W	NUMBER DOLL NUMBER SS	RECOVERY % INING (RQD)	LING 6.0 ft ING 6.0 ft STONDO MOTH MOTH MOTH 82-36-29-	it		▲ SPT N VALUE ▲ 20 40 60 80 PL MC LL 20 40 60 80 □ FINES CONTENT (%)
DRILLING METHOD LOGGED BY LG CHECKED BY V. Lopez NOTES Drill Equipment= B-57 MATERIAL DESCRIPTION O.0 Asphalt (2-inches) Tan fine to medium grained SAND with LIMESTONE FRAGE	. ¥A1 ¥A1	T TIN	NOMBER NUMBER SS	RECOVERY % ITING (RQD)	EING 6.0 ft BROWN STONN S		<u> </u>	▲ SPT N VALUE ▲ 20 40 60 80 PL MC LL 20 40 60 80 □ FINES CONTENT (%)
NOTES Drill Equipment= B-57 Hard Day Drill Equipment B-57 MATERIAL DESCRIPTION O.0 Asphalt (2-inches) Tan fine to medium grained SAND with LIMESTONE FRAGE	. ¥A1	TEF	NUMBER SAWITE 11 TE NO DO	RECOVERY % IT. (RQD)	MO 6.0 ft STORY NO STANDON NO S2-36-29-		DRY UNIT WT. (pcf)	20 40 60 80 PL MC LL 20 40 60 80 FINES CONTENT (%)
MATERIAL DESCRIPTION O.0 Asphalt (2-inches) Tan fine to medium grained SAND with LIMESTONE FRAG		1	S NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	20 40 60 80 PL MC LL 20 40 60 80 FINES CONTENT (%)
Asphalt (2-inches) Tan fine to medium grained SAND with LIMESTONE FRAGE	MENTS	LICAT LICANO	SS	RECOVERY (RQD)	82-36-29-	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	20 40 60 80 PL MC LL 20 40 60 80 FINES CONTENT (%) [
Asphalt (2-inches) Tan fine to medium grained SAND with LIMESTONE FRAG	MENTS		SS		82-36-29-	POCKET (tsf)	DRY UNIT	20 40 60 80 □ FINES CONTENT (%) [20 40 60 80
Asphalt (2-inches) Tan fine to medium grained SAND with LIMESTONE FRAGE -> -> -> -> -> -> -> -> -> -> -> -> ->	MENTS		SS					20 40 60 80
Tan fine to medium grained SAND with LIMESTONE FRAG	MENTS			58				
·		\square			(65)			^
			SS 2	67	17-33-31- 22 (64)			
5.0 > Brown fine grained SAND			SS 3	71	18-18-17- 17 (35)			1
▼ Tan SANDY LIMESTONE		\bigvee	SS 4	67	14-19-21- 15			A
7.5		$\left\langle \cdot \right\rangle$			(40)			
10.0		\mathbb{N}	SS 5	58	18-22-12- 11 (34)			
			SS 6	63	8-10-17-13 (27)			†
12.5		\bigvee			10.0.9.10			
			SS 7	58	10-9-8-10 (17)			A
Bottom of hole at 14.0 feet.		T'						



308 N.W. 170 Street North Miami Beach

BORING NUMBER B-40
PAGE 1 OF 1

VERITAS Fax: 786		DD 4				FIG.: -		_
CLIENT Town of Medi					OD MITIGAT			
PROJECT NUMBER 2								Oth to 106th St, Medley, FL
	6/14/08 COMPLETED 6/14/08	=				<u>ea</u>	HOLE	SIZE 2 7/8-inch
	OR Bureau Veritas NA	$\overline{}$			LING <u>5.01</u>	F +		
	CHECKED BY V. Lopez							
NOTES Drill Equipmer			TER DRI			<u> </u>		
Driii Equipmer	II- 5-57	- A	ı					
			SAMPLE TYPE NUMBER	% ×	(A) (II)	Б. П	WT.	▲ SPT N VALUE ▲ 20 40 60 80
DEPTH (ft) GRAPHIC LOG	MATERIAL DESCRIPTION		E T	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN (tsf)	I ⊢ -	PL MC LL
DEI LC	WATERIAL DESCRIPTION		MP.	Q K	N V V	<u> </u>	5@ >	
			SAI	RE		8	DRY	☐ FINES CONTENT (%) ☐
0.0 Asphal	It (2-inches)		1					20 40 60 80 : : : :
Brown	fine to medium grained SAND with LIMESTONE FRA	AGMENTS	\/		35-24-19-			
-)			SS 1	67	12			A
-, 0			[/\]		(43)			
Dark b	TO CAND WITH OWNER							
2.5 1/2 V/2	rown SILTY SAND with Organics		\mathbb{N}					
<u> </u>				67	3-1-2-2			
1, 11,				0,	(3)			
			V V					
Tan SA	ANDY LIMESTONE							
			$\left \right \right $		0 40 40 44			
5.0 ▼			SS 3	67	6-12-13-11 (25)			+ : : : :
++			/ \					
++++			\longrightarrow					
+++			\mathbb{N}/\mathbb{I}					
				67	8-5-6-11			
7.5					(11)			
			/ \					
			\ /					
					13-12-16-			
1				63	10 (28))
			/\					
10.0						-		
扫井			$\backslash / $					
押				58	8-7-6-6 (13)			🛕
			/\		(13)			
12.5			\mathbb{N}					
					5-5-5-6			
1				58	(10)			
++								
+++	Bottom of hole at 14.0 feet.		Y 1			1		



308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-41
PAGE 1 OF 1

PROJECT NUMBER 21008-144890 PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St. DATE STARTED 6/14/08 COMPLETED 6/14/08 GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-in GROUND WATER LEVELS: DRILLING METHOD		Fax: 786-248-3190 own of Medley	PROJEC	T NAME	FLOC	DD MITIGAT	TION G	SRANT				
DATE STARTED 6/14/08 COMPLETED 6/14/08 GROUND ELEVATION Not furnished HOLE SIZE 2.7/8-in DRILLING CONTRACTOR Bureau Verilas NA GROUND WATER LEVELS: AT TIME OF DRILLING 4.5 ft AFTER DRILLING 4.5 f										Medley, FL		
LOGGED BY LG	DATE STAR	RTED 6/14/08 COMPLETED 6/14/08	GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch GROUND WATER LEVELS:									
NOTE Drill Equipment B-57												
A SPIN 20 40 10 10 10 10 10 10 10							t					
Asphalt (1.25-inches) Brown fine grained SAND with LIMESTONE FRAGMENTS SS 75 88-35-18-15 (63) SS 75 9-11-9-7 (20) SS 75 10-7-7-7 (14) SS 75 88-35-18-15 (63) SS 75 10-7-7-7 (14) SS 75 88-35-18-15 (63) SS 75 10-7-7-7 (14) SS 75 88-35-18-15 (63) SS 75 10-7-7-7 (14) SS 75 10-7-7-7 (14)	NOTES Dri	ill Equipment= B-57	AF	TER DRI	LLING							
Asphalt (1.25-inches) Brown fine grained SAND with LIMESTONE FRAGMENTS SS 75 68-35-18-15 (53) Dark brown SILTY SAND with LIMESTONE FRAGMENTS SS 71 2-2-3-6 (5) Tan SANDY LIMESTONE SS 75 9-11-9-7 (20) SS 75 10-7-7-7 (14) SS 75 10-7-7-7 (14) SS 75 8-8-7 (14)	EPTH (ft) APHIC	MATERIAL DESCRIPTION		VLE TYPE MBER	OVERY %	LOW JUNTS /ALUE)	(ET PEN. (tsf)	UNIT WT. (pcf)	20 40 PL N	MC LL		
Brown fine grained SAND with LIMESTONE FRAGMENTS SS 75 68-35-18-15 (53)				SAMF	REC(mox	POC	DRY	☐ FINES CO			
2.5		Asphalt (1.25-inches) Brown fine grained SAND with LIMESTONE FRAGMENTS			75	15				•		
5.0 SS 3 75 9-11-9-7 (20) SS 43 83 11-12-14-10 (26) SS 75 10-7-7-7 (14) SS 83 7-6-8-7 (14)	2.5				71		_		1			
7.5 7.5 10.0 SS 75 10-7-7-7 (14) SS 83 7-6-8-7 (14) SS 83 7-6-8-7 (14)				/ \ \			_					
7.5 SS 4 83 10 (26)	5.0				75							
10.0 SS 83 7-6-8-7 (14) 12.5 SS 43 8-4-18-75	7.5				83	10			A			
SS 83 7-6-8-7 (14) 12.5 SS 42 8-4-18-75					75		-		A			
SS 42 8-4-18-75	10.0				83		-		1			
	12.5				42							
Bottom of hole at 14.0 feet.	- +	Bottom of hole at 14.0 feet.		<u> </u>								



308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-42
PAGE 1 OF 1

| MATERIAL DESCRIPTION Table |
|--|---------------------|
| DATE STARTED 6/10/08 COMPLETED 6/10/08 GROUND ELEVATION Not furnished DRILLING CONTRACTOR Bureau Veritas NA GROUND WATER LEVELS: VAT TIME OF DRILLING 4.0 ft AFTER DRILLING 4.0 ft AFTER DRILLING 4.0 ft AFTER DRILLING 4.0 ft AFTER DRILLING 4.0 ft ASPIT NY ASPINITE OF DRILLING 4.0 ft ASPIT NY ASPINITE OF DRILLING 4.0 ft AFTER DRILLING 4.0 ft ASPIT NY ASPINITE OF DRILLING 4.0 ft ASPIT NY ASPIT NY ASPINITE OF DRILLING 4.0 ft ASPIT NY ASPINI | Andley Fl |
| DRILLING CONTRACTOR Bureau Veritas NA DRILLING METHOD LOGGED BY LG CHECKED BY V. Lopez NOTES Drill Equipment= D-50 MATERIAL DESCRIPTION MATERIAL DESCRIPTION Asphalt (2-inches) Brown fine to medium grained SAND with LIMESTONE FRAGMENTS Brown fine grained SAND Brown fine grained SAND Brown fine grained SAND Tan SANDY LIMESTONE GROUND WATER LEVELS: A 1 TIME OF DRILLING 4.0 ft AFTER DRILLING — ASPT NA 20 40 □ FINES CON 20 40 □ FINES | |
| DRILLING METHOD | |
| ASPINAL CONTROLLING STORY FRAGMENTS ASPINAL CASH ASPINAL | |
| AFTER DRILLING HEAD DESCRIPTION MATERIAL DESCRIPTION ASPT NV 20 40 PL MC 20 | |
| MATERIAL DESCRIPTION Asphalt (2-inches) Brown fine to medium grained SAND Brown fine grained SAND SS 67 13-5-5-6 (10) Brown SILTY SAND, some Limestone fragments SS 3 58 1-1-2-8 (3) Tan SANDY LIMESTONE Tan SANDY LIMESTONE Tan SANDY LIMESTONE Tan SANDY LIMESTONE SS 58 10-11-23- | |
| MATERIAL DESCRIPTION ASPHAIT (2-inches) Brown fine to medium grained SAND Asphalt (2-inches) Brown fine grained SAND Brown SILTY SAND, some Limestone fragments SS 3 58 1-1-2-8 (3) Tan SANDY LIMESTONE Tan SANDY LIMESTONE SS 58 10-11-23-25 | /ALLIF ▲ |
| Asphalt (2-inches) Brown fine to medium grained SAND with LIMESTONE FRAGMENTS SS 67 13-5-5-6 (10) | 60 80 |
| Asphalt (2-inches) Brown fine to medium grained SAND with LIMESTONE FRAGMENTS SS 67 13-5-5-6 (10) | |
| Asphalt (2-inches) Brown fine to medium grained SAND with LIMESTONE FRAGMENTS SS 67 32-14-11- 18 (25) Brown fine grained SAND SS 67 13-5-5-6 (10) Brown SILTY SAND, some Limestone fragments SS 67 13-5-5-6 (10) Tan SANDY LIMESTONE | |
| Asphalt (2-inches) Brown fine to medium grained SAND with LIMESTONE FRAGMENTS SS 1 67 32-14-11- 18 (25) Brown fine grained SAND SS 2 67 13-5-5-6 (10) Brown SILTY SAND, some Limestone fragments SS 3 58 1-1-2-8 (3) | HENI (%) L
60 80 |
| 2.5 Brown fine grained SAND SS 2 67 13-5-5-6 (10) Brown SILTY SAND, some Limestone fragments SS 3 58 1-1-2-8 (3) Tan SANDY LIMESTONE SS 4 58 25 | |
| Brown fine grained SAND SS 2 67 13-5-5-6 (10) Brown SILTY SAND, some Limestone fragments SS 3 58 1-1-2-8 (3) Tan SANDY LIMESTONE SS 4 58 25 | |
| Brown fine grained SAND SS 2 67 13-5-5-6 (10) Brown SILTY SAND, some Limestone fragments 5.0 Tan SANDY LIMESTONE SS 3 58 1-1-2-8 (3) | |
| 2.5 Brown SILTY SAND, some Limestone fragments SS 2 67 13-5-5-6 (10) SS 3 58 1-1-2-8 (3) Tan SANDY LIMESTONE SS 4 58 25 | |
| 2.5 Brown SILTY SAND, some Limestone fragments SS 2 67 13-5-5-6 (10) SS 3 58 1-1-2-8 (3) Tan SANDY LIMESTONE SS 4 58 25 | |
| 5.0 Brown SILTY SAND, some Limestone fragments SS 3 58 1-1-2-8 (3) Tan SANDY LIMESTONE SS 4 58 25 | <u> </u> |
| Brown SILTY SAND, some Limestone fragments SS 3 58 1-1-2-8 (3) Tan SANDY LIMESTONE SS 4 58 25 | |
| 5.0 SS 3 58 1-1-2-8 (3) Tan SANDY LIMESTONE SS 4 58 25 | |
| 5.0 SS 3 58 1-1-2-8 (3) Tan SANDY LIMESTONE SS 4 58 25 | |
| Tan SANDY LIMESTONE SS 10-11-23- 25 | |
| Tan SANDY LIMESTONE SS 10-11-23- 25 | |
| SS 10-11-23-
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| SS 10-11-23-
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| \lambda \frac{1}{5} 58 25 \frac{1}{5} | |
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| SS 10-13-12-
10 10 10 10 10 10 10 10 | |
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| | |
| 12.5 | |
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| | |
| Bottom of hole at 14.0 feet. | |
| | |



308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-43
PAGE 1 OF 1

		rax: 786-248-3190 wn of Medley P	ROJEC1	ГИАМЕ	FLOC	DD MITIGAT	TION G	SRANT	Γ			
									Oth to 106th St, Medley, FL			
DATE	STAR	TED _6/14/08	ROUND	ELEVA	TION _	Not furnishe	ed	HOLE	SIZE 2 7/8-inch			
		ONTRACTOR Bureau Veritas NA G										
		ETHOD										
		AR CHECKED BY V. Lopez	AT END OF DRILLING AFTER DRILLING									
NOTE	S Dri	I Equipment= B-47	AF	TER DRI	LLING							
				SAMPLE TYPE NUMBER	% ,	w iii	E N N	WT.	▲ SPT N VALUE ▲ 20 40 60 80			
DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION		E T	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	1 ⊢ -	PL MC LL			
	J. L.C.	WATERIAL DESCRIPTION		MP.	Q.R.	N V V	<u> </u>	5e >	20 40 60 80			
0.0				SAI	R		P0	R	☐ FINES CONTENT (%)!			
0.0		Asphalt (1.5-inches)		1					20 40 60 80			
-	· ^	Tan fine to medium grained SAND with LIMESTONE FRAGME	NTS	\/		64-34-14-						
_				∬ SS 1	75	13			 			
_	, O			/\ '		(48)						
_	ιοΛ			/ \								
2.5	<u> </u>	Dark brown SILTY SAND with Organics		\								
	11/1			V ss		2-1-3-5			/			
-		Brown SILTY SAND		\ 2	83	(4)						
-				/\								
-		Tan SANDY LIMESTONE										
-		-	ľ	\ /		45.00						
5.0				SS 3	92	15-30-26- 23						
_	H			/\ ³		(56)						
	片			/ _								
_	Image: control of the con			1								
_	Ħ			₩ ss		20-20-16-						
	井			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	75	18 (36)			 			
7.5	H			/\		(30)						
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_	戸			\ /								
_	F			V ss	71	15-10-12- 15						
				∆ 5		(22)						
- 10.0				/ \								
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-	H			\/								
-	世			SS 6	71	10-9-6-4 (15)			🛉			
-	H			/\								
_				<u>'</u>								
12.5	H			\ /								
	H			V ss	75	6-3-3-11						
	H			∏ 7	75	(6)						
-				/ \								
-		Bottom of hole at 14.0 feet.		1								
	1				I	1	1	1				



North Miami Beach

308 N.W. 170 Street

BORING NUMBER B-44
PAGE 1 OF 1

DESCRIPTION PROJECT NAME FLOOD MITIGATION GRAN	
DATE STARTED 6/9/08 COMPLETED 6/9/08 GROUND ELEVATION Not furnished HOLE DRILLING CONTRACTOR Bureau Veritas NA DRILLING METHOD LOGGED BY LG CHECKED BY V. Lopez NOTES Drill Equipment= D-50 MATERIAL DESCRIPTION ASphalt (1.5-inches) Tan fine to medium grained SAND with LIMESTONE FRAGMENTS Asphalt (1.5-inches) Dark brown SILTY SAND Tan SANDY LIMESTONE Tan SANDY LIMESTONE ASS 34-26-28-15 (54)	<u>IT</u>
DRILLING CONTRACTOR Bureau Veritas NA DRILLING METHOD LOGGED BY LG CHECKED BY V. Lopez NOTES Drill Equipment= D-50 MATERIAL DESCRIPTION ASPHAIX (1.5-inches) Tan fine to medium grained SAND with LIMESTONE FRAGMENTS ASPHAIX (1.5-inches) Tan SANDY LIMESTONE Brown SILTY SAND SS 3 31-17-15-18 (32) Brown SILTY SAND SS 4 75 34-26-28-15 (64)	-
DRILLING METHOD	E SIZE 2 7/8-inch
LOGGED BY LG	
NOTES Drill Equipment D-50	
Hard Dollar Material Description Hard Har	
Asphalt (1.5-inches) Tan fine to medium grained SAND with LIMESTONE FRAGMENTS SS 1 58 31-17-15-18 (32) Dark brown SILTY SAND with Organics SS 2 67 6-1-2-6 (3) Brown SILTY SAND Tan SANDY LIMESTONE SS 3 83 5-5-24-9 (29) Tan SANDY LIMESTONE	
Asphalt (1.5-inches) Tan fine to medium grained SAND with LIMESTONE FRAGMENTS SS 1 58 31-17-15-18 (32) Dark brown SILTY SAND with Organics SS 2 67 6-1-2-6 (3) Brown SILTY SAND Tan SANDY LIMESTONE SS 3 83 5-5-24-9 (29) Tan SANDY LIMESTONE	A SPT N VALUE ▲ 20 40 60 80 PL MC LL 1 0 40 60 80 □ FINES CONTENT (%) □
Tan fine to medium grained SAND with LIMESTONE FRAGMENTS SS 1 58 31-17-15-18 (32) Dark brown SILTY SAND with Organics SS 67 6-1-2-6 (3) Brown SILTY SAND Tan SANDY LIMESTONE Tan SANDY LIMESTONE SS 33 83 5-5-24-9 (29) SS 4 75 34-26-28-15 (54) SS 58 8-13-8-6 (21)	20 40 60 80
2.5	<u> </u>
Tan SANDY LIMESTONE SS 83 5-5-24-9 (29)	
7.5 7.5 SS 4 75 15 (54) SS 58 8-13-8-6 (21) 10.0 SS 50 8-9-4-3	
5 36 (21) 10.0 SS 50 8-9-4-3	
SS 50 8-9-4-3	
12.5 SS 7 50 4-4-3-4 (7)	
Bottom of hole at 14.0 feet.	



308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-45
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VERITAS Fax: 786-2				_				_			
CLIENT Town of Medley		PROJECT NAME FLOOD MITIGATION GRANT PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL									
PROJECT NUMBER 21											
DATE STARTED 6/10/0	08			_		ea	HOLE	SIZE 2 7/8-inch			
	N Duledu Velitas INA	$\overline{}$			LING <u>4.01</u>	fŧ					
	CHECKED BY V. Lopez										
NOTES Drill Equipments				RILLING							
		_						A COT NIVALLIE A			
_ 0			YPE	% > :	S Ω	Ë.	DNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80			
DEPTH (ft) (ft) GRAPHIC LOG	MATERIAL DESCRIPTION	⊢ i щ!		RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	E (g	PL MC LL			
GRA			SAMPLE TYF NUMBER	S. CO.		NS =	DRY U				
0.0		\ \delta \		R.		M	5	☐ FINES CONTENT (%) ☐ 20 40 60 80			
.: .	(1.5-inches) to medium grained SAND with LIMESTONE FRAG	CMENTS	1								
ranime	to medium grained SAND with LivieSTONE FRAG	SIVIEIN I S	$\left \right \right $		51-16-17-						
					12 (33)			/			
- , 0			/\		(00)						
Brown S	ILTY SAND with traces of Organics		$\left(\cdot \right)$								
2.5			$\backslash / $								
				67	7-2-1-1						
			/\ ^		(3)						
			/ \								
Tan SAN	NDY LIMESTONE		\								
5.0			$ \rangle $ s	5 58	8-22-25-26	8					
				58	(47)			<i>f</i>			
			/ \								
+++			$\left \right \left \right $		25-16-14-						
+++					17 (30)			│			
7.5			/\		(30)						
			$\langle \cdot \rangle$			1					
			\ /								
				54	14-12-11- 13						
			/ 3		(23)						
10.0											
			$\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $								
			$\left \right \right $ s	3 50	6-3-2-5						
					(5)			 ↑			
1			/ \								
10.5											
12.5			\/								
+ + + + + + + + + + + + + + + + + + + +				50	5-4-5-3 (9)			 			
			/\								
+++	Bottom of hole at 14.0 feet.		/ \								
	Bottom of Hole at 14.0 leet.										



308 N.W. 170 Street

North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-46
PAGE 1 OF 1

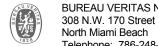
	Salva : 786-248-3190 Town of Medley	PROJECT	ГИДМЕ	FI OC	D WITICAT	ION G	RANT	-					
-	Town of Medley F NUMBER 21008-144890	PROJECT NAME _FLOOD MITIGATION GRANT PROJECT LOCATION _NW 87th to 95th Ave & 90th to 106th St, Medley, FL											
	ARTED 6/10/08 COMPLETED 6/10/08												
	G CONTRACTOR Bureau Veritas NA	_				=							
DRILLING	METHOD	_ ∑ AT	TIME OF	DRIL	LING _4.0 f	t							
LOGGED	BY LG CHECKED BY V. Lopez	_ ▼ AT	END OF	DRILL	ING 4.0 ft								
NOTES _	Drill Equipment= D-50	_ AF	AFTER DRILLING										
			긪	%	_	ż	F.	▲ SP1	ΓN VALUE 4				
DEPTH (ft) GRAPHIC	(7)		ΞÄ):RY	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	<u> </u>	20 4 PL	10 60 8 MC LL				
DEPTH (ft) SRAPHIC	MATERIAL DESCRIPTION		PLE	RQ R	OBC VAI	isf)	Sg	20 4	10 60 6				
ء اع			SAMPLE TYPE NUMBER	RECOVERY (RQD)	_ os_	POC	DRY UNIT WT. (pcf)	FINES	CONTENT (
0.0	Asphalt (2-inches)			_			-	20 4 :	10 60 8 : :				
\(\rightarrow\)	Tan fine to medium grained SAND with LIMESTONE FRAG	MENTS	$\setminus / $										
-7			V ss	67	33-21-22- 16								
Ø	(설명) 6년		$\left \right 1$		(43)				<i>Z</i> :				
0	X.		/ \										
2.5	Brown Giz i 1 37 th Will Gigaries		\										
7	<u> </u>				7,000								
7	(<u>U</u>		SS 2	58	7-2-2-3 (4)			 					
	<u> </u>		/\										
 /	Brown fine grained SAND		/ 										
	Company of the Statistics States		\ /										
5.0			V ss	54	4-2-1-1								
	컮		∆ 3	54	(3)			Π					
			/ \										
1	Tan fine grained SAND, some Limestone fragments		\			1							
1	[3] [3]				4005								
1	勞		SS 4	58	1-2-2-5 (4)								
7.5			/\					$\vdash \setminus \vdots $					
- 44	Tan SANDY LIMESTONE		/ 										
井	Tan SANDT EINESTONE		\ /										
F			V ss	58	5-8-25-34								
Ē	<u> </u>		∏ 5		(33)								
0.0	 		/ \										
\neg	+		\			1			:\:				
+	+		$\bigvee $		12-34-24-				\				
廿	+		SS 6	54	30 (58)				<u>}</u>				
中	+		/\		(30)				/				
中									/				
12.5			\ /					ļ <u>;</u> ,	/				
上	$\overline{\Box}$		V ss	50	17-16-16- 18								
			∏ 7	30	(32)								
E			/ \										
T	Bottom of hole at 14.0 feet.		1										
									: :				



308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180

BORING NUMBER B-47 PAGE 1 OF 1

VERITAS Fax: 786-248-3190												
CLIENT Town of Medley		JECT NAME FLOOD MITIGATION GRANT										
PROJECT NUMBER 21008-144890		OJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL										
DATE STARTED 6/14/08 COMPLETED 6/14/08												
DRILLING CONTRACTOR Bureau Veritas NA	$\overline{}$											
DRILLING METHOD				LING 4.5 f								
LOGGED BY LG CHECKED BY V. Lopez												
NOTES Drill Equipment= B-57	AF	TER DRII	LLING				Г					
		SAMPLE TYPE NUMBER	%		z Z	WT.	▲ SPT N VALUE ▲ 20 40 60 80					
MATERIAL DESCRIPTION MATERIAL DESCRIPTION		ER	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN (tsf)	UNIT v (pcf)	PL MC LL					
MATERIAL DESCRIPTION		APL.	 SS	Marian	CKET (tsf)	5ª	20 40 60 80					
		SAN	RE(02	PÕ	DRY	☐ FINES CONTENT (%) ☐					
0.0 Asphalt (1.5-inches)		1					20 40 60 80					
Tan fine to medium grained SAND with LIMESTONE FRA	GMENTS	\mathbb{N}										
			67	38-33-38- 12			_					
		1		(71)								
		/ \										
Dark brown SILTY SAND with Organics		\										
				4-2-2-4								
<u>/_ \/ \/ \/ \</u>			67	(4)			 					
		[/ \]										
Tan SANDY LIMESTONE					-							
Tall SANDT Elivics TONE		\mathbb{N}										
5.0			63	8-8-4-8								
			0.5	(12)			🕇					
		/ \										
-					1							
		\/										
· <u></u>		SS 4	67	12-8-5-3 (13)								
7.5		/\		(13)								
		\mathbb{N}										
				8-33-29-20								
. 1		5	33	(62)								
400		/\										
10.0		\vdash			1							
+ + + + + + + + + + + + + + + + + + + +		$\backslash / $										
		SS 6	42	10-11-10-7	1							
. 🚎		/\ °		(21)								
12.5		1										
				9900								
- +			42	8-8-9-8 (17)			📥					
· +++		[/ \]										
Bottom of hole at 14.0 feet.		<u> </u>			-							
Bottom of hole at 14.0 leet.												



North Miami Beach Telephone: 786-248-3180

BORING NUMBER B-48
PAGE 1 OF 1

CLIENT Town of Medley	PROJECT NAIVIE	OJECT NAME FLOOD MITIGATION GRANT									
PROJECT NUMBER 21008-144890	PROJECT LOCA	TION _	NW 87th to	95th A	ve & 9	Oth to 106th	St, Medley, FL				
DATE STARTED 6/16/08 COMPLETED 6/16/08		_		ed	HOLE	SIZE 27/8	-inch				
DRILLING CONTRACTOR Bureau Veritas NA											
ORILLING METHOD	$\frac{\sqrt{2}}{2}$ AT TIME O										
OGGED BY AR CHECKED BY V. Lopez	TAT END OF	DRILL	LING 5.0 ft	t							
IOTES _Drill Equipment= B-47	AFTER DR	ILLING									
	/PE	%	will	EN.	MT.	▲ SPT 20 4	N VALUE ▲ 0 60 80				
MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	PL 20 4	MC LL 0 60 80				
0.0	SAN	REC	02	PO	DR	☐ FINES (20 4	CONTENT (%) [0 60 80				
Asphalt (2-inches) Tan fine to medium grained SAND with LIMESTONI	[1/]		64-40-22-								
	SS 1	67	26 (62)				•				
	<u> </u>			-							
2.5	W ss		120-110-								
	2	50	90-33 (200)				;				
Tan SANDY LIMESTONE											
5.0	ss	58	16-26-33- 41								
	3		(59)								
+++	<u> </u>										
	SS 4	58	33-59-49- 53				;				
7.5			(108)								
											
	ss	67	15-18-28- 34				_				
	5		(46)								
0.0	/ /										
	W ss	E0	17-33-35-								
	6	58	(68)				<i></i>				
2.5	$\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $		21-19-20-				/				
		50	18 (39)			4	(
+	$ \backslash \backslash $		(39)								
	V V	1	1	1	i	1 :					



308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-49
PAGE 1 OF 1

VERITAS Fax: 786-248-3190					-101: -							
		PROJECT NAME _FLOOD MITIGATION GRANT PROJECT LOCATION _NW 87th to 95th Ave & 90th to 106th St, Medley, FL										
PROJECT NUMBER 21008-144890									ey, FL			
DATE STARTED 6/16/08 COMPLET DRILLING CONTRACTOR Bureau Veritas NA												
DRILLING METHOD												
DRILLING METHOD CHECKEI				Ling <u></u> .ing								
NOTES Drill Equipment= B-47		TER DRI										
NOTES DIM Equipment B-47		ı			I	I						
		SAMPLE TYPE NUMBER	% /	(a)	Ä.	WT.	l	PT N VALU 40 60				
(#) (#) (BPTH (CAPHIC LOG CAPHIC	CODIDTION	HE	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN (tsf)	UNIT (pcf)	PL	MC	LĻ			
DE SAS DE MATERIAL DE	.SCRIPTION	MPL	[양문	A S S S S S	 유학	5ē	20	40 60	80			
		SAI	RE	ا عق	9	DRY	l	CONTEN				
0.0 Asphalt (0.75-inch)		\ 					20	40 60	80			
Tan fine to medium grained SAND	with LIMESTONE FRAGMENTS	\mathbb{N}/\mathbb{I}										
⊅ 333			67	85-53-33- 26					A			
		<u> </u> 1		(86)								
		/ \										
2.5 Ø									: \			
				27-28-62-								
- 100			75	117 (90)								
		[/ \]		(50)					/:			
ング 型 Dark brown SILTY SAND with Orga	anica				-			· /	/ <u>:</u>			
- bark blown SILTT SAND with Org.	anics	\mathbb{N}										
5.0 💯 💆		∬ ss	75	10-16-17- 27				<u>/</u>				
Tan SANDY LIMESTONE			73	(33)				`				
1		V										
Brown SILTY SAND					-							
		\/					/		:			
2003		SS	83	15-7-4-9 (11)			≰					
7.5		/\ .		(,								
							\					
Tan SANDY LIMESTONE		\mathbb{N}					}					
				6-11-14-15								
1			92	(25)					:			
+		/ \					\					
10.0					-		 	<u> </u>	-:-			
+								\	:			
 		ss	92	12-24-16- 12					:			
				(40)				/ <u>:</u>	i			
 		/ \							:			
12.5					1				i			
12.0				 			 / :	: :	=			
		SS 7	83	5-5-7-17 (12)			▲					
		[/\]										
Pattern of hel	lo at 14 0 fact	\							:			
Bottom of hol	le at 14.0 feet.											



North Miami Beach Telephone: 786-248-3180

308 N.W. 170 Street

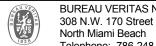
BORING NUMBER B-50
PAGE 1 OF 1

CLIENT Town of		PROJEC1	Г NAME	FLOC	DD MITIGAT	TION G	GRANT	-					
ROJECT NUMBE	ER _21008-144890	PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL											
DATE STARTED	6/14/08 COMPLETED 6/14/08												
	RACTOR Bureau Veritas NA	\leftarrow											
	DD				LING _4.0 f								
·	CHECKED BY V. Lopez	▼ AT	END OF	DRILL	ING 4.0 ft								
IOTES Drill Equi	pment= B-57	AF	TER DRI	LLING									
			PE	%		z.	WT.	▲ SPT N VALUE ▲					
GRAPHIC LOG			E TY BER	(C)	NTS	1 (J	≥ =⊊	20 40 60 8 PL MC LL					
(f) (f) SRAPHIC LOG	MATERIAL DESCRIPTION		IPLE UMI	SS SS	BLOW COUNTS (N VALUE)	X (화	(pcf)	20 40 60 80					
			SAMPLE TYPE NUMBER	RECOVERY (RQD)		POCKET PEN. (tsf)	DRY	☐ FINES CONTENT (9					
).0	sphalt (1.5-inches)		1					20 40 60 8					
_l‱ G	rayish brown fine to medium grained SAND with LIMESTO	NE /	\ /										
0 0 FI	RÁGMENTS		V ss	67	21-19-24- 23								
Ø					(43)								
70			/ \										
_	ark brown SILTY SAND with LIMESTONE FRAGMENTS												
.5 1, 11,			\/ ₋ -					<u> </u>					
\(\frac{1}{\sqrt{1}}\)			SS 2	67	7-3-2-4 (5)								
7. 7			/\ _		(=/								
/\/. V	CAMPALIMECTOME												
	an SANDY LIMESTONE		\										
			V ss		9-9-39-38								
			$\left \begin{array}{c} 3 \\ 3 \end{array} \right $	67	(48)			†					
			/\										
+		1											
++++			\		40.04								
			V ss	50	16-21-23- 22								
5					(44)								
			/ \										
			\ /										
					15-14-10-								
				50	13 (24)								
			/\		(27)								
0.0													
			\										
			V ss	50	13-14-10- 12								
			6	50	(24)								
1			/ \										
\ <u>_</u>						-							
2.5			\/		11 11 10								
			SS 7	50	11-11-10- 11								
			/\ '		(21)								
			/ \										
	Bottom of hole at 14.0 feet.												
								1 : : :					



308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-51
PAGE 1 OF 1

		rax: 786-248-3190 wn of Medley	PROJEC1	Г NAME	FLOC	DD MITIGAT	TON G	RANT					
PROJ	ECT N		PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL										
DATE	STAR	TED _6/14/08											
		ETHOD											
		AR CHECKED BY V. Lopez				ING 6.0 ft							
NOTE	S Dri	I Equipment= B-47	AFTER DRILLING										
				Ш	%		z	<u> </u>	_	VALUE ▲			
Ŧ.	GRAPHIC LOG			SAMPLE TYPE NUMBER	RECOVERY (RQD)	N T S	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	20 40 PL M	60 80 IC LL			
DEPTH (ft)	RAF	MATERIAL DESCRIPTION		I PLE		BLOW COUNTS (N VALUE)	Eg.	<u>Ş</u> 8	20 40	60 80			
_	ß			SAN	REC	OS	POC	R)	☐ FINES CO	NTENT (%)			
0.0		Asphalt (2.75-inches)		· /					20 40	60 80			
_	¢	Tan fine to medium grained SAND with LIMESTONE FRAGME	ENTS	\ /									
_	$ \circ \bigcirc$			V ss	75	45-60-35- 30							
	Ø			∆ 1	'	(95)				/			
-	۰ ^{.O} .			/ \									
	ŀĬŸĨŸ	Light brown SILTY SAND with LIMESTONE FRAGMENTS					-						
2.5				\/									
_				SS 2	83	10-12-8-68 (20)							
_				/\ -		(20)							
_	. Q C		l	/ \									
	٥ · · ·	Brown fine to medium grained SAND with LIMESTONE FRAGI	MENTS	\									
- 5.0	;° . (:)			₩ ss		 100-16-16-							
5.0	Ø			3	75	13 (32)			1 1				
_	٥ · · · ·			/\l		(02)							
_	· · · ()	Brown fine grained SAND					_						
_		BIOWITHINE GRAINED SAIND		\						\			
_				V ss	67	10-23-34- 43							
7.5		Brown SANDY LIMESTONE		∆ 4	0,	(57)							
	Ш			/ \									
-	H	Tan SANDY LIMESTONE					1						
-				\/		50-51-48-							
_	H			SS 5	75	48							
_	H			/\ ັ		(99)							
10.0	H			/ \									
	H			\									
-	H			₩ ss		10-12-21-							
-	H			6	83	16 (33)							
-	H			/\									
_	H			()									
12.5	H			\ /									
_	H			V ss	83	10-11-22- 11							
	H			∏ 7		(33)							
_	H			/ \									
-		Bottom of hole at 14.0 feet.		<u> </u>			1						
						1		1					



BUREAU VERITAS NORTH AMERICA, INC. 308 N.W. 170 Street

BORING NUMBER B-53
PAGE 1 OF 1

North Miami Beach Telephone: 786-248-3180 Fax: 786-248-3190

CLIENT Town of Medley												
PROJECT NUMBER 21008-144890	PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL											
DATE STARTED 6/18/08 COMPLETED 6/18/08	GROUND	ELEVA ⁻	TION _	Not furnishe	ed	HOLE	SIZE 27	7/8-inc	h			
DRILLING CONTRACTOR Bureau Veritas NA												
DRILLING METHOD				LING <u>6.5 1</u>								
LOGGED BY JR CHECKED BY V. Lopez	 AT	END OF	DRILL	ING <u>6.5 ft</u>								
NOTES Drill Equipment= B-57	AF	TER DRI	LLING									
		Ж	%		ż	Ξ.	▲S	PT N	VALUE	A		
CRAPHIC GRAPHIC LOG CRAPHIC CLOG CRAPHIC CLO		SAMPLE TYPE NUMBER	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	20 40 60 PL MC			80 		
MATERIAL DESCRIPTION MATERIAL DESCRIPTION		PLE	ROLE	AAL VAL	KET (tsf)	<u>N</u> 0	20 40 60 80					
		ΣŽ	ZEC ("öz	ပ္စ	ᄶ	☐ FINE					
0.0		o)	ш		Г.		20	40	60	80		
Asphalt (1.5-inches) Tan fine to medium grained SAND with LIMESTONE FR.	AGMENTS	N /										
				48-28-14-					į	:		
			67	14 (42)				/ -	:			
 				` ′				/ :	i	:		
<u> </u>		\vdash			-				į			
2.5		\mathbb{N}					<u> </u>					
L L			79	8-7-7-25								
			. •	(14)			\[:	:		
		/ \							i	:		
Brown SILTY SAND with LIMESTONE FRAGMENTS					1				į	:		
		\/						\	į	:		
5.0		SS 3	63	20-25-11-7 (36)				} :		- :		
		/\		(33)				/ <u> </u>				
								:	:	į		
		N /							:			
				 4-11-11-16					i	:		
			83	(22)			l *		:	:		
7.5		/ \						-	÷	- :		
Tan SANDY LIMESTONE					-				:	i		
Tail OANDT LINIESTOINE		\mathbb{N}						:	:	:		
			71	5-12-8-4			1		:	:		
			/ 1	(20)			T:	:	:	:		
		/						i	:	:		
					1			-	- :	:		
		\ /						:	:	:		
·			54	7-6-7-7 (13)			▲					
		/\ •		(13)					•			
		/ \								:		
12.5		\							:	:		
		\						÷	÷	i		
			58	8-5-8-7 (13)			📥		:	:		
		[/\]							:	:		
		<u> </u>							:	i		
Bottom of hole at 14.0 feet.									:	:		
10.0 12.5 1 10.0 Bottom of hole at 14.0 feet.												



308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-54
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CLIENT Tow	Fax: 786-248-3190 n of Medley	PROJEC	ΤN	AME	FLOC	DD MITIGAT	TION G	RANT					
PROJECT NU	MBER 21008-144890	PROJEC	JECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL										
DATE START	ED 6/15/08 COMPLETED 6/15/08	GROUNE) El	EVAT	ION _	Not furnishe	ed	HOLE	SIZE _2	2 7/8-inch			
	NTRACTOR Bureau Veritas NA												
	THOD	_				LING <u>6.0 f</u>							
	AR CHECKED BY V. Lopez					.ING 6.0 ft							
NOTES Drill	Equipment= B-47	_ A F	TEI	r Dril			_						
							z	WT.		SPT N V			
OEPTH (ft) GRAPHIC LOG			SAMPLE TYPE NUMBER		RECOVERY (RQD)	N T S	POCKET PEN. (tsf)	× ±⊊	20 P		60 80		
DEPTH (ft)	MATERIAL DESCRIPTION				SS SS	(RQD) BLOW COUNTS (N VALUE)	X (화	DRY UNIT (20	40	60 80)	
					REC	OS	P0	R/	□FIN	IES CON	TENT (%) 🗆	
0.0	- Apphalt (1.5 inches)								20	40	60 80	<u> </u>	
0 0	 Asphalt (1.5-inches) Brown fine to medium grained SAND with LIMESTONE FR. 	AGMENTS	$\mathbb{N}/$:		: :		
];° ()			W	SS	83	16-20-94- 82			:			>:	
Ø			$ \Lambda $	1	00	(114)						-	
700			$/ \setminus$									/	
- 1° U			\Box				-						
2.5			\mathbb{N}								-		
-			I X	SS 2	75	32-26-8-6 (34)				★ :			
-\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				_		(0.)				/ 🞚			
Ø			$\backslash \backslash$						/	/			
	Brown SILTY SAND		1						<i>!</i> /				
5.0			\mathbb{N}	SS		6-7-5-6			/:				
50			lχ	3	75	(12)			* :				
+444			$ \rangle$						\:				
13.1	Tan medium grained SAND with LIMESTONE FRAGMENT	S					-				: :		
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7.5			$ \Lambda $	4		(33)				Ţ			
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	Tan SANDY LIMESTONE		/				1		:	\:			
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			Λ							/ !			
			V	SS	75	5-8-14-21				' : :			
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12.5			/			10 10 00				\ <u>:</u>	: :	—	
			$ \chi $	SS 7	75	10-18-22- 24				<i>)</i> :			
			$\left / \right $	'		(40)			:				
			V										
	Bottom of hole at 14.0 feet.												
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SEOTECH BH PLOTS TOWN OF MEDLEY.GPJ GINT US LAB.GDT 6/24/08

BORING NUMBER B-55

PAGE 1 OF 1

Telephone: 786-248-3180 Fax: 786-248-3190 **PROJECT NAME** FLOOD MITIGATION GRANT **CLIENT** Town of Medley PROJECT NUMBER 21008-144890 PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL **DATE STARTED** 6/15/08 **COMPLETED** 6/15/08 GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch DRILLING CONTRACTOR Bureau Veritas NA **GROUND WATER LEVELS:** $\sqrt{2}$ AT TIME OF DRILLING 6.0 ft DRILLING METHOD _____ LOGGED BY AR CHECKED BY V. Lopez **TAT END OF DRILLING** 6.0 ft NOTES Drill Equipment= B-47 AFTER DRILLING ---POCKET PEN. (tsf) DRY UNIT WT. (pcf) ▲ SPT N VALUE ▲ SAMPLE TYPE NUMBER RECOVERY 9 (RQD) BLOW COUNTS (N VALUE) 40 60 MC MATERIAL DESCRIPTION 40 60 20 80 ☐ FINES CONTENT (%) ☐ 0.0 40 60 Asphalt (1.5-inches) Gray fine grained SAND with LIMESTONE FRAGMENTS 65-100-SS 167-90 (267)Brown fine to medium grained SAND with LIMESTONE FRAGMENTS 2.5 14-20-28-SS 75 28 (48)Dark brown SILTY SAND with LIMESTONE FRAGMENTS 7-5-4-4 5.0 SS (9) Tan SANDY LIMESTONE 10-12-16-SS 75 (28)7.5 18-20-20-SS 32 (40)10.0 SS 5-6-16-22 75 (22)12-16-24-SS 75 (40)Bottom of hole at 14.0 feet.



BUREAU VERITAS NORTH AMERICA, INC. 308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180

BORING NUMBER B-56
PAGE 1 OF 1

VERITAS Fax: 786-2		PDC 150	T N/4	E! 0.	NO MATERIA (7	TION: O	\D ^ ^ !~		
CLIENT Town of Medley					OD MITIGAT				
PROJECT NUMBER 21		PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medl GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch							
	08					<u>ea</u>	HOLE	SIZE 2 1/8-INCH	
	DR Bureau Veritas NA	GROUND WATER LEVELS: AT TIME OF DRILLING							
	CHECKED BY 1/ 1 oper								
	CHECKED BY V. Lopez								
NOTES Drill Equipment	= B-4 <i>1</i>	AF	TER DRI	LLING					
				%		z	WT.	▲ SPT N VALUE ▲	
DEPTH (ft) GRAPHIC LOG			SAMPLE TYPE NUMBER	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN (tsf)	 	20 40 60 80 PL MC LL	
(ft) SRAPHIC LOG	MATERIAL DESCRIPTION		PLE UME	(RQVI	BLO OUI	(tsf)	(pcf)	20 40 60 80	
			MAX NAM	ZEC (l _os	000	DRY	☐ FINES CONTENT (%) ☐	
0.0	(0: 1)		"	ļ <u>"</u>		_		20 40 60 80	
Asphalt Tan fine	(3-inches) to medium grained SAND with LIMESTONE FR.	AGMENTS	1 /						
	-				 45-38-12-8				
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2.5			$ \rangle / $						
				67	7-5-6-4				
			2	"	(11)				
			/ \						
	own SILTY SAND with Organics			1		1			
- <u>'' \ ''</u>	-		\ /						
5.0 41/2				50	2-2-1-4				
<u> </u>			/ 3		(3)				
			/ \						
Brown S	SANDY LIMESTONE					1			
押									
· +			SS 4	67	3-2-6-7 (8)			♦	
7.5			[/\]		`´				
Tan SAN	NDY LIMESTONE		\mathbb{N}						
					12-8-7-13				
· ‡‡			\ \ 5	58	(15)			 	
· +			// \						
10.0				-		-			
			\mathbb{N}						
				E0	3-2-6-7				
				50	(8)			17	
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12.5									
. ##				50	6-3-1-1				
					(4)				
			/ \						
· † †	Bottom of hole at 14.0 feet.					1			
								<u> </u>	



SEOTECH BH PLOTS TOWN OF MEDLEY.GPJ GINT US LAB.GDT 6/24/08

BUREAU VERITAS NORTH AMERICA, INC.

308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 **BORING NUMBER B-57**

PAGE 1 OF 1

Fax: 786-248-3190 **PROJECT NAME** FLOOD MITIGATION GRANT **CLIENT** Town of Medley PROJECT NUMBER 21008-144890 PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL **DATE STARTED** 6/15/08 **COMPLETED** 6/15/08 GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch DRILLING CONTRACTOR Bureau Veritas NA **GROUND WATER LEVELS:** $\sqrt{2}$ AT TIME OF DRILLING 4.3 ft DRILLING METHOD _____ LOGGED BY LG CHECKED BY V. Lopez **T** AT END OF DRILLING 4.3 ft NOTES Drill Equipment= B-57 AFTER DRILLING ---POCKET PEN. (tsf) DRY UNIT WT. (pcf) ▲ SPT N VALUE ▲ SAMPLE TYPE NUMBER RECOVERY 9 (RQD) BLOW COUNTS (N VALUE) 40 60 MC MATERIAL DESCRIPTION 40 60 20 80 ☐ FINES CONTENT (%) ☐ 0.0 40 60 Asphalt (1.5-inches) Brown fine to medium grained SAND with LIMESTONE FRAGMENTS 68-23-20-SS (43)Tan fine to medium grained SAND with LIMESTONE FRAGMENTS 2.5 14-17-25-SS 67 18 (42)5.0 SS 43-7-4-5 Brown fine grained SAND 6-4-2-2 SS 58 (6) 7.5 Tan SANDY LIMESTONE 27-34-17-SS 18 (51)10.0 19-17-16-SS (33)12.5 10-11-11-SS 50 (22)Bottom of hole at 14.0 feet.



BUREAU VERITAS NORTH AMERICA, INC.

308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-58
PAGE 1 OF 1

CLIENT Town of Modey	DDO :===	NA SET	EL 00		ION C	· D A A I T		
CLIENT _Town of Medley PROJECT NUMBER _21008-144890	PROJECT NAME _FLOOD MITIGATION GRANT PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, M							
DATE STARTED _6/15/08								
DRILLING CONTRACTOR Bureau Veritas NA								
DRILLING METHOD								
LOGGED BY LG CHECKED BY V. Lopez				.ING 4.3 ft				
NOTES Drill Equipment= B-57	_ AFT	ER DRII	LING					
		Щ	%		j	<u>.</u>	▲ SPT N VALUE ▲	
ᆍ 우 』		Ţ	ΕΕ	TS UE)	PE	T WT.	20 40 60 80 PL MC LL	
MATERIAL DESCRIPTION (#) (#) (#) (#) (#) (#) (#) (#		PLE JMB	OVE	BLOW COUNTS (N VALUE)	KET (tsf)	(pcf	20 40 60 80	
ם פֿ		SAMPLE TYPE NUMBER	RECOVERY (RQD)	"ŏz	POCKET PEN. (tsf)	DRY UNIT (☐ FINES CONTENT (%)	
0.0 Asphalt (5.75-inches)		1			_	_	20 40 60 80	
Tan fine to medium grained SAND with LIMESTONE FRAG	MENTS	./						
- VAN AND WITH ENVIRONMENT AND WITH ENVIRONMENT AND THE PROPERTY AND THE P	Z.VILIVI O	SS 1	67	100-35-31- 16			_	
	/	/\ '		(66)				
	<u> </u>							
2.5	1	. /						
	\	₩ ss	0.7	9-7-4-2				
		2	67	(11)			 ↑	
100	V	' \						
Discribing Dark brown SILTY SAND with Organics								
<u> </u>	\	//						
5.0 44 4		SS 3	67	4-5-12-20 (17)			\ : : : : : : : : : : : : : : : : : : :	
07 7 7 7	/	/\		\.,'				
4								
Tan SANDY LIMESTONE	\	. /						
<u> </u>		V ss	58	12-21-18- 17				
7.5		∆ 4	00	(39)			1	
	V							
1	ħ	1						
+++	\	//		18-19-15-				
++		SS 5	50	20 (34)				
11	/	/\		(34)				
10.0	Į.							
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<u> </u>		V ss	50	24-16-19- 14				
		∫ 6		(35)				
	V							
12.5	Ţ							
12.0	\	$\bigvee $		12-12-14-				
+		SS 7	50	16			▲	
+ + + + + + + + + + + + + + + + + + + +	/	/\		(26)				
Dollars of halo at 14.0 feet								
Bottom of hole at 14.0 feet.								



SEOTECH BH PLOTS TOWN OF MEDLEY.GPJ GINT US LAB.GDT 6/24/08

BUREAU VERITAS NORTH AMERICA, INC.

308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 **BORING NUMBER B-59**

PAGE 1 OF 1

Fax: 786-248-3190 **PROJECT NAME** FLOOD MITIGATION GRANT **CLIENT** Town of Medley PROJECT NUMBER _21008-144890 PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL **DATE STARTED** 6/15/08 **COMPLETED** 6/15/08 GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch DRILLING CONTRACTOR Bureau Veritas NA **GROUND WATER LEVELS:** $\sqrt{2}$ AT TIME OF DRILLING 4.5 ft DRILLING METHOD _____ LOGGED BY LG CHECKED BY V. Lopez **TAT END OF DRILLING** 4.5 ft NOTES Drill Equipment= B-57 AFTER DRILLING ---POCKET PEN. (tsf) DRY UNIT WT. (pcf) ▲ SPT N VALUE ▲ SAMPLE TYPE NUMBER RECOVERY 9 (RQD) BLOW COUNTS (N VALUE) 40 60 MC MATERIAL DESCRIPTION 40 60 20 80 ☐ FINES CONTENT (%) ☐ 0.0 40 60 Asphalt (1.5-inches) Tan fine to medium grained SAND with LIMESTONE FRAGMENTS 68-25-26-SS 25 (51) 2.5 SS 9-9-9-7 58 (18)Brown fine grained SAND 5.0 SS 9-17-20-41 **Brown SANDY LIMESTONE** (37)Tan SANDY LIMESTONE 20-18-17-SS (35)7.5 19-20-18-SS 17 (38)10.0 18-19-20-SS 19 (39)12-15-18-SS 42 16 (33)Bottom of hole at 14.0 feet.



BUREAU VERITAS NORTH AMERICA, INC.

308 N.W. 170 Street

North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-60 PAGE 1 OF 1

VERITAS Fax: 786-248-3190 CLIENT Town of Medley	,	ם וברי	L MVVVE	EI OC	DD MITIGAT	וראי כ		-
PROJECT NUMBER _21008-144890								
	<u> </u>	PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Med GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch						
DRILLING CONTRACTOR Bureau V		GROUND		_			_	
DRILLING METHOD		SKOOND WATER LEVELS. $ \underline{\nabla} $ AT TIME OF DRILLING $\underline{4.5 \text{ ft}}$						
	CHECKED BY V. Lopez				ING 4.5 ft			
NOTES Drill Equipment= B-57		AF1	TER DR	ILLING				
			М	%		j	ļ.	▲ SPT N VALUE ▲
표 일			SAMPLE TYPE NUMBER	RECOVERY (RQD)	W ITS UE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	20 40 60 80 PL MC LL
(ff) (ff) (ff) (GRAPHIC LOG	NATERIAL DESCRIPTION		PLE JMB	NS R	BLOW COUNTS (N VALUE)	KET)	N S	20 40 60 80
			NAW N	ZEC (oz	ဝင	꽃	☐ FINES CONTENT (%) ☐
0.0 Asphalt (2 inches)				-		_	<u> </u>	20 40 60 80
Asphalt (2-inches) Tan fine to medium g	rained SAND with LIMESTONE FRAGME	ENTS	\ /					
			V ss	67	68-33-21- 24			
			∆ 1		(54)			
Φ Δ			/ \					
2.5		Ī	1					
			₩ ss		24-14-11-8			
-\ ^{\(\alpha\)}			\ \ 2	58	(25)			
			/ \					
Brown fine grained S.	AND, some Limestone Fragments							
	, John Landono i raginono		\ /					
5.0			V ss ₃	42	12-5-11-14			
-0.000 -0.000			/\ ³		(16)			
			/ \					
Tan SANDY LIMEST	ONE		$\setminus A$					
			V ss		14-15-27-			
7.5			\bigwedge 4	42	14 (42)			
<u>'.~</u>			/ \					
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			∬ SS 5	46	10-12-9-17 (21)	,		🕌
			/\ ັ		(2.)			
0.0		1	/ }					
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			V ss	E0	18-24-25-			
扫			6	50	20 (49)			
			/ \					
12.5						1		
12.5			\/		19-21-17-			
+			V SS 7	50	12			4
++++			/\		(38)			
 	Pottom of hole at 14.0 fact		′ \					
	Bottom of hole at 14.0 feet.							



BUREAU VERITAS NORTH AMERICA, INC.

308 N.W. 170 Street

North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-61
PAGE 1 OF 1

	Fax: 786-248-3190 Town of Medley	PROJEC1	ГИАМЕ	FLOC	DD MITIGAT	ION G	RANT		
		PROJECT NAME FLOOD MITIGATION GRANT PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St,							
DRILLING	G CONTRACTOR Bureau Veritas NA	GROUND WATER LEVELS: $\overline{\ }$ AT TIME OF DRILLING 4.5 ft							
DRILLING	G METHOD								
LOGGED	DBY LG CHECKED BY V. Lopez	▼ AT	END OF	DRILL	ING 4.5 ft				
NOTES	Drill Equipment= B-57	AF	TER DRII	LING					
			ъ	%		ż	WT.	▲ SPT N VALUE ▲	
王 을	MATERIAL DESCRIPTION		ξÄ). ER	BLOW COUNTS (N VALUE)	J. (M (20 40 60 80 PL MC LL	
DEPTH (ft)	MATERIAL DESCRIPTION		PLE JME	OVE RQI	AP VAL	KET (tsf)	N D	20 40 60 80	
			SAMPLE TYPE NUMBER	RECOVERY (RQD)	_os	POCKET PEN. (tsf)	DRY UNIT (☐ FINES CONTENT (%)	
0.0	Apphalt (2.25 inches)			_		_	_	20 40 60 80	
- ¢.	Asphalt (3.25-inches) Tan fine to medium grained SAND with LIMESTONE FRAGME	ENTS	\						
. 0.			V ss	67	73-40-31- 32				
)::: :0	수입 사용		∆ 1	07	(71)			<i></i>	
, T			/ \						
` _	Brown fine grained SAND, some Limestone Fragments								
2.5	분명 사용		\/		27-16-17-			 	
	보다 경화		SS 2	67	20			4	
			/\		(33)				
	THE CAMPAL IMPOTONE								
	Tan SANDY LIMESTONE ▼		\					\	
5.0	耳		V ss		36-16-31-				
	耳		∆ 3	58	20 (47)				
	工		/\						
									
			\/		22-21-18-				
			SS 4	50	12				
7.5	<u> </u>		/\ .		(39)				
. 上	#		/ \						
	#		\						
	+		V ss	E0.	 18-14-8-10				
<u> </u>			∫ 5	50	(22)				
, T			/ \						
10.0									
$-\Box$			\/		13-15-16-				
·	코		∬ SS 6	50	15				
	士		/\ ັ		(31)				
. 上			/ \						
12.5	工		\						
H	耳		V ss	5 ^	11-10-12-				
- † <u>+</u>	耳 コープログラ コープログ コープログ コープログラ コープログ コーク コープログ コープログ コープログ コープログ コープログ コープログ コープログ コー コープログ コープログ コー コーク コー コープログ コープログ コー コープロ コープログ コープログ コー コープログ コープログ コー コープログ コープログ コープログ コー コープログ コープログ コープログ コー		\ \ 7	50	10 (22)				
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· 🕂	Bottom of hole at 14.0 feet.		· 1						



SEOTECH BH PLOTS TOWN OF MEDLEY.GPJ GINT US LAB.GDT 6/24/08

BUREAU VERITAS NORTH AMERICA, INC.

308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 **BORING NUMBER B-62**

PAGE 1 OF 1

Fax: 786-248-3190 **PROJECT NAME** FLOOD MITIGATION GRANT CLIENT Town of Medley PROJECT NUMBER _21008-144890 PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL **DATE STARTED** 6/15/08 **COMPLETED** 6/15/08 GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch DRILLING CONTRACTOR Bureau Veritas NA **GROUND WATER LEVELS:** $\sqrt{2}$ AT TIME OF DRILLING 4.5 ft DRILLING METHOD _____ LOGGED BY LG CHECKED BY V. Lopez **TAT END OF DRILLING** 4.5 ft NOTES Drill Equipment= B-57 AFTER DRILLING ---POCKET PEN. (tsf) DRY UNIT WT. (pcf) ▲ SPT N VALUE ▲ SAMPLE TYPE NUMBER RECOVERY 9 (RQD) BLOW COUNTS (N VALUE) 40 60 MC MATERIAL DESCRIPTION 40 60 20 80 ☐ FINES CONTENT (%) ☐ 0.0 40 60 Asphalt (2-inches) Tan fine to medium grained SAND with LIMESTONE FRAGMENTS 65-42-33-SS 16 (75)Brown fine grained SAND 2.5 14-13-14-SS 67 19 (27)Tan SANDY LIMESTONE 21-23-20-5.0 SS 20 (43)10-10-9-7 SS (19)7.5 12-12-13-SS 12 (25)10.0 SS 10-9-11-12 (20)10-10-11-SS 42 (21)Bottom of hole at 14.0 feet.



BUREAU VERITAS NORTH AMERICA, INC.

308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-63
PAGE 1 OF 1

CLIENT Town of Medley	PROJECT	NAME	FLOC	D MITIGAT	TION G	SRANT		
PROJECT NUMBER 21008-144890	PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th S							
DATE STARTED 6/15/08 COMPLETED 6/15/08	GROUND WATER LEVELS:							
DRILLING CONTRACTOR Bureau Veritas NA								
DRILLING METHOD				LING 4.5 f				
LOGGED BY LG CHECKED BY V. Lopez				.ING <u>4.5 ft</u>	<u> </u>			
NOTES _Drill Equipment= B-57	AFT	ER DRII	LLING		1			
		Н	%		z	WT.	▲ SPT N VALUE ▲	
MATERIAL DESCRIPTION (#) (#) (#) (#) (#) (#) (#) (#		SAMPLE TYPE NUMBER	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	× ±⊊	20 40 60 80 PL MC LL	
MATERIAL DESCRIPTION MATERIAL DESCRIPTION		PLE	SQE RQE	SEC	(tsf)	S &	20 40 60 80	
_ _		MA N	ZEC.	_0 <u>S</u>	ပြင်	DRY UNIT (☐ FINES CONTENT (%) ☐	
0.0		1			<u> </u>	ļ <u> </u>	20 40 60 80	
Asphalt (2-inches) Tan fine to medium grained SAND with LIMESTONE FRA	AGMENTS	. /						
		\parallel ss		58-33-20-				
70:0:34 Ø:0:0		\	67	17 (53)			↑	
		/ \		(==-/				
Grayish brown fine grained SAND, some Limestone Fragi	ments	-}						
2.5 Grayish brown line grained SAND, some Limestone Fragi	mento	. /						
		V∣ss	FO	14-29-16-				
		2	58	11 (45)				
	/	' \						
Brown SANDY LIMESTONE		-}			1			
▼ BIOWITO/AIVET EINIEGTOTVE		//						
5.0		V ss	54	12-13-23- 24				
		∆ 3	34	(36)				
 	/	' \						
Tan SANDY LIMESTONE		 			1			
+		\						
 		V ss	58	30-36-77- 120				
7.5		∆ 4		(113)				
	V	' \						
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+++	\	\/		42 44 00				
+		SS 5	50	42-41-22- 28			 	
 		/\ 3		(63)				
10.0	V							
	Ţ							
+++	\	\/ _		20-21-19-				
+++-		SS 6	42	20			🗼	
	,	/\		(40)				
<u> </u>								
12.5		. /						
· ·····	\	\\\		19-20-21-				
 		SS 7	42	20			 	
	,	/\		(41)				
Bottom of hole at 14.0 feet.								
1 1						1	<u> </u>	

BUREAU VERITAS NORTH AMERICA, INC. 308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180

SEOTECH BH PLOTS TOWN OF MEDLEY.GPJ GINT US LAB.GDT 6/24/08

BORING NUMBER B-64

PAGE 1 OF 1

Fax: 786-248-3190 **PROJECT NAME** FLOOD MITIGATION GRANT **CLIENT** Town of Medley PROJECT NUMBER 21008-144890 PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL **DATE STARTED** 6/16/08 **COMPLETED** 6/16/08 GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch DRILLING CONTRACTOR Bureau Veritas NA **GROUND WATER LEVELS:** $\sqrt{2}$ AT TIME OF DRILLING 5.0 ft DRILLING METHOD _____ LOGGED BY AR CHECKED BY V. Lopez ▼ AT END OF DRILLING 5.0 ft NOTES Drill Equipment= B-47 AFTER DRILLING ---POCKET PEN. (tsf) DRY UNIT WT. (pcf) ▲ SPT N VALUE ▲ SAMPLE TYPE NUMBER RECOVERY 9 (RQD) BLOW COUNTS (N VALUE) 40 60 MC MATERIAL DESCRIPTION 40 60 80 ☐ FINES CONTENT (%) ☐ 0.0 40 60 Asphalt (2-inches) Tan fine to medium grained SAND with LIMESTONE FRAGMENTS SS 55-35-14-6 (49)Gray fine to medium grained SAND with LIMESTONE FRAGMENTS 2.5 14-15-33-SS 75 60 2 (48)100 100/5" 5.0 16-17-15-SS 75 (32)7.5 Brown SILTY SAND SS 6-4-12-11 Tan SANDY LIMESTONE (16)10.0 SS 9-33-37-35 (70)31-33-29-SS 83 35 (62)Bottom of hole at 14.0 feet.



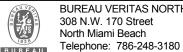
BUREAU VERITAS NORTH AMERICA, INC.

North Miami Beach Telephone: 786-248-3180

308 N.W. 170 Street

BORING NUMBER B-66
PAGE 1 OF 1

VERITAS Fax: 786-248-3190 CLIENT Town of Medley	_ PROJECT N	NAME	FLOC	DD MITIGAT	ION G	RANT						
PROJECT NUMBER 21008-144890	PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL											
DATE STARTED _6/16/08 COMPLETED _6/17/08												
DRILLING CONTRACTOR Bureau Veritas NA												
DRILLING METHOD	_			LING <u>6.0 f</u>								
OGGED BY JR CHECKED BY V. Lopez	_ AT E	ND OF	DRILL	.ING <u>6.0 ft</u>								
NOTES Drill Equipment= B-57	_ AFTE	ER DRIL	LING									
		Щ	%		ż	WT.	▲ SPT	N VALUE	E▲			
BE GRAPHION MATERIAL DESCRIPTION		万뜄	¥.€	BLOW COUNTS (N VALUE)	J. (M (20 4 PL		80 LL			
MATERIAL DESCRIPTION		JMB JMB	R	A Sign	ES (SE)	(bct		0 60	-i 80			
」		SAMPLE TYPE NUMBER	RECOVERY (RQD)	"os	POCKET PEN. (tsf)	DRY UNIT (☐ FINES (
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	IV	ss	83	49-65-57- 23					:			
[한사다] [한사]	[/	2		(122)			:		:			
	V								:/			
Light brown SANDY LIMESTONE, some Silt		1						:/	<u>/</u> :			
[[/										
0.0	ΙX	SS 3	75	9-12-13-13 (25)			+					
 	[/\	∖ ັ		(20)								
<u></u>												
-		/							:			
	[\/	SS		A_12 11 11								
<u>.</u> † †	Įχ	4	54	4-13-11-11 (24)			: ♠		:			
7.5	/ \						:		- :			
Tan SANDY LIMESTONE		}										
- Tall OCIVE! Elivications	\	/										
」	[]	ss	63	13-13-15- 15								
	ΙΛ	5	03	(28)								
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0.0	 	1							- :-			
 	[\ ,	/		45 44 40					i			
 	ΙV	SS	67	15-14-16- 14					i			
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中	V						<u> </u>		:			
25		1					<u> </u>					
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+	ΙX	SS 7	67	6-7-7-10 (14)			▲ }		i			
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 	V	1										
		-			1							
Bottom of hole at 14.0 feet.												



BUREAU VERITAS NORTH AMERICA, INC.

BORING NUMBER B-67
PAGE 1 OF 1

VERITAS Fax: 78		DD0 150	T NIA 14 T	EL 0.1	OD MITIO 1				
CLIENT Town of Med					OD MITIGAT				FI
PROJECT NUMBER _	5/08							Oth to 106th St, Medle SIZE 2 7/8-inch	⊎y, rL
	TOR Bureau Veritas NA					<u>-u</u>	HOLL	2 170-IIICII	
	Buleau ventas IVA								
	CHECKED BY V. Lopez								
NOTES Drill Equipme			TER DRII						
			ı	 				A COT NIVALL	IE 4
l _o l			SAMPLE TYPE NUMBER	% ≻	φ (ii)	Ä.	WT.	▲ SPT N VALU 20 40 60	
DEPTH (ft) GRAPHIC LOG	MATERIAL DESCRIPTION		.Е.Т. 18ЕР	RECOVERY (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN (tsf)	(pcf)	PL MC	LL
38A ()	WATERWAL BEGOTAL TION		MPL	00.8	go N N N	S T	∑ ⊃&	20 40 60	
			SA	뀖		8	DRY	☐ FINES CONTEN	
0.0 Aspha	alt (2-inches)		1					20 40 60	<u>80</u> :
_\overline{\text{V}} Tan fi	ine to medium grained SAND with LIMESTONE FRAC	SMENTS	\		49-40-50-				
			SS 1	83	47				
-, 0			/\ '		(90)				! /
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2.5			\mathbb{N}						/:
					40-41-32-				/ i
				83	(73)				^
			/ \						/
J	n fine grained SAND					1		/ /	
433	g. a		\mathbb{N}/\mathbb{I}						:
5.0				75	24-22-24- 30				
					(46)				
			/					/: /:	
Brown	n SANDY LIMESTONE								:
					22-12-15-				i
-			SS 4	75	11 (27)			<i>f</i>	
7.5			 /\		(21)			<u> </u>	
Tan S	SANDY LIMESTONE				-			/.	:
Tall S	WIND I FINIFOTONE		\mathbb{N}					/	:
				50	6-5-6-4				:
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10.0									÷
++			\/						i
+			SS 6	83	8-4-8-16 (12)				
			 /\		(12)				
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12.5			\mathbb{N}						
					35-30-38-				
				83	(68)				A
					` ′				
 	Bottom of hole at 14.0 feet.		Y V						
									:



BORING NUMBER B-75 PAGE 1 OF 1

	n of Medley		PROJECT NA	AME	FLOC	D MITIGAT	ION G	<u>RAN</u> T				
·	/IBER _21008-1448		PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th S							St, Me	dley, FL	
DATE STARTI	ED 6/15/08	COMPLETED 6/15/0	GROUND EL	EVAT	ION _	Not furnishe	ed	HOLE	SIZE	2 7/8	-inch	
DRILLING CO	NTRACTOR Burea	au Veritas NA										
DRILLING ME	THOD		$ar{igspace}$ at tin	/IE OF	DRILI	L ING 6.0 f	t					
LOGGED BY	AR	CHECKED BY V. Lo	T AT EN	D OF	DRILL	ING 6.0 ft						
NOTES Drill E	Equipment= B-47		AFTER	R DRIL	LING							
DEPTH (ft) GRAPHIC LOG		MATERIAL DESCRIPTION	1 d V	SAMPLE ITPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	2	0 4 PL	0 6 MC	LUE A 0 80 LL
0.0			N N	NAMI NU	RECC (F	CC (N)	POCK	DRY (NES (CONTI	0 80 ENT (%) [0 80
	Asphalt (1.5-inche Tan fine to mediu	es) m grained SAND with LIMES	RAGMENTS	SS 1	83	65-106-60- 38 (166)						7
2.5				SS 2	83	28-35-31- 25 (66)					/	f
5.0) 				SS 3	83	23-24-24- 15 (48)						
7.5	Gray fine grained	SAND, some Limestone Fraç		SS 4	75	5-6-5-6 (11)			•			
	Brown SANDY LI	MESTONE		SS 5	75	5-11-23-27 (34)			\ 			
- 1	Tan SANDY LIME	ESTONE		SS 6	75	10-12-18- 25 (30)				•		
12.5				SS 7	75	28-16-24- 19 (40)						
			y \					l	:		:	



BUREAU VERITAS NORTH AMERICA, INC.

308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-76
PAGE 1 OF 1

VERITAS Fax: 786-248- CLIENT Town of Medley	3190	PROJEC	T NAME	FI OC	OD MITIGAT	LION G	RANT		
PROJECT NUMBER 21008	3-144890	PROJECT NAME _FLOOD MITIGATION GRANT PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, N							St, Medlev. FL
	COMPLETED 6/18/08	GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inc							
	Bureau Veritas NA								
	CHECKED BY V. Lopez	ТАТ	END OF	DRILL	_ING 6.0 ft	:			
NOTES Drill Equipment= B-	-47	AF	TER DRI	LLING					
			Щ	%		j	<u>.</u>	▲ SP	T N VALUE 🛦
프 우			SAMPLE TYPE NUMBER	RECOVERY (RQD)	NE)	POCKET PEN. (tsf)	'UNIT WT. (pcf)	20 PL	40 60 80 MC LL
(#) (#) CRAPHIC LOG	MATERIAL DESCRIPTION) JMB	Roll	BLOW COUNTS (N VALUE)	(tsf)	NS G	l —	40 60 80
ے ہے			N M) EC	∥ mos	00	DRY		CONTENT (%
0.0			(v)	<u> </u>				l	40 60 80
Asphalt (1.5	i-inches) medium grained SAND with LIMESTONE FRA	AGMENTS	M_{-}		35-36-58-				
			SS 1	83	55 (94)				
- & O			[/ \]		(34)				
			 						
2.5 Ø									<u>;</u> ; /
\&\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				83	35-36-38- 40				
					(74)				
			/ \						<u> </u>
Tan SANDY	LIMESTONE					1			
<u>, </u>			\		14-20-21-				1/ 1
5.0				83	37 (41)				* : :
++			[/ \		(41)			:	
₽			\vdash			-			
			\mathbb{N}						
<u> </u>				75	27-23-12-7				
7.5			4	/ 3	(35)				
			/ \						
Tan SANDY	/ LIMESTONE, some Silt		1			1			
+			\/		11-19-23-				
+				75	63 (42)				
			[/\]		(42)				
0.0									
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				75	13-33-45- 58				
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Tan SANDY	LIMESTONE					1			
12.5			\/		43-35-39-				
+++			SS 7	75	30				1
			[/\l ′		(74)				
			<u> </u>						
	Bottom of hole at 14.0 feet.								
				1	1	1	1		

BUREAU VERITAS NORTH AMERICA, INC. **BORING NUMBER B-77** 308 N.W. 170 Street PAGE 1 OF 1 North Miami Beach Telephone: 786-248-3180 Fax: 786-248-3190 **PROJECT NAME** FLOOD MITIGATION GRANT **CLIENT** Town of Medley PROJECT NUMBER 21008-144890 PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, Medley, FL **DATE STARTED** 6/15/08 **COMPLETED** 6/15/08 GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-inch DRILLING CONTRACTOR Bureau Veritas NA **GROUND WATER LEVELS:** $\sqrt{2}$ AT TIME OF DRILLING 6.0 ft DRILLING METHOD _____ LOGGED BY AR CHECKED BY V. Lopez **TAT END OF DRILLING** 6.0 ft AFTER DRILLING _---NOTES Drill Equipment= B-47 POCKET PEN. (tsf) DRY UNIT WT. (pcf) ▲ SPT N VALUE ▲ SAMPLE TYPE NUMBER RECOVERY 9 (RQD) BLOW COUNTS (N VALUE) 40 60 MC MATERIAL DESCRIPTION 40 60 20 80 ☐ FINES CONTENT (%) ☐ 0.0 40 60 Asphalt (1.5-inches) Tan fine to medium grained SAND with LIMESTONE FRAGMENTS 30-24-15-SS 30 (39)2.5 46-38-27-SS 83 (65)Tan SANDY LIMESTONE

5.0

7.5

10.0

SEOTECH BH PLOTS TOWN OF MEDLEY.GPJ GINT US LAB.GDT 6/24/08

13-12-13-

(25)

10-10-8-4

(18)

4-2-16-28 (18)

74-69-76-

58 (145)

50-54-39-

(93)

SS

SS

SS

SS

SS

Bottom of hole at 14.0 feet.

83

75



BUREAU VERITAS NORTH AMERICA, INC.

308 N.W. 170 Street North Miami Beach Telephone: 786-248-3180 BORING NUMBER B-79
PAGE 1 OF 1

VERITAS Fax: 786-248-3 CLIENT Town of Medley	190	DDO IEO	TNAME	EI OC	DD MITIGAT	LIUN C	:DANT		
PROJECT NUMBER _21008-1	144890								
	COMPLETED 6/15/08	PROJECT LOCATION NW 87th to 95th Ave & 90th to 106th St, GROUND ELEVATION Not furnished HOLE SIZE 2 7/8-in							
	Sureau Veritas NA								
					LING _4.0 f	ft			
	CHECKED BY _V. Lopez								
NOTES Drill Equipment= B-4			TER DRI						
			Щ	%		j	 -	▲ SPT N VALUE ▲	
OEPTH (ff) (RAPHIC LOG			SAMPLE TYPE NUMBER	RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	20 40 60 80 PL MC LL	
DEPTH (ff) SRAPHIC LOG	MATERIAL DESCRIPTION		PLE	Rai	NAL VAL	(sf)	<u> S</u>	20 40 60 80	
			ΨŽ	REC ("öz	ပ္စ	ᄶ	☐ FINES CONTENT (%)	
0.0			0)	<u> </u>				20 40 60 80	
Asphalt (1.5-ii	nches) edium grained SAND with LIMESTONE FRA	AGMENTS	1 /						
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				83	(66)				
7000			/ \						
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2.5			\/		18-22-20-				
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Tan SANDY L	LIMESTONE		\ /						
5.0					22-22-13-				
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+++			[/ \]		(33)				
Brown SII TV	SAND, some Limestone Fragments		 		-	-			
	22, come Emissione i raginente								
				50	8-5-5-10				
7.5			4		(10)				
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Tan SANDY L	LIMESTONE					1			
1			\/		15-20-18-				
				75	18 (38)) }	
			[/\]		(30)				
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			Λ						
				75	 11-17-9-11				
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+++			/ \						
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+++			SS 7	75	16-13-9-9 (22)				
			/\ ′		(22)				
			/ \						
	Bottom of hole at 14.0 feet.								
			I	1	1	I	1	1 : : : :	



June 23, 2008

Town of Medley 7331 N.W. 74th Street Medley, Florida 33166

Attention:

The Honorable Ramon Rodriguez

Reference:

Percolation Tests and Asphalt Cores

Flood Mitigation Grant

Medley, Florida Project No. 144891

Gentlemen:

Enclosed herewith please find Percolation Test Reports Nos. P-1 to P-92, performed at the above referenced project. The tests were performed in general accordance with the South Florida Water Management District - Usual Open Hole Test Procedures. Since Standard Penetration Tests (SPT) were also performed (Submitted under separate cover). The percolation test numbers correspond to the SPT test numbers.

Thirty three percolation tests and thirty one asphalt cores were scheduled for the project. This report is for the first twenty five percolation tests and twenty three asphalt cores performed to date. The Asphalt core report is attached to this letter.

The results of the tests and remarks regarding the tests procedure is shown on the enclosed reports. The hydraulic conductivities for the "Usual Open Hole" test at the requested locations are as follows:

TEST NUMBER	TEST DEPTH	HYDRAULIC CONDUCTIVITY (CFS/FT ² - FT HEAD)
P-1	15 feet	$K = 6.74 \times 10^{-5}$
P-5	15 feet	$K = 6.54 \times 10^{-3}$
P-6	15 feet	$K = 1.75 \times 10^{-4}$
P-9	15 feet	$K = 3.28 \times 10^{-4}$
P-12	15 feet	$K = 1.95 \times 10^{-4}$
P-14	15 feet	$K = 7.50 \times 10^{-5}$
P-17	15 feet	$K = 4.04 \times 10^{-4}$
P-20	15 feet	$K = 8.57 \times 10^{-3}$
P-25	15 feet	$K = 2.63 \times 10^{-3}$
P-29	15 feet	$K = 2.44 \times 10^{-3}$
P-32	15 feet	$K = 7.88 \times 10^{-3}$
P-33	15 feet	$K = 2.70 \times 10^{-5}$
P-35	15 feet	$K = 2.25 \times 10^{-3}$

P-38	15 feet	$K = 9.15 \times 10^{-4}$
P-41	15 feet	$K = 9.81 \times 10^{-3}$
P-44	15 feet	$K = 6.86 \times 10^{-3}$
P-49	15 feet	$K = 5.43 \times 10^{-3}$
P-51	15 feet	$K = 5.60 \times 10^{-3}$
P-56	15 feet	$K = 4.90 \times 10^{-3}$
P-58	15 feet	$K = 9.63 \times 10^{-3}$
P-61	15 feet	$K = 9.81 \times 10^{-3}$
P-66	15 feet	$K = 1.22 \times 10^{-3}$
P-76	15 feet	$K = 7.70 \times 10^{-5}$
P-9 1	15 feet	$K = 3.15 \times 10^{-4}$
P-92	15 feet	$K = 7.36 \times 10^{-3}$

Bureau Veritas appreciates the opportunity to provide our engineering services on this project. If you have any questions regarding these tests or if we may be of further assistance, please contact the undersigned.

Respectfully submitted,

BUREAU VERITAS NORTH AMERICA, INC.

Victor R. Lopez, E.I.

Project Engineer

Alfredo Budik, P.E.

Vice President

Florida License No. 43884

Efrundo Brack 6/3/08

Distribution:

2 - Client

1 - Westhorp & Associates, Inc.

Enclosures:

Percolation Test Reports Nos. P-1 to P-92 (25 Tests)

Asphalt Core Report (23 Tests)

Test Location Sketch





REPORT OF: ASPHALT CORE

PROJECT No.:144891

CLIENT:

TOWN OF MEDLEY

REPORT No.:

PROJECT: FLOOD MITIGATION GRANT

DATE:

6/23/08

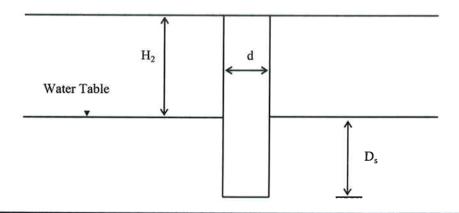
ADDRESS: NW 87th to 95th Ave. & 90th to 106th St., Medley, Florida

SUMMARY

BORING	ASPHALT (Inch.)	BASE (Inch.)	SUBBASE (Inch.)
P-1	1	8	39
P-5	1	6	35
P-6	1/2	8	39
P-9	1-1/4	6	17
P-12	1-1/8	6	40
P-14	1/2	6	48
P-17	1/2	8	39
P-20	1	12	48
P-25	1	10	37
P-29	1-1/2	11	36
P-32	3/4	7	40
P-33	1/2	6	41
P-35	1/2	6	29
P-38	3	5	28
P-41	1-1/4	7	16
P-44	1-1/2	10	13
P-49	3/4	8	39
P-51	2-3/4	8	13
P-56	3	8	37
P-58	5-3/4	7	35
P-61	3-1/4	10	34
P-66	0	0	48
P-76	1-1/2	8	39

Checked by:

Main: (305) 651-8483 Fax: (305) 651-4460



HYDRAULIC CONDUCTIVITY

K = Hydraulic Conductivity = $4Q/[\pi d(2H_2^2 + 4H_2D_S + H_2d)]$

6.74E-05 CFS/FT²-FT HEAD

Q = Average Flow Rate =

0.006684 CFS

d = Diameter of Test Hole =

0.5 feet

 H_2 = Head on Water Table =

5.0 feet

D_s = Saturated Hole Depth =

10.0 feet

TEST LOCATION:

See attached sketch

TEST ELEVATION:

Not Furnished

DEPTH TO WATER TABLE :

5.0' Below Existing Grade

DEPTH OF TEST HOLE:

15.0' Below Existing Grade

AVERAGE FLOW RATE:

3.0 GPM

SOIL PROFILE:

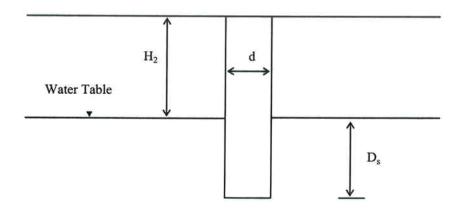
0.0' - 4.0'

Tan fine to medium grained sand with limestone fragments

4.0' - 15.0'

Tan sandy limestone, some silt

PERCOLATION	ON TEST	Test Date 06/07/08	Project No. 144891	Test No. P-1	Tested By LG	Checked by:
E STE	BUREAU VER	Town of Medley				
	Geotechnical, E	Flood Mitigation Grant				
1828	Mater	NW 87	th to 95th Avenue &			
BUREAU	10125	NW 9	0th to 106th Street			
VERITAS	Telephone: (305) 651-8483 Facsimile: (305) 651-4460				M	ledley, Florida



HYDRAULIC CONDUCTIVITY

K = Hydraulic Conductivity = $4Q/[\pi d(2H_2^2 + 4H_2D_S + H_2d)]$

6.54E-03 CFS/FT²-FT HEAD

Q = Average Flow Rate =

0.116302 CFS

d = Diameter of Test Hole =

0.5 feet

 H_2 = Head on Water Table =

1.0 feet

D_s = Saturated Hole Depth =

10.7 feet

TEST LOCATION:

See attached sketch

TEST ELEVATION:

Not Furnished

DEPTH TO WATER TABLE :

4.3' Below Existing Grade

DEPTH OF TEST HOLE:

15.0' Below Existing Grade

AVERAGE FLOW RATE:

52.2 GPM

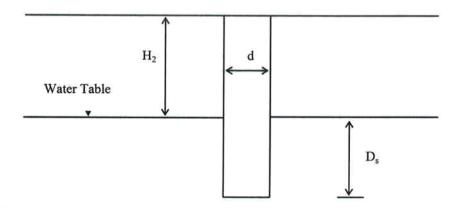
SOIL PROFILE:

0.0' - 3.5' Tan fine to medium grained sand with limestone fragments

3.5' - 4.0' Dark brown silty sand with organics

4.0' - 15.0' Tan sandy limestone

PERCOLATION TEST		Test Date	Project No.	Test No.	Tested By	Checked by:
		06/09/08	144891	P-5	LG	h
ET VE	BUREAU VER	Town of Medley				
	Geotechnical, E	Flood Mitigation Grant				
	Mater	NW 87	th to 95th Avenue &			
BUREAU	BUREAU 10125 NW 116th Way, Medley, FL					Oth to 106th Street
VERITAS	Telephone: (305) 651-8483 Facsimile: (305) 651-4460				M	ledley, Florida



HYDRAULIC CONDUCTIVITY

 $K = Hydraulic Conductivity = 4Q/[\pi d(2H_2^2 + 4H_2D_S + H_2d)]$

1.75E-04 CFS/FT²-FT HEAD

Q = Average Flow Rate = 0.020052 CFS

d = Diameter of Test Hole = 0.5 feet

 H_2 = Head on Water Table = 6.0 feet

 D_s = Saturated Hole Depth = 9.0 feet

TEST LOCATION: See attached sketch
TEST ELEVATION: Not Furnished

DEPTH TO WATER TABLE:

6.0' Below Existing Grade
DEPTH OF TEST HOLE:

15.0' Below Existing Grade

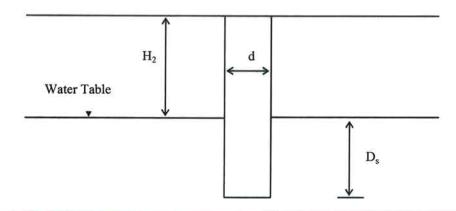
AVERAGE FLOW RATE: 9.0 GPM

SOIL PROFILE:

0.0' - 4.0' Tan fine to medium grained sand with limestone fragments

4.0' - 15.0' Tan sandy limestone, some silt

PERCOLA	ATION TEST	Test Date 06/07/08	Project No. 144891	Test No. P-6	Tested By LG	Checked by:	
BUREAU VERITAS NORTH AMERICA, INC.						own of Medley	
	Geotechnical, Environmental and Construction					Flood Mitigation Grant	
	Mater	rials Testing En	NW 87	th to 95th Avenue &			
BUREAU	U B E A U 10125 NW 116th Way, Medley, FL					00th to 106th Street	
VERITAS					N	ledley, Florida	



HYDRAULIC CONDUCTIVITY

 $K = Hydraulic Conductivity = 4Q/[\pi d(2H_2^2 + 4H_2Ds + H_2d)]$

3.28E-04 CFS/FT²-FT HEAD

Q = Average Flow Rate = 0.032529 CFS

d = Diameter of Test Hole = 0.5 feet

 H_2 = Head on Water Table = 5.0 feet

 D_s = Saturated Hole Depth = 10.0 feet

TEST LOCATION: See attached sketch

TEST ELEVATION: Not Furnished

DEPTH TO WATER TABLE: 5.0' Below Existing Grade
DEPTH OF TEST HOLE: 15.0' Below Existing Grade

AVERAGE FLOW RATE: 14.6 GPM

SOIL PROFILE:

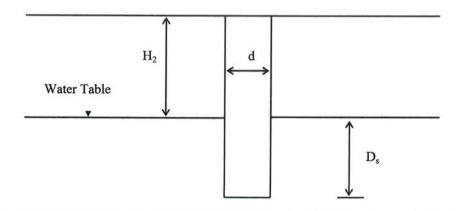
0.0' - 2.0' Tan fine to medium grained sand with limestone fragments

2.0' - 4.0' Brown silty sand

4.0' - 5.0' Dark brown silty sand with Organics

5.0' - 15.0' Tan sandy limestone

PERCOLA"	PERCOLATION TEST		Project No.	Test No.	Tested By	Checked by:
		06/08/08	144891	P-9	LG	43
BUREAU VERITAS NORTH AMERICA, INC.						own of Medley
	Geotechnical, E	Flood Mitigation Grant				
	Mater	rials Testing En	NW 87	th to 95th Avenue &		
BUREAU	10125 NW 116th Way, Medley, FL					Oth to 106th Street
VERITAS	Telephone: (305	Telephone: (305) 651-8483 Facsimile: (305) 651-4460				ledley, Florida



HYDRAULIC CONDUCTIVITY

K = Hydraulic Conductivity = $4Q/[\pi d(2H_2^2 + 4H_2Ds + H_2d)]$

1.95E-04 CFS/FT²-FT HEAD

Q = Average Flow Rate =

0.022280 CFS

d = Diameter of Test Hole =

0.5 feet

H₂ = Head on Water Table =

6.0 feet

D_s = Saturated Hole Depth =

9.0 feet

TEST LOCATION:

See attached sketch

TEST ELEVATION:

Not Furnished

DEPTH TO WATER TABLE :

DEPTH OF TEST HOLE :

6.01 **Below Existing Grade**

15.0' **Below Existing Grade**

AVERAGE FLOW RATE:

10.0 **GPM**

SOIL PROFILE:

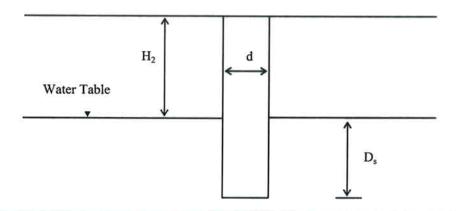
0.0' - 4.0' Tan fine to medium grained sand with limestone fragments

4.0' - 6.0' Brown silty sand with Organics

6.0' - 10.0' Brown fine grained sand

10.0' - 15.0' Brown sandy limestone

PERCOLA	ATION TEST	06/08/08	144891	P-12	LG	Checked by:
E STE	BUREAU VER	Town of Medley				
	Geotechnical, E	Flood Mitigation Grant				
	Mater	NW 87	th to 95th Avenue &			
BUREAU	10125	NW 9	0th to 106th Street			
VERITAS	Telephone: (305) 651-8483 Facsimile: (305) 651-4460				M	ledley, Florida



HYDRAULIC CONDUCTIVITY

 $K = Hydraulic Conductivity = 4Q/[\pi d(2H_2^2 + 4H_2Ds + H_2d)]$

7.50E-05 CFS/FT²-FT HEAD

Q = Average Flow Rate = 0.008021 CFS

d = Diameter of Test Hole = 0.5 feet

 H_2 = Head on Water Table = 5.5 feet

 D_s = Saturated Hole Depth = 9.5 feet

TEST LOCATION:

See attached sketch

TEST ELEVATION:

Not Furnished

DEPTH TO WATER TABLE :

5.5' Below Existing Grade

DEPTH OF TEST HOLE:

15.0' Below Existing Grade

AVERAGE FLOW RATE:

3.6 GPM

SOIL PROFILE:

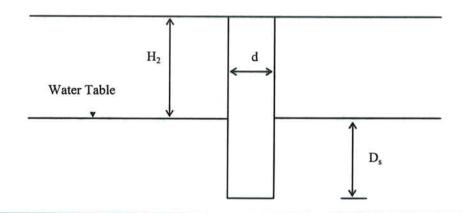
0.0' - 6.0' Tan fine to medium grained sand with limestone fragments

6.0' - 8.0' Dark brown silty sand with Organics

8.0' - 10.0' Brown sandy limestone

10.0' - 15.0' Tan sandy limestone

PERCOLA	ATION TEST	Test Date 06/08/08	Project No. 144891	Test No. P-14	Tested By LG	Checked by:	
DE UVER	BUREAU VER	Town of Medley					
	Geotechnical, Environmental and Construction Materials Testing Engineers					Flood Mitigation Grant	
						NW 87th to 95th Avenue &	
BUREAU	10125	NW 116th Way, Med	NW 9	0th to 106th Street			
VERITAS	Telephone: (305	6) 651-8483 Facsimil	M	edley, Florida			



HYDRAULIC CONDUCTIVITY

 $K = Hydraulic Conductivity = 4Q/[\pi d(2H_2^2 + 4H_2Ds + H_2d)]$

4.04E-04 CFS/FT²-FT HEAD

0.040104 CFS

Q = Average Flow Rate =

d = Diameter of Test Hole = 0.5 feet

 H_2 = Head on Water Table = 5.0 feet

D_s = Saturated Hole Depth = 10.0 feet

TEST LOCATION:

See attached sketch

TEST ELEVATION:

Not Furnished

DEPTH TO WATER TABLE :

5.01

GPM

DEPTH OF TEST HOLE:

Below Existing Grade

15.0' **Below Existing Grade**

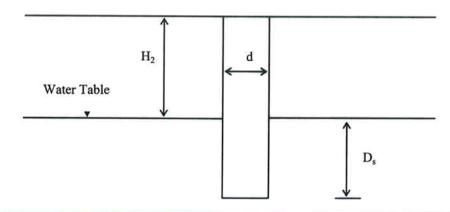
AVERAGE FLOW RATE: 18.0

SOIL PROFILE:

0.01 - 4.01 Tan fine to medium grained sand with limestone fragments

8.0' - 15.0' Tan sandy limestone

PERCOLATION TEST		Test Date	Project No.	Test No.	Tested By	Checked by:	
		06/08/08	144891	P-17	LG	5	
ALUVE S	BUREAU VERITAS NORTH AMERICA, INC.					Town of Medley	
2 × 2 2	Geotechnical, Environmental and Construction Materials Testing Engineers					Flood Mitigation Grant	
						th to 95th Avenue &	
BUREAU	U B E A U 10125 NW 116th Way, Medley, FL					00th to 106th Street	
VERITAS	Telephone: (305) 651-8483 Facsimile: (305) 651-4460				M	ledley, Florida	



HYDRAULIC CONDUCTIVITY

K = Hydraulic Conductivity = $4Q/[\pi d(2H_2^2 + 4H_2D_s + H_2d)]$

8.57E-03 CFS/FT²-FT HEAD

Q = Average Flow Rate = 0.133681 CFS

d = Diameter of Test Hole = 0.5 feet

 H_2 = Head on Water Table = 1.0 feet

 D_s = Saturated Hole Depth = 9.3 feet

TEST LOCATION: See attached sketch

TEST ELEVATION: Not Furnished

DEPTH TO WATER TABLE: 5.7' Below Existing Grade
DEPTH OF TEST HOLE: 15.0' Below Existing Grade

AVERAGE FLOW RATE: 60.0 GPM

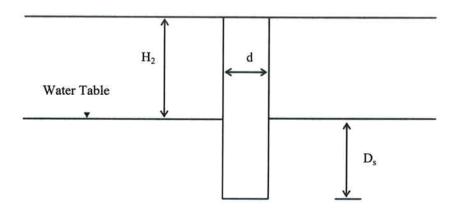
SOIL PROFILE:

0.0' - 6.0' Tan fine to medium grained sand with limestone fragments

6.0' - 8.0' Brown silty sand, some limestone fragments

8.0' - 15.0' Tan sandy limestone

PERCOLATION TEST		Test Date	Project No.	Test No.	Tested By	Checked by:	
		06/09/08	144891	P-20	LG	1/5	
E TE	BUREAU VER	Town of Medley					
	Geotechnical, E	Flood Mitigation Grant					
	Materials Testing Engineers					NW 87th to 95th Avenue &	
BUREAU	10125 NW 116th Way, Medley, FL					Oth to 106th Street	
VERITAS	Telephone: (305) 651-8483 Facsimile: (305) 651-4460					ledley, Florida	



HYDRAULIC CONDUCTIVITY

K = Hydraulic Conductivity = $4Q/[\pi d(2H_2^2 + 4H_2D_S + H_2d)]$

2.63E-03 CFS/FT²-FT HEAD

Q = Average Flow Rate =

0.125326 CFS

d = Diameter of Test Hole =

0.5 feet

 H_2 = Head on Water Table =

3.0 feet

D_s = Saturated Hole Depth =

8.5 feet

TEST LOCATION:

See attached sketch

TEST ELEVATION:

Not Furnished

DEPTH TO WATER TABLE :

6.5' Below Existing Grade

DEPTH OF TEST HOLE:

15.0' Below Existing Grade

AVERAGE FLOW RATE:

56.3 GPM

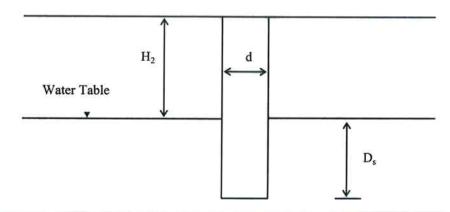
SOIL PROFILE:

0.0' - 4.0' Tan fine to medium grained sand with limestone fragments

4.0' - 6.0' Dark brown silty sand with organics

6.0' - 15.0' Tan sandy limestone

PERCOLATION TEST		06/09/08	Project No. 144891	P-25	LG LG	Checked by:
ET VE	BUREAU VER	Town of Medley				
	Geotechnical, E	Flood Mitigation Grant				
1828		ials Testing En			N.	th to 95th Avenue &
BUREAU						0th to 106th Street
VERITAS	Telephone: (305) 651-8483 Facsimile: (305) 651-4460					ledley, Florida



HYDRAULIC CONDUCTIVITY

K = Hydraulic Conductivity = $4Q/[\pi d(2H_2^2 + 4H_2D_S + H_2d)]$

2.44E-03 CFS/FT²-FT HEAD

0.133681 CFS

Q = Average Flow Rate =

d = Diameter of Test Hole = 0.5 feet

 H_2 = Head on Water Table = 3.0 feet

 D_s = Saturated Hole Depth = 10.0 feet

TEST LOCATION: See attached sketch

TEST ELEVATION: Not Furnished

DEPTH TO WATER TABLE: 5.0' Below Existing Grade
DEPTH OF TEST HOLE: 15.0' Below Existing Grade

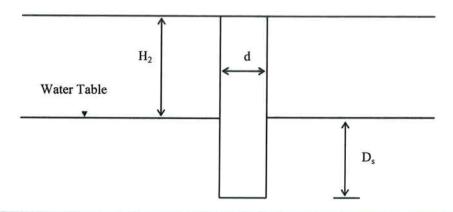
AVERAGE FLOW RATE: 60.0 GPM

SOIL PROFILE:

0.0' - 4.0' Tan fine to medium grained sand with limestone fragments

4.0' - 15.0' Tan sandy limestone

PERCOLA	ATION TEST	06/09/08	Project No. 144891	Test No. P-29	Tested By LG	Checked by:	
W VI	BUREAU VER	Town of Medley					
高 多 先 &	Geotechnical, E	Flood Mitigation Grant					
	Materials Testing Engineers					to 95th Avenue &	
BUREAU	A II 10125 NW 116th Way, Medley, FL					NW 90th to 106th Street	
VERITAS	Telephone: (305) 651-8483 Facsimile: (305) 651-4460				Med	dley, Florida	



HYDRAULIC CONDUCTIVITY

K = Hydraulic Conductivity = $4Q/[\pi d(2H_2^2 + 4H_2D_S + H_2d)]$

7.88E-03 CFS/FT²-FT HEAD

Q = Average Flow Rate =

0.125326 CFS

d = Diameter of Test Hole =

0.5 feet

H₂ = Head on Water Table =

1.0 feet

D_s = Saturated Hole Depth =

9.5 feet

TEST LOCATION:

See attached sketch

TEST ELEVATION:

Not Furnished

DEPTH TO WATER TABLE :

5.5' Below Existing Grade

DEPTH OF TEST HOLE:

15.0' Below Existing Grade

AVERAGE FLOW RATE:

56.3 GPM

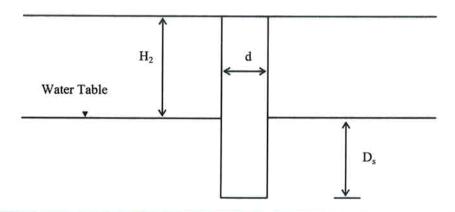
SOIL PROFILE:

0.0' - 4.0' Tan fine to medium grained sand with limestone fragments

4.0' - 6.0' Brown silty sand with limestone fragments

6.0' - 15.0' Tan sandy limestone

PERCOLA	ATION TEST	Test Date 06/10/08	Project No. 144891	Test No. P-32	Tested By LG	Checked by:	
STU VE	BUREAU VER	Town of Medley					
	Geotechnical, Environmental and Construction					Flood Mitigation Grant	
	Mater	ials Testing En	gineers		NW 87	th to 95th Avenue &	
BUREAU	10125 NW 116th Way, Medley, FL					00th to 106th Street	
VERITAS	Telephone: (305) 651-8483 Facsimil	N	ledley, Florida			



HYDRAULIC CONDUCTIVITY

 $K = Hydraulic Conductivity = 4Q/[\pi d(2H_2^2 + 4H_2D_S + H_2d)]$

2.70E-05 CFS/FT²-FT HEAD

Q = Average Flow Rate = 0.002228 CFS

d = Diameter of Test Hole = 0.5 feet

 H_2 = Head on Water Table = 4.0 feet

 D_s = Saturated Hole Depth = 11.0 feet

TEST LOCATION:

See attached sketch

TEST ELEVATION:

Not Furnished

DEPTH TO WATER TABLE :

4.0' Below Existing Grade

DEPTH OF TEST HOLE:

15.0' Below Existing Grade

AVERAGE FLOW RATE:

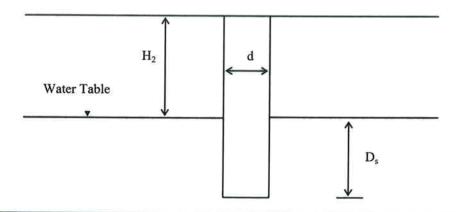
1.0 GPM

SOIL PROFILE:

0.0' - 6.0' Tan fine to medium grained sand with limestone fragments

6.0' - 15.0' Tan sandy limestone

PERCOLATION TEST		1 Test Date 06/21/08	Project No. 144891	Test No. P-33	Tested By LG	Checked by:	
STU VE	BUREAU VER	Town of Medley					
	Geotechnical, E	nvironmental a	and Construction	on	Flood Mitigation Grant		
	Mater	ials Testing En	gineers		NW 87th to 95th Avenue &		
BUREAU	10125 NW 116th Way, Medley, FL					NW 90th to 106th Street	
VERITAS	Telephone: (305) 651-8483 Facsimile: (305) 651-4460			M	fedley, Florida		



HYDRAULIC CONDUCTIVITY

K = Hydraulic Conductivity = $4Q/[\pi d(2H_2^2 + 4H_2D_S + H_2d)]$

2.25E-03 CFS/FT²-FT HEAD

Q = Average Flow Rate =

0.171390 CFS

d = Diameter of Test Hole =

0.5 feet

 H_2 = Head on Water Table =

4.0 feet

D_s = Saturated Hole Depth =

10.0 feet

TEST LOCATION:

See attached sketch

TEST ELEVATION:

Not Furnished

DEPTH TO WATER TABLE :

5.0' Below Existing Grade

DEPTH OF TEST HOLE:

15.0' Below Existing Grade

AVERAGE FLOW RATE:

76.9 GPM

SOIL PROFILE:

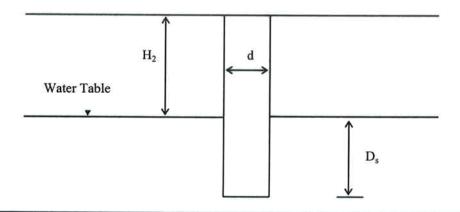
0.0' - 4.0'

Tan fine to medium grained sand with limestone fragments

4.0' - 15.0'

Tan sandy limestone

PERCOL	ATION TEST	Test Date 06/14/08	Project No. 144891	Test No. P-35	Tested By LG	Checked by:	
A STATE OF THE STA	BUREAU VER	Town of Medley					
	Geotechnical, Environmental and Construction					Flood Mitigation Grant	
	Mater	ials Testing Engineers			NW 87th to 95th Avenue &		
BUREAU	10125	NW 116th Way, Med	NW 90th to 106th Street				
VERITAS	Telephone: (305	05) 651-8483 Facsimile: (305) 651-4460			Mo	edley, Florida	



HYDRAULIC CONDUCTIVITY

 $K = Hydraulic Conductivity = 4Q/[\pi d(2H_2^2 + 4H_2D_S + H_2d)]$

9.15E-04 CFS/FT²-FT HEAD

Q = Average Flow Rate =

0.110955 CFS

d = Diameter of Test Hole =

0.5 feet

 H_2 = Head on Water Table =

6.5 feet

D_s = Saturated Hole Depth =

8.5 feet

TEST LOCATION:

See attached sketch

TEST ELEVATION:

Not Furnished

DEPTH TO WATER TABLE :

6.5' Below Existing Grade

DEPTH OF TEST HOLE:

15.0' Below Existing Grade

AVERAGE FLOW RATE:

49.8 GPM

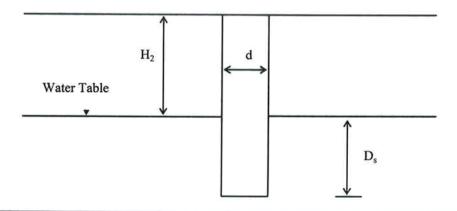
SOIL PROFILE:

0.0' - 3.0' Tan fine to medium grained sand with limestone fragments

3.0' - 4.0' Dark brown silty sand with Organics

8.0' - 15.0' Tan sandy limestone

I PERCOLA	PERCOLATION TEST		Project No.	l est No.	l ested By	Checked by:		
			144891	P-38	JR	My		
ET TE	BUREAU VER	Town of Medley						
	Geotechnical, E	nvironmental a	and Construction	on	Flood Mitigation Grant			
	Mater	rials Testing En	gineers		NW 87th to 95th Avenue &			
BUREAU	E A U 10125 NW 116th Way, Medley, FL					NW 90th to 106th Street		
VERITAS	Telephone: (305	05) 651-8483 Facsimile: (305) 651-4460			M	edley, Florida		



HYDRAULIC CONDUCTIVITY

 $K = Hydraulic Conductivity = 4Q/[\pi d(2H_2^2 + 4H_2Ds + H_2d)]$

9.81E-03 CFS/FT²-FT HEAD

Q = Average Flow Rate =

0.171390 CFS

d = Diameter of Test Hole =

0.5 feet

H₂ = Head on Water Table =

1.0 feet

D_s = Saturated Hole Depth =

10.5 feet

TEST LOCATION:

See attached sketch

TEST ELEVATION:

Not Furnished

DEPTH TO WATER TABLE :

4.5' Below Existing Grade

DEPTH OF TEST HOLE:

15.0' Below Existing Grade

AVERAGE FLOW RATE:

76.9 GPM

SOIL PROFILE:

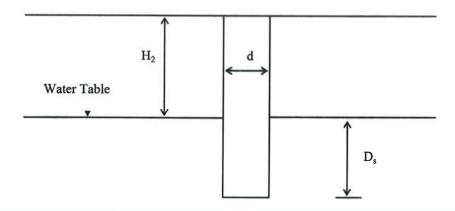
0.0' - 2.0' Brown fine grained sand with limestone fragments

2.0' - 3.0' Dark brown silty sand with organics

3.0' - 4.0' Brown silty sand

4.0' - 15.0' Tan sandy limestone

PERCOLATION TEST		Test Date	Project No.	Test No.	Tested By	Checked by:	
		06/14/08	144891	P-41	LG	10	
	BUREAU VER	Town of Medley					
	Geotechnical, Environmental and Construction					Flood Mitigation Grant	
Materials Testing Engineers					NW 87th to 95th Avenue &		
BUREAU	10125 NW 116th Way, Medley, FL					NW 90th to 106th Street	
VERITAS	Telephone: (305	(305) 651-8483 Facsimile: (305) 651-4460			l N	ledley, Florida	



HYDRAULIC CONDUCTIVITY

K = Hydraulic Conductivity = $4Q/[\pi d(2H_2^2 + 4H_2Ds + H_2d)]$

6.86E-03 CFS/FT²-FT HEAD

Q = Average Flow Rate =

0.125326 CFS

d = Diameter of Test Hole =

0.5 feet

H₂ = Head on Water Table =

1.0 feet

D_s = Saturated Hole Depth =

11.0 feet

TEST LOCATION:

See attached sketch

TEST ELEVATION:

Not Furnished

DEPTH TO WATER TABLE :

4.0' **Below Existing Grade**

DEPTH OF TEST HOLE:

15.0'

Below Existing Grade

AVERAGE FLOW RATE:

56.3

GPM

SOIL PROFILE:

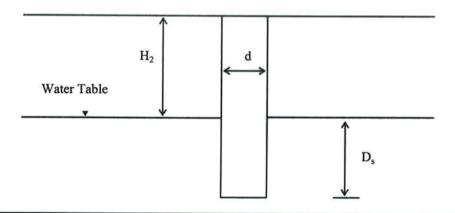
0.0' - 2.0'Tan fine to medium grained sand with limestone fragments

2.0' - 4.0' Dark brown silty sand with organics

4.0' - 5.0' Brown silty sand

5.0' - 15.0' Tan sandy limestone

PERCOLATION TEST		Test Date 06/09/08	Project No. 144891	Test No. P-44	Tested By LG	Checked by:	
GAU VE	BUREAU VERI	Town of Medley					
	Geotechnical, Environmental and Construction					Flood Mitigation Grant	
1828	Materials Testing Engineers					NW 87th to 95th Avenue &	
BUREAU	10125 NW 116th Way, Medley, FL					00th to 106th Street	
VERITAS	Telephone: (305	05) 651-8483 Facsimile: (305) 651-4460			N	ledley, Florida	



HYDRAULIC CONDUCTIVITY

 $K = Hydraulic Conductivity = 4Q/[\pi d(2H_2^2 + 4H_2D_S + H_2d)]$

5.43E-03 CFS/FT²-FT HEAD

Q = Average Flow Rate = 0.139251 CFS

d = Diameter of Test Hole = 0.5 feet

 H_2 = Head on Water Table = 1.5 feet

 D_s = Saturated Hole Depth = 10.0 feet

TEST LOCATION: See attached sketch

TEST ELEVATION:

DEPTH TO WATER TABLE:

DEPTH OF TEST HOLE:

Not Furnished

Below Existing Grade

15.0'

Below Existing Grade

AVERAGE FLOW RATE: 62.5 GPM

SOIL PROFILE:

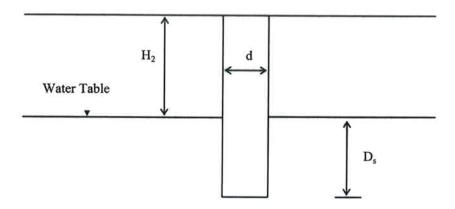
0.0' - 4.0' Tan fine to medium grained sand with limestone fragments

4.0' - 5.0' Dark brown silty sand with organics

5.0' - 8.0' Brown silty sand, some limestone fragments

8.0' - 15.0' Tan sandy limestone

PERCOLATION TEST		Test Date 06/18/08	Project No. 144891	Test No. P-49	Tested By AR	Checked by:	
A VER	BUREAU VERI	Town of Medley					
	Geotechnical, Environmental and Construction					Flood Mitigation Grant	
	Materials Testing Engineers				NW 87th to 95th Avenue &		
BUREAU	10125	NW 116th Way, Me	NW 90th to 106th Street				
VERITAS	Telephone: (305) 651-8483 Facsimi	le: (305) 651-4460	Med	dley, Florida		



HYDRAULIC CONDUCTIVITY

K = Hydraulic Conductivity = $4Q/[\pi d(2H_2^2 + 4H_2D_S + H_2d)]$

5.60E-03 CFS/FT²-FT HEAD

Q = Average Flow Rate =

0.178241 CFS

d = Diameter of Test Hole =

0.5 feet

H₂ = Head on Water Table =

2.0 feet

D_s = Saturated Hole Depth =

9.0 feet

TEST LOCATION:

See attached sketch

TEST ELEVATION:

Not Furnished

DEPTH TO WATER TABLE :

01 51 514

DEPTH OF TEST HOLE:

6.0' Below Existing Grade

ATTER A CE PY OWN B A CE

15.0'

Below Existing Grade

AVERAGE FLOW RATE:

80.0 GPM

SOIL PROFILE:

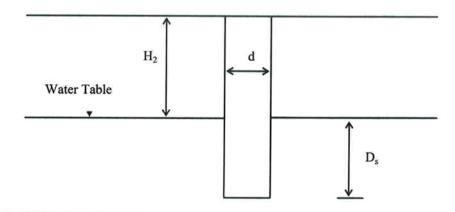
0.0' - 2.0' Tan fine to medium grained sand with limestone fragments

2.0' - 4.0' Light brown silty sand with limestone fragments

4.0' - 7.0' Brown fine grained sand, some limestone fragments

7.0' - 15.0' Tan sandy limestone

PERCOLATION TEST		06/18/08	144891	P-51	JR	Checked by:	
A STATE OF THE STA	BUREAU VER	Town of Medley					
	Geotechnical, E	nvironmental a	and Construction	on	Flood Mitigation Grant		
	Mater	ials Testing Er	gineers	NW 87th to 95th Avenue &			
BUREAU	10125 NW 116th Way, Medley, FL					NW 90th to 106th Street	
VERITAS	Telephone: (305	ne: (305) 651-8483 Facsimile: (305) 651-4460				ledley, Florida	



HYDRAULIC CONDUCTIVITY

K = Hydraulic Conductivity = $4Q/[\pi d(2H_2^2 + 4H_2D_S + H_2d)]$

4.90E-03 CFS/FT²-FT HEAD

Q = Average Flow Rate =

0.155961 CFS

d = Diameter of Test Hole =

0.5 feet

 H_2 = Head on Water Table =

2.0 feet

D_s = Saturated Hole Depth =

9.0 feet

TEST LOCATION:

See attached sketch

TEST ELEVATION:

Not Furnished

DEPTH TO WATER TABLE:

6.0'

GPM

DEPTH OF TEST HOLE:

Below Existing Grade

15.0'

Below Existing Grade

AVERAGE FLOW RATE:

70.0

SOIL PROFILE:

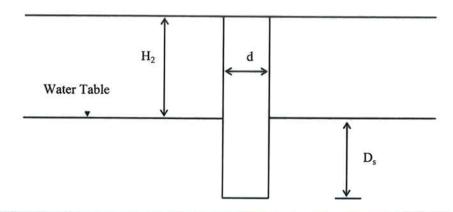
0.0' - 4.0' Tan fine to medium grained sand with limestone fragments

4.0' - 6.0' Dark brown silty sand with Organics

6.0' - 8.0' Brown sand with limestone fragments

8.0' - 15.0' Tan sandy limestone

PERCOLATION TEST		Test Date 06/17/08	Project No. 144891	Test No. P-56	Tested By JR	Checked by:	
A STATE OF THE STA	BUREAU VER	Town of Medley					
	Geotechnical, Environmental and Construction					Flood Mitigation Grant	
	Mater	rials Testing En	ngineers	NW 87th to 95th Avenue &			
BUREAU	10125	NW 116th Way, Med	NW 90th to 106th Street				
VERITAS	Telephone: (305	5) 651-8483 Facsimi	le: (305) 651-4460	Med	lley, Florida		



HYDRAULIC CONDUCTIVITY

K = Hydraulic Conductivity = $4Q/[\pi d(2H_2^2 + 4H_2D_S + H_2d)]$

9.63E-03 CFS/FT²-FT HEAD

Q = Average Flow Rate =

0.171390 CFS

d = Diameter of Test Hole =

0.5 feet

 H_2 = Head on Water Table =

1.0 feet

D_s = Saturated Hole Depth =

10.7 feet

TEST LOCATION:

See attached sketch

TEST ELEVATION:

Not Furnished

DEPTH TO WATER TABLE :

4.3'

DEPTH OF TEST HOLE:

Below Existing Grade

AVERAGE FLOW RATE:

15.0' **Below Existing Grade** 76.9 **GPM**

SOIL PROFILE:

0.0' - 4.0' Tan fine to medium grained sand with limestone fragments

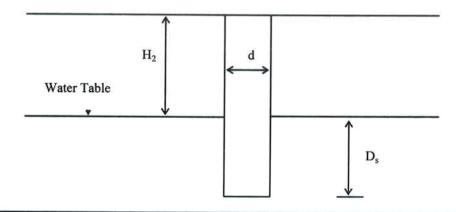
4.0' - 6.0'

Dark brown silty sand with organics

6.0' - 15.0'

Tan sandy limestone

PERCOLATION TEST		Test Date 06/15/08	Project No. 144891	Test No. P-58	Tested By LG	Checked by:	
BUREAU VERITAS NORTH AMERICA, INC.						Town of Medley	
3 × 2 8	Geotechnical, E	nvironmental a	and Construction	Flood Mitigation Grant			
	Mater	ials Testing En	NW 87th to 95th Avenue &				
BUREAU	10125 NW 116th Way, Medley, FL					NW 90th to 106th Street	
VERITAS	Telephone: (305) 651-8483 Facsimile: (305) 651-4460				Medley, Florida		



HYDRAULIC CONDUCTIVITY

 $K = Hydraulic Conductivity = 4Q/[\pi d(2H_2^2 + 4H_2D_S + H_2d)]$

9.81E-03 CFS/FT²-FT HEAD

Q = Average Flow Rate = 0.171390 CFS

d = Diameter of Test Hole = 0.5 feet

 H_2 = Head on Water Table = 1.0 feet

 D_s = Saturated Hole Depth = 10.5 feet

TEST LOCATION: See attached sketch

TEST ELEVATION: Not Furnished

DEPTH TO WATER TABLE: 4.5' Below Existing Grade
DEPTH OF TEST HOLE: 15.0' Below Existing Grade

AVERAGE FLOW RATE: 76.9 GPM

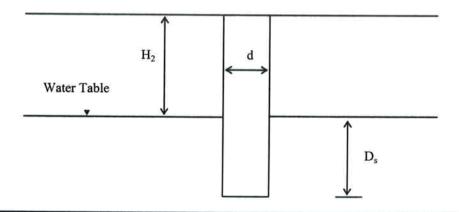
SOIL PROFILE:

0.0' - 2.0' Tan fine to medium grained sand with limestone fragments

2.0' - 4.0' Brown fine grained sand, some limestone fragments

4.0' - 15.0' Tan sandy limestone

PERCOLATION TEST		Test Date 06/15/08	Project No.	Test No.	Tested By	Checked by:
			144891	P-61	LG	43
	BUREAU VER	Town of Medley				
	Geotechnical, E	Flood Mitigation Grant				
	Materials Testing Engineers				NW 87th to 95th Avenue &	
BUREAU	J R E A U 10125 NW 116th Way, Medley, FL					Ooth to 106th Street
VERITAS	Telephone: (305	305) 651-8483 Facsimile: (305) 651-4460			N	Medley, Florida



HYDRAULIC CONDUCTIVITY

K = Hydraulic Conductivity = $4Q/[\pi d(2H_2^2 + 4H_2D_S + H_2d)]$

1.22E-03 CFS/FT²-FT HEAD

Q = Average Flow Rate =

0.139919 CFS

d = Diameter of Test Hole =

0.5 feet

H₂ = Head on Water Table =

6.0 feet

D_s = Saturated Hole Depth =

9.0 feet

TEST LOCATION:

See attached sketch

TEST ELEVATION:

Not Furnished

DEPTH TO WATER TABLE :

6.0 **Below Existing Grade**

DEPTH OF TEST HOLE:

15.0

AVERAGE FLOW RATE:

Below Existing Grade

62.8

GPM

SOIL PROFILE:

0.0' - 4.0' Gray fine to medium grained sand with limestone fragments

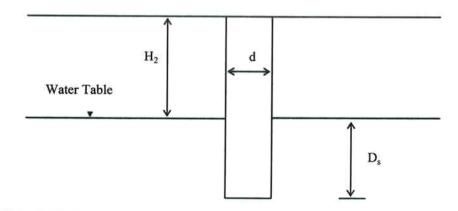
4.0' - 8.0'

Light brown sandy limestone, some silt

8.0' - 15.0'

Tan sandy limestone

PERCOLATION TEST		Test Date	Project No.	Test No.	Tested By	Checked by:	
		06/17/08	144891	P-66	JR	A*	
BUREAU VERITAS NORTH AMERICA, INC.						own of Medley	
	Geotechnical, E	Flood Mitigation Grant					
Materials Testing Engineers					NW 87th to 95th Avenue &		
BUREAU	1010# 1000 400 100 100 100 100 100 100 100 10					Oth to 106th Street	
VERITAS	Telephone: (305	Telephone: (305) 651-8483 Facsimile: (305) 651-4460			N	ledley, Florida	



HYDRAULIC CONDUCTIVITY

 $K = Hydraulic Conductivity = 4Q/[\pi d(2H_2^2 + 4H_2D_S + H_2d)]$

7.70E-05 CFS/FT²-FT HEAD

Q = Average Flow Rate =

0.008801 CFS

d = Diameter of Test Hole =

0.5 feet

 H_2 = Head on Water Table =

6.0 feet

D_s = Saturated Hole Depth =

9.0 feet

TEST LOCATION:

See attached sketch

TEST ELEVATION:

Not Furnished

DEPTH TO WATER TABLE :

DEPTH OF TEST HOLE:

6.0' **Below Existing Grade**

15.0' **Below Existing Grade**

AVERAGE FLOW RATE:

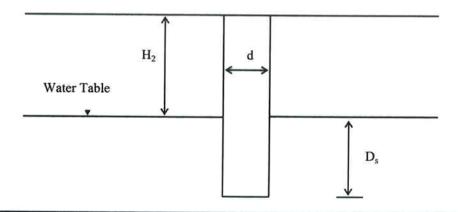
4.0 **GPM**

SOIL PROFILE:

0.0' - 4.0' Tan fine to medium grained sand with limestone fragments

4.0' - 15.0' Tan sandy limestone, some silt

PERCOLA	TION TEST	06/18/08	144891	P-76	AR	Checked by:	
SEU VE	BUREAU VER	Town of Medley					
	Geotechnical, E	nvironmental a	ınd Constructio	Flood Mitigation Grant			
Materials Testing Engineers					NW 87th to 95th Avenue &		
BUREAU	10125 NW 1174 W AS H EL					NW 90th to 106th Street	
VERITAS	Telephone: (305	elephone: (305) 651-8483 Facsimile: (305) 651-4460				edley, Florida	



HYDRAULIC CONDUCTIVITY

K = Hydraulic Conductivity = $4Q/[\pi d(2H_2^2 + 4H_2D_S + H_2d)]$

3.15E-04 CFS/FT²-FT HEAD

Q = Average Flow Rate =

0.024842 CFS

d = Diameter of Test Hole =

0.5 feet

H₂ = Head on Water Table =

3.8 feet

D_s = Saturated Hole Depth =

11.2 feet

TEST LOCATION:

See attached sketch

TEST ELEVATION:

Not Furnished

DEPTH TO WATER TABLE :

3.8' Below Existing Grade

DEPTH OF TEST HOLE:

15.0'

Below Existing Grade

AVERAGE FLOW RATE:

11.2

GPM

SOIL PROFILE:

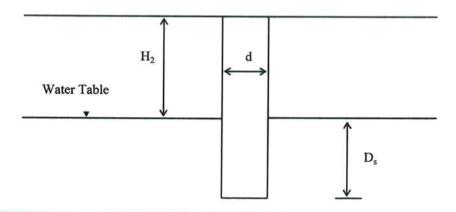
0.0' - 4.0'

Tan fine to medium grained sand with limestone fragments

4.0' - 15.0'

Tan sandy limestone, some silt

PERCOLATION TEST		Test Date	Project No.	Test No.	Tested By	Checked by:	
		06/21/08	144891	P-91	LG	13	
	BUREAU VER	ITAS NORTH	Town of Medley				
	Geotechnical, E	nvironmental a	Flood Mitigation Grant				
	Mater	rials Testing En	NW 87th to 95th Avenue &				
BUREAU	REAU 10125 NW 116th Way, Medley, FL					NW 90th to 106th Street	
VERITAS	Telephone: (305	6) 651-8483 Facsimil	Medley, Florida				



HYDRAULIC CONDUCTIVITY

 $K = Hydraulic Conductivity = 4Q/[\pi d(2H_2^2 + 4H_2D_S + H_2d)]$

7.36E-03 CFS/FT²-FT HEAD

Q = Average Flow Rate = 0.128534 CFS

d = Diameter of Test Hole = 0.5 feet

 H_2 = Head on Water Table = 1.0 feet

D_s = Saturated Hole Depth = 10.5 feet

TEST LOCATION:

See attached sketch

TEST ELEVATION:

Not Furnished

DEPTH TO WATER TABLE:

4.5' **Below Existing Grade**

DEPTH OF TEST HOLE:

15.0' **Below Existing Grade**

AVERAGE FLOW RATE:

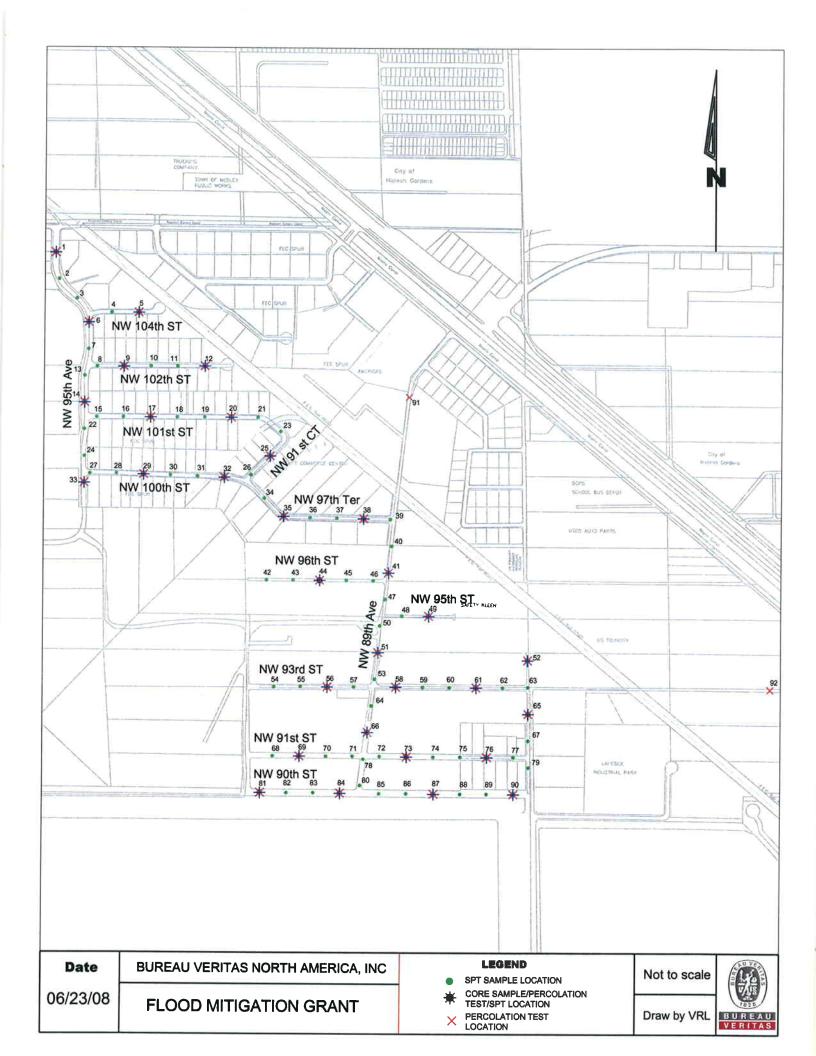
57.7 **GPM**

SOIL PROFILE:

0.0' - 4.0' Tan fine to medium grained sand with limestone fragments

4.0' - 15.0' Tan sandy limestone

PERCOLATION TEST		Test Date	Project No.	Test No.	Tested By	Checked by:	
		06/21/08	144891	P-92	LG	A	
E CONTRACTOR OF THE PARTY OF TH	BUREAU VERITAS NORTH AMERICA, INC.					Town of Medley	
2 P 4 2	Geotechnical, Environmental and Construction					Flood Mitigation Grant	
	Materials Testing Engineers					NW 87th to 95th Avenue &	
BUREAU	10125	NW 116th Way, Med	NW 90th to 106th Street				
VERITAS	Telephone: (305	6) 651-8483 Facsimil	Medley, Florida				





GEOTECHNICAL ENGINEERING | FOUNDATION ENGINEERING | GEOTECHNICAL TESTING | SOIL BORINGS/MONITORING WELLS | CONSTRUCTION MATERIALS TESTING

February 26, 2015 Revised May 5, 2015 Revised March 17, 2016

Mr. Barton Fye, P.E. **Kimley Horn** 1221 Brickell Avenue, Suite 400 Miami, Florida 33131

Re: Addendum No. 1 to Pavement Design Recommendations Report

Medley Flood Mitigation Project

Medley, Florida

NV5 Project No. 146678

Dear Mr. Fye:

As requested, NV5, Inc. reviewed the subsurface exploration performed by Bureau Veritas North America, Inc. in 2008 to provide site preparation recommendations in the areas where compressible organics and silty sands were encountered. The areas where this condition was encountered are:

- NW 95th Avenue, between NW 100th Street and NW 104th Street
- NW 102nd Street between NW 95th Avenue and FEC Railroad
- NW 101st Street between NW 95th Avenue and FEC Railroad
- NW 100th Street between NW 95th Avenue and FEC Railroad
- NW 91st Court between NW 100th Street and FEC Railroad
- NW 97th Terrace between NW 91st Court and NW 89th Avenue
 NW 90th Avenue NW 90th Court and NW 89th Avenue
- NW 89th Avenue between NW 95th Street and FEC Railroad
- NW 93rd Street between 300' east of NW 89th Avenue and end of street to the west

In order to reduce the potential for localized settlements in areas where the compressible organics and silty materials are present NV5 recommends the use of a geogrid. NV5 understands that the roads will be raised approximately 18 inches above the existing grade. Drawing No. 1 attached to this addendum highlights the areas where the geogrid is recommended. The geogrid is typically used to better distribute the applied loads to a bigger area in order to reduce the settlements. Settlements are expected to be on the order of ½ to 1 inch. Drainage flow should account for the expected differential settlement with the areas excavated and backfilled with acceptable fill such as the catch basins. The following paragraphs should be incorporated into the report prepared by NV5 dated November 10, 2014.

March 17, 2016 Page 2 NV5 Project No.: 146678

SITE PREPARATION RECOMMENDATIONS

- 1. Geotechnical site preparation for areas where silty sand and/or organics were encountered within the top 4 feet of the existing grade should consist of placement of a biaxial geogrid such as Tensar BX1500 or equivalent at least 11 inches below the proposed finish grade.
- 2. The geogrid should be placed under the roadway and extend at least three (3) feet beyond the edge of the roadway. Overlapping should be as recommended by the manufacturer. The contractor should spread the geogrid so it is wrinkle-free prior to placement of the overburden soils.
- 3. For soils above the limestone the slope should be 1.5 Horizontal to 1 Vertical. Cuts in the limestone are expected to stand vertical at least for a short period of time during construction.
- 4. Prior to placement of any fill, the subgrade must be proofrolled using a heavy duty vibratory roller (Dynapac CA25 or equivalent).
- 5. Field Density Tests must be performed to verify the degree of compaction obtained with the vibratory equipment. One (1) field density test should be made approximately every 100 linear feet for each 12-inch lift of compacted backfill.

We appreciate the opportunity to be of service. In the event you have questions about information in this report, please contact the undersigned at 305.666.3563.

Sincerely,

NV5, Inc.

Alfredo Budik, P.E. Senior Engineer

Florida License No. 43884

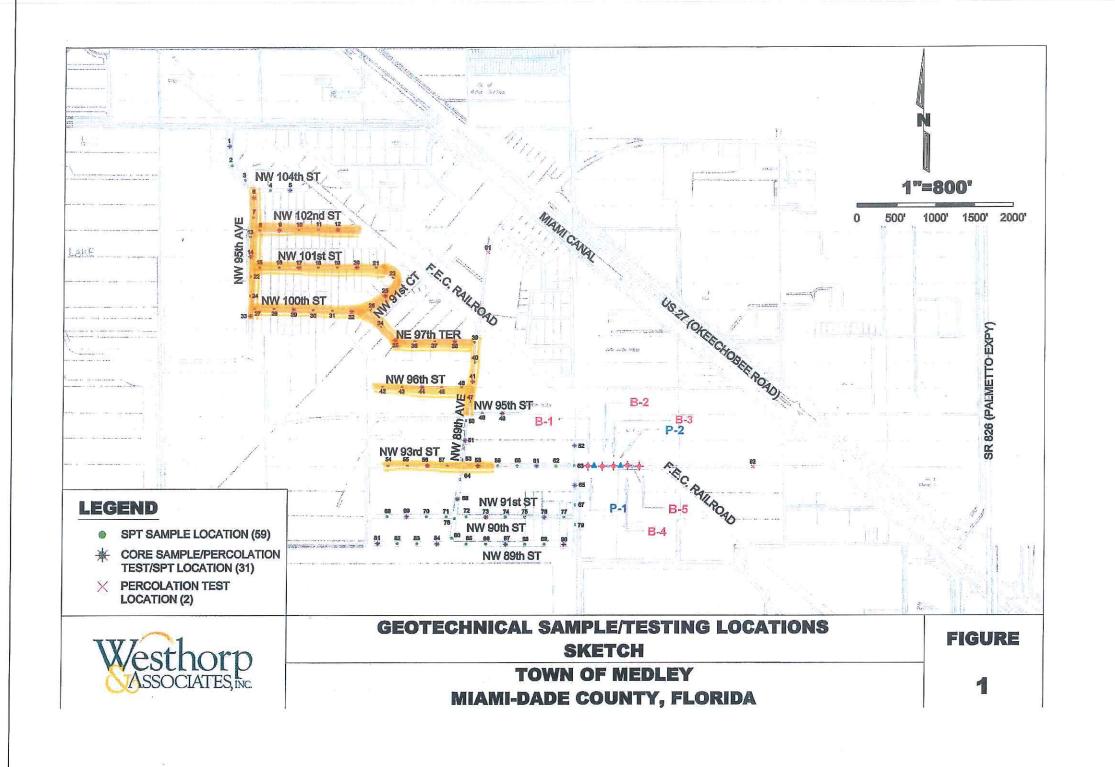
Distribution: Copy via Email

Copy to NV5 File

Attachments: Drawing No.1 – Site Vicinity Map and Test Location Plan

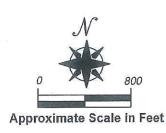
f:\doc\NV5 reports\ 146678 Kimley Horn - Addendum No. 1 to Pavement Recommendations Report - Medley Flood Mitigation GEOGRID 03-17-16.doc







Site Vicinity Map



LEGEND:



- Soil Boring Test Location (2014)



- Drainage Test Location (2014)

NOTES:

- 1. Test locations shown are approximate.
- 2. Test location symbols are not to scale.
- Base drawing taken Westhorp & Associates drawing figure 1



DRAWING TITLE: Site Vicinity Map & Test Location Plan

PROJECT NAME: Medley Flood Mitigation

PROJECT LOCATION: Medley , Florida

Flood Mitigation

PROJECT NO: 146678

DATE: 11/05/14

DWG NO:

CKD BY:

DWN BY: WO