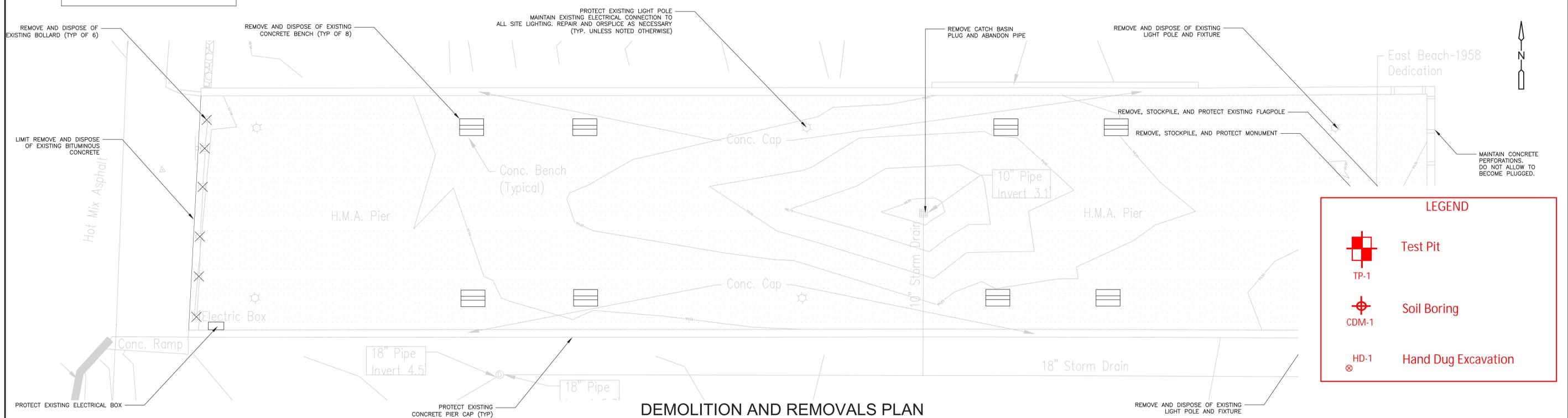


EXISTING CONDITIONS PLAN

LEGEND:

- REMOVE AND DISPOSE OF EXISTING BITUMINOUS CONCRETE PAVEMENT



DEMOLITION AND REMOVALS PLAN

LEGEND

- Test Pit
TP-1
- Soil Boring
CDM-1
- Hand Dug Excavation
HD-1

Competed Test Pit and Boring Location Plan



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: N.WATKINS
 DRAWN BY: N.WATKINS
 SHEET CHK'D BY: K.DRAKE
 CROSS CHK'D BY: K.DRAKE
 APPROVED BY: K.DRAKE
 DATE: JAN. 2014



CITY OF NEW BEDFORD MASSACHUSETTS
 FISHERMANS MEMORIAL

EXISTING CONDITIONS, DEMOLITION, AND REMOVALS PLAN

PROJECT NO. 0309-101012
 FILE NAME: CSTP.L001
 SHEET NO. L-1
 ACC. NO.



Boring Number: CDM-1

Client: City of New Bedford **Project Name:** Fisherman's Memorial Pier
Project Location: New Bedford, Massachusetts **Project Number:** 0309-101012

Drilling Contractor/Driller: NHB / Jason Stokes **Surface Elevation (ft.):** 99.25
Drilling Method/Casing/Core Barrel Size: Drive and Wash / 4 in / NA **Total Depth (ft.):** 21.5
Hammer Weight/Drop Height/ Spoon Size: 140 lb / 30 in / 2 in O.D. **Depth to Initial Water Level (ft):**
 Bore Hole Location: See Boring Location Plan **Depth Date Time**
 7.5 2/28/2014 13:05
Abandonment Method: Backfilled with cuttings & stone.
Logged By: R.Jones
Drilling Date: Start: 2/28/2014 **End:** 2/28/2014

Elev. Depth (ft)	Sample Type	Sample Number	Sample Length (in)	Blows per 6 inches	Sample Recovery (in)	N-Value	Graphic Log	Strata	Material Description	Remarks
99.30								ROCK FILL	7 inches Asphalt Moist, granite COBBLES and BOULDERS, little fine to coarse gravel, little fine to coarse sand, trace silt - Test pits conducted 2/26/2014	Roller bit from 0 to 8.5 feet bgs through cobbles and boulders.
94.35										
89.310	SS	S-1	24	48 47 15 14	5	62		GRAVELLY SAND	Wet, very dense, gray-brown, fine to coarse SAND and fine to coarse GRAVEL, trace silt	Fractured coarse gravel pieces in tip of spoon.
	SS	S-2	24	12 27 47 39	12	74		Wet, very dense, mottled gray-brown-orange, fine to coarse SAND, some fine to coarse gravel, little silt		
	SS	S-3	24	30 48 40 33	17	88		Wet, very dense, gray-brown, fine to coarse SAND and fine to coarse GRAVEL, little silt	Gravel includes fractured granite.	
84.315	SS	S-4	23	44 39 34 50/5"	13	73		Wet, very dense, brown-gray, fine to coarse SAND, some fine to coarse gravel, little silt		
	SS	S-5	24	42 35 29 26	6	64		Wet, very dense, gray, fine to coarse SAND and fine to coarse GRAVEL, little silt		
79.3	SS	S-6	21	26 21	10	66		Wet, very dense, fine to coarse SAND, some clayey silt, little fine to coarse gravel		

BL FISHERMAN'S MEMORIAL PIER - BORING LOGS.GPJ - 5/20/14

Sample Types		Consistency vs Blowcount/Foot				Burmister Classification	
AS - Auger/Grab Sample	HP - Hydro Punch	Granular (Sand):		Fine Grained (Clay):		and	35-50%
CS - California Sampler	SS - Split Spoon	V. Loose: 0-4	Dense: 30-50	V. Soft: <2	Stiff: 8-15	some	20-35%
BQ - 1.5" Rock Core	ST - Shelby Tube	Loose: 4-10	V. Dense: >50	Soft: 2-4	V. Stiff: 15-30	little	10-20%
NQ - 2" Rock Core	WS - Wash Sample	M. Dense: 10-30		M. Stiff: 4-8	Hard: >30	trace	<10%
	GP - Geoprobe					moisture, density, color	

Reviewed by: Andrew Thompson **Date:** 5/20/2014 **Boring Number:** CDM-1



Boring Number: CDM-1

Client: City of New Bedford

Project Name: Fisherman's Memorial Pier

Project Location: New Bedford, Massachusetts

Project Number: 0309-101012

Elev. Depth (ft)	Sample Type	Sample Number	Sample Length (in)	Blows per 6 inches	Sample Recovery (in)	N-Value	Graphic Log	Strata	Material Description	Remarks
79.3 20	SS	S-6	21	45 50/3"	10	66				Fractured granite in tip of spoon.
74.3 25									Boring terminated 21.5 feet below ground surface.	Roller bit advanced from 21 to 21.5 feet bgs at approximate rate of 10 min/ft.
69.3 30										
64.3 35										
59.3 40										
54.3 45										

BL FISHERMAN'S MEMORIAL PIER - BORING LOGS.GPJ - 5/20/14

Boring Number: CDM-1



Boring Number: CDM-2

Client: City of New Bedford **Project Name:** Fisherman's Memorial Pier
Project Location: New Bedford, Massachusetts **Project Number:** 0309-101012

Drilling Contractor/Driller: NHB / Jason Stokes **Surface Elevation (ft.):** 98.6
Drilling Method/Casing/Core Barrel Size: Drive and Wash / 4 in / NA **Total Depth (ft.):** 15
Hammer Weight/Drop Height/ Spoon Size: 140 lb / 30 in / 2 in O.D. **Depth to Initial Water Level (ft):**
Bore Hole Location: See Boring Location Plan **Depth Date Time**
5.5 2/28/2014 15:28
Abandonment Method: Backfilled with cuttings & stone.
Logged By: R.Jones
Drilling Date: Start: 2/28/2014 **End:** 2/28/2014

Elev. Depth (ft)	Sample Type	Sample Number	Sample Length (in)	Blows per 6 inches	Sample Recovery (in)	N-Value	Graphic Log	Strata	Material Description	Remarks
98.6 0									4 inches asphalt	
93.6 ↓								ROCK FILL	Moist, granite COBBLES and BOULDERS, little fine to coarse gravel, little fine to coarse sand, trace silt - Test pits conducted 2/26/2014	Roller bit from 0 to 7.5 feet bgs through cobbles and boulders.
88.6 10	SS	S-1	24	14 12 14 18	15	26		GRAVELLY SAND	Wet, medium dense, mottled orange-brown-gray, fine to medium SAND, some clayey silt, little fine to coarse gravel	
	SS	S-2	24	32 44 48 22	17	92		GRAVELLY SAND	Wet, very dense, mottled orange-brown-gray, fine to coarse SAND, some fine to coarse GRAVEL, some clayey silt	1 inch fine sand and silt layer at 12 feet bgs.
	SS	S-3	5	50/5"	5	>50		GRAVELLY SAND	Wet, very dense, mottled orange-brown-gray, fine to coarse SAND and fine to coarse GRAVEL, trace silt	Fractured granite in tip of spoon.
83.6 15									Boring terminated 15 feet below ground surface.	Roller bit advanced from 14.5 to 15 feet bgs at approximate rate of 10 min/ft.
78.6										

BL FISHERMAN'S MEMORIAL PIER - BORING LOGS.GPJ - 5/20/14

Sample Types	Consistency vs Blowcount/Foot	Burmister Classification
AS - Auger/Grab Sample CS - California Sampler BQ - 1.5" Rock Core NQ - 2" Rock Core HP - Hydro Punch SS - Split Spoon ST - Shelby Tube WS - Wash Sample GP - Geoprobe	Granular (Sand): V. Loose: 0-4 Dense: 30-50 Loose: 4-10 V. Dense: >50 M. Dense: 10-30	Fine Grained (Clay): V. Soft: <2 Stiff: 8-15 Soft: 2-4 V. Stiff: 15-30 M. Stiff: 4-8 Hard: >30

Reviewed by: Andrew Thompson **Date:** 5/20/2014 **Boring Number:** CDM-2

CDM Smith

50 Hampshire Street
 One Cambridge Place
 Cambridge, MA 02135
 (617) 452-6000

Test Pit Log

Client: <u>City of New Bedford</u>	Contractor: <u>City of New Bedford</u>	Test Pit No. <u>TP-1</u>
Project Name: <u>Fisherman's Memorial Pier</u>	Equipment: <u>John Deere 310SJ Backhoe</u>	Logged By: <u>R.Jones</u>
Project Location: <u>E. Rodney French Blvd New Bedford, MA</u>	Depth to Water: <u>NE</u>	Date: <u>2/26/2014</u>
Project Number: <u>0309-101012</u>	Ground Surface EL: <u>99.3 FT</u>	Page: <u>1</u> of <u>1</u>

DEPTH (feet)	SOIL DESCRIPTION	STRATA CHANGE	EXCAV. EFFORT
1	3 inches asphalt top over 4 inches asphalt binder	ROCK FILL	Difficult
1	0.6'- 1.4': dry, gray, subangular to angular 1.5" crushed stone -ROAD BASE- (Sample G-1 collected at 1 foot bgs)		Moderate
2	1.4' - 2.25': Moist, light brown, fine to coarse SAND and fine to coarse GRAVEL, little silt (Sample G -2 collected from 1.5 to 2 feet bgs)		Difficult
3	2.25' - 5': Moist, COBBLES and BOULDERS, some fine to coarse gravel, little fine to coarse sand, trace silt		
4	(Sample G-3 collected from 3 to 5 feet bgs)		
5	Test pit terminated 5 feet bgs due to collapsing walls and excavation difficulty.		
6			
7	- Cobbles and boulders: 30% sub-rounded / 35% sub-angular / 35% angular		
8	- Cobbles and boulders appeared to increase in size with depth and consisted of hard, slightly weathered, fine to medium grained, gray-pink-orange GRANITE		
9	- Discontinuous voids present towards bottom of test pit		
10			
11			
12			

T.P. DIMENSIONS Width (ft): <u>5</u> Length (ft): <u>6</u> Depth (ft): <u>5</u> Vol (ft ³): <u>150</u>	TEST PIT PLAN 	BOULDER SIZES BY PERCENT OF TOTAL COUNT 6 in-12 in: <u>40%</u> 12 in-18 in: <u>30%</u> 18 in-24 in: <u>20%</u> 24 in-30 in: <u>10%</u>
DESCRIPTION and : 35 to 50 % some : 20 to 35 % little : 10 to 20 % trace : 1 to 10 %		EXCAVATION EFFORT E : Easy M : Moderate D : Difficult

Remarks: **Bgs = Below ground surface**
Please see boring logs, pictures, and location plan.

CDM Smith

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 One Cambridge Place
 Cambridge, MA 02135
 (617) 452-6000

Test Pit Log

Client:	City of New Bedford	Contractor:	City of New Bedford	Test Pit No.:	TP-2
Project Name:	Fisherman's Memorial Pier	Equipment:	John Deere 310SJ Backhoe	Logged By:	R.Jones
Project Location:	E. Rodney French Blvd New Bedford, MA	Depth to Water:	NE	Date:	2/26/2014
Project Number:	0309-101012	Ground Surface EL:	99.4 FT	Page:	1 of 1

DEPTH (feet)	SOIL DESCRIPTION	STRATA CHANGE	EXCAV. EFFORT
1	2 inches asphalt top over 3 inches asphalt binder	ROCK FILL	Difficult
1	0.4'- 1.25': dry, black and gray, subangular to angular 1.5" crushed stone with asphalt emulsion -ROAD BASE- (Sample G-1 collected at 1 ft. bgs)		
2	1.25' - 2.5': Moist, brown, fine to coarse GRAVEL, little fine to coarse sand, trace silt (Sample G-2 collected at 2.5 ft. bgs)		
3	2.5' - 4': Moist, COBBLES and BOULDERS, little fine to coarse gravel, little fine to coarse sand, trace silt, trace brick		
4	(Sample G-3 collected at 4 feet bgs)		Difficult
5	Test pit terminated 4 feet bgs due to collapsing of test pit walls.		
6	- Cobbles and boulders: 20% sub-rounded / 50% sub-angular / 30% angular		
7	- Cobbles and boulders appeared to increase in size with depth		
8	- Cobbles and boulders consisted of hard, slightly weathered, fine to medium grained, gray-pink-orange GRANITE		
9	- Electrical trench sand encountered at southern wall of test pit. (Sample G-1 taken at 1 feet bgs)		
10			
11			
12			

T.P. DIMENSIONS Width (ft): 5.5 Length (ft): 6.5 Depth (ft): 4 Vol (ft ³): 143	TEST PIT PLAN 	BOULDER SIZES BY PERCENT OF TOTAL COUNT 6 in-12 in: 55% 12 in-18 in: 25% 18 in-24 in: 15% 24 in-30 in: 5%
		EXCAVATION EFFORT E : Easy M : Moderate D : Difficult

Remarks: **Bgs = Below ground surface**
Please see boring logs, pictures, and location plan.

CDM Smith

50 Hampshire Street
 One Cambridge Place
 Cambridge, MA 02135
 (617) 452-6000

Test Pit Log

Client:	City of New Bedford	Contractor:	City of New Bedford	Test Pit No.:	TP-3
Project Name:	Fisherman's Memorial Pier	Equipment:	John Deere 310SJ Backhoe	Logged By:	R.Jones
Project Location:	E. Rodney French Blvd New Bedford, MA	Depth to Water:	NE	Date:	2/26/2014
Project Number:	0309-101012	Ground Surface EL:	99.4 FT	Page:	1 of 1

DEPTH (feet)	SOIL DESCRIPTION	STRATA CHANGE	EXCAV. EFFORT
1	2.5 inches asphalt top over 5.5 inches asphalt binder	ROCK FILL	Difficult
1	0.7'- 1.5': dry, gray, subangular to angular 1.5" crushed stone with asphalt emulsion -ROAD BASE-		
2	1.5' - 2.5': Moist, fine to coarse SAND and fine to coarse GRAVEL, little silt (Sample G-1 collected from 3 to 5 feet bgs)		
3	2.5' - 5': Moist, COBBLES and BOULDERS, little fine to coarse gravel, little fine to coarse sand, trace silt, trace brick		
4	(Sample G-2 collected at 5 feet bgs)		
5	Test pit terminated 5 feet bgs due to collapsing of test pit walls and excavation difficulty.		
6			
7	- Cobbles and boulders: 20% sub-rounded / 35% sub-angular / 45% angular		
8	- Cobbles and boulders appeared to increase in size with depth		
9	- Cobbles and boulders consisted of hard, slightly weathered, fine to medium grained, gray-pink-orange GRANITE		
10	- Discontinuous voids present towards bottom of test pit		
11			
12			

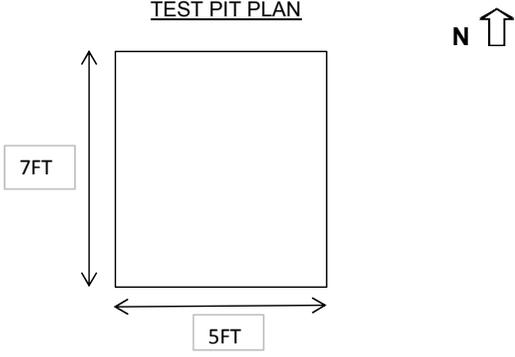
T.P. DIMENSIONS Width (ft): 4.5 Length (ft): 6 Depth (ft): 5 Vol (ft ³): 135	TEST PIT PLAN 	BOULDER SIZES BY PERCENT OF TOTAL COUNT 6 in-12 in: 35% 12 in-18 in: 35% 18 in-24 in: 20% 24 in-30 in: 10%
DESCRIPTION and : 35 to 50 % some : 20 to 35 % little : 10 to 20 % trace : 1 to 10 %		EXCAVATION EFFORT E : Easy M : Moderate D : Difficult

Remarks: **Bgs = Below ground surface**
Please see boring logs, pictures, and location plan.

Test Pit Log

Client: <u>City of New Bedford</u>	Contractor: <u>City of New Bedford</u>	Test Pit No. <u>TP-4</u>
Project Name: <u>Fisherman's Memorial Pier</u>	Equipment: <u>John Deere 310SJ Backhoe</u>	Logged By: <u>R.Jones</u>
Project Location: <u>E. Rodney French Blvd New Bedford, MA</u>	Depth to Water: <u>NE</u>	Date: <u>2/26/2014</u>
Project Number: <u>0309-101012</u>	Ground Surface EL: <u>98.6 FT</u>	Page: <u>1</u> of <u>1</u>

DEPTH (feet)	SOIL DESCRIPTION	STRATA CHANGE	EXCAV. EFFORT
1	2 inches asphalt top over 2 inches asphalt binder 0.3'- 0.7': dry, gray, subangular to angular 1.5" crushed stone with asphalt emulsion ROAD BASE- 0.7' - 1.5': Moist, light brown, fine to coarse SAND, some fine to coarse gravel, little silt	ROCK FILL	Difficult
2	1.5' - 6': Moist, COBBLES, some boulders, little fine to coarse gravel, little sand, trace silt		
3			
4			
5			
6	At 6' greater than 2 foot boulders present, backhoe unable to remove		
7	Test pit terminated 6 feet bgs due to excavation difficulty.		
8	- Cobbles and boulders: 30% sub-rounded / 40% sub-angular / 30% angular		
9	- Cobbles and boulders appeared to increase in size with depth		
10	- Rock consisted of hard, slightly weathered, fine to medium grained, gray-pink-orange GRANITE		
11	- Discontinuous voids present towards bottom of test pit		
12			

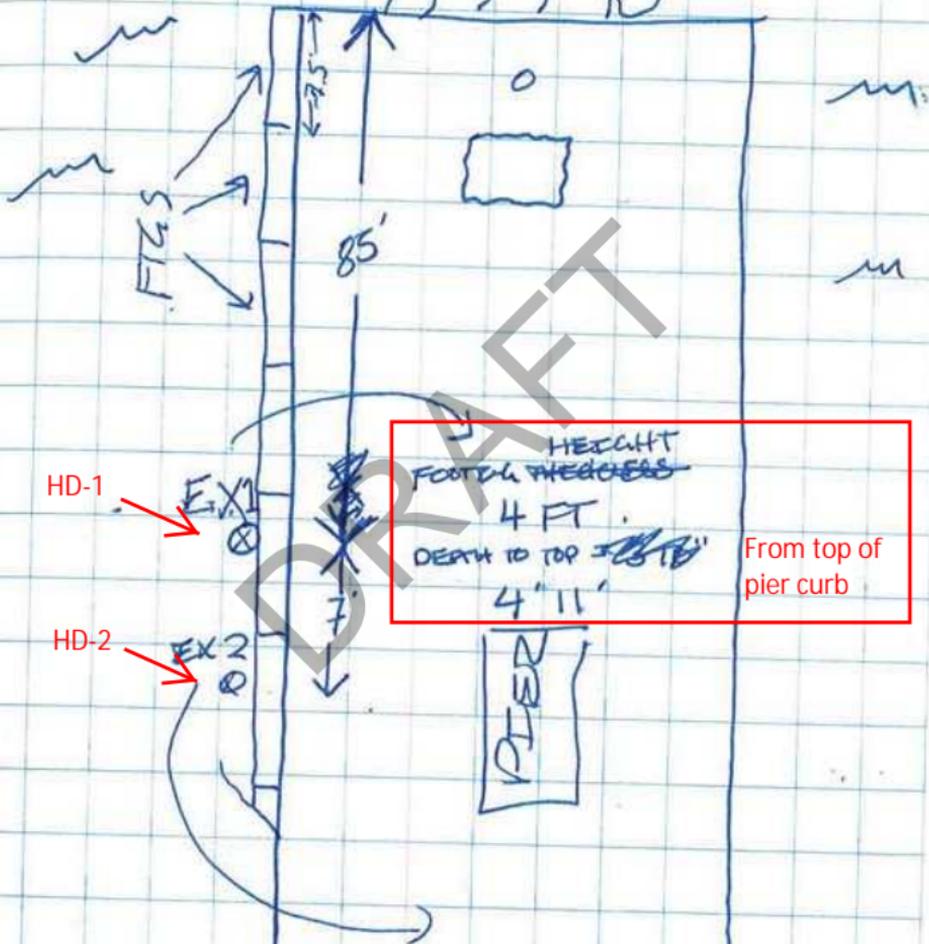
T.P. DIMENSIONS Width (ft): <u>5</u> Length (ft): <u>7</u> Depth (ft): <u>6</u> Vol (ft ³): <u>210</u>	TEST PIT PLAN 	BOULDER SIZES BY PERCENT OF TOTAL COUNT 6 in-12 in: <u>40%</u> 12 in-18 in: <u>30%</u> 18 in-24 in: <u>20%</u> 24 in-30 in: <u>10%</u>
DESCRIPTION and : 35 to 50 % some : 20 to 35 % little : 10 to 20 % trace : 1 to 10 %		EXCAVATION EFFORT E : Easy M : Moderate D : Difficult

Remarks: **Bgs = Below ground surface**
Please see boring logs, pictures, and location plan.

2/28/14 FISHERMAN'S MEMORIAL

FTG BOTTOM SURVEY

137 REFS



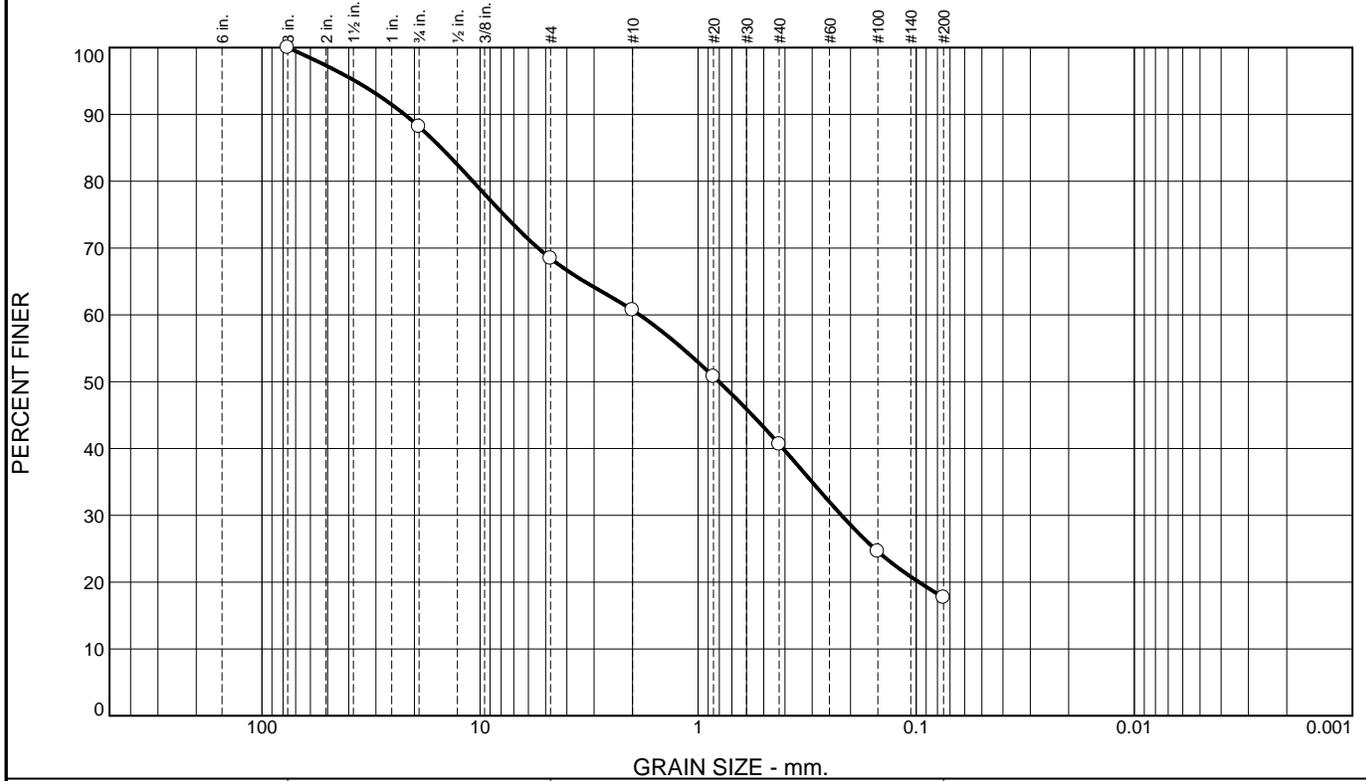
HEIGHT
FOOTING HEIGHTS
4 FT.
DEPTH TO TOP OF EX1
4' 11"

From top of pier curb

FOOTING HEIGHT
3' 8"
DEPTH TO TOP
OF FOOTING
5'

From top of pier curb

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	11.8	19.8	7.7	20.1	22.9	17.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3	100.0		
3/4	88.2		
#4	68.4		
#10	60.7		
#20	50.8		
#40	40.6		
#100	24.6		
#200	17.7		

Material Description

Silty sand with gravel

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= 22.1892 D₈₅= 15.0766 D₆₀= 1.8567
 D₅₀= 0.8036 D₃₀= 0.2201 D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= SM AASHTO=

Remarks
 As received moisture content=9.6%
 Fines classification and description based on
 Visual Manual Procedure ASTM D2488

* (no specification provided)

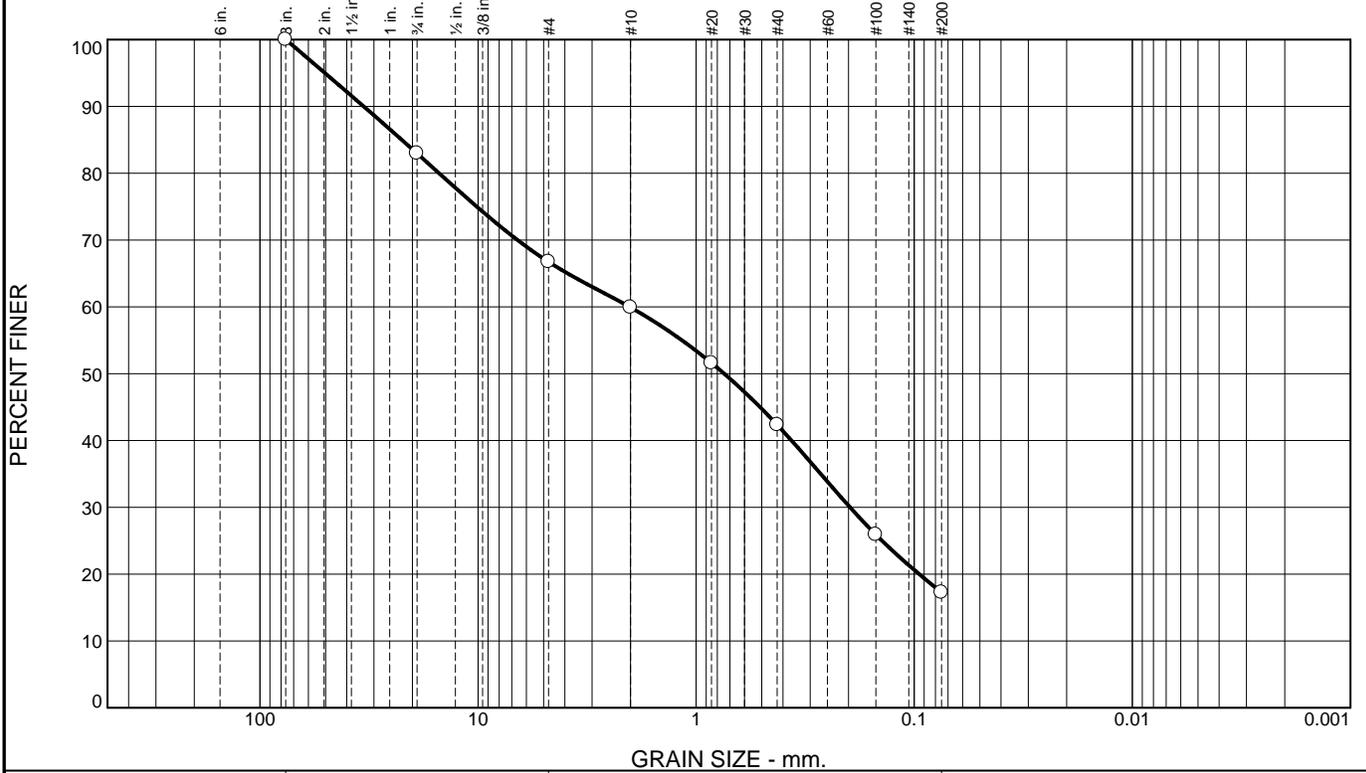
Source of Sample: CDM-1 Depth: 11-13
 Sample Number: S-2

Date: 2/28/2014

CDM Smith Cambridge, Massachusetts	Client: City of New Bedford Project: Fisherman's Memorial Pier Project No: 309-101012
Figure	

Tested By: NE Checked By: AT

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	17.0	16.3	6.8	17.6	25.1	17.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3	100.0		
3/4	83.0		
#4	66.7		
#10	59.9		
#20	51.6		
#40	42.3		
#100	25.9		
#200	17.2		

Material Description

Silty sand with gravel

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 33.4629 D₈₅= 22.3718 D₆₀= 2.0202
D₅₀= 0.7434 D₃₀= 0.1970 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

As received moisture content=10.2%
Fines classification and description based on
Visual Manual Procedure ASTM D2488

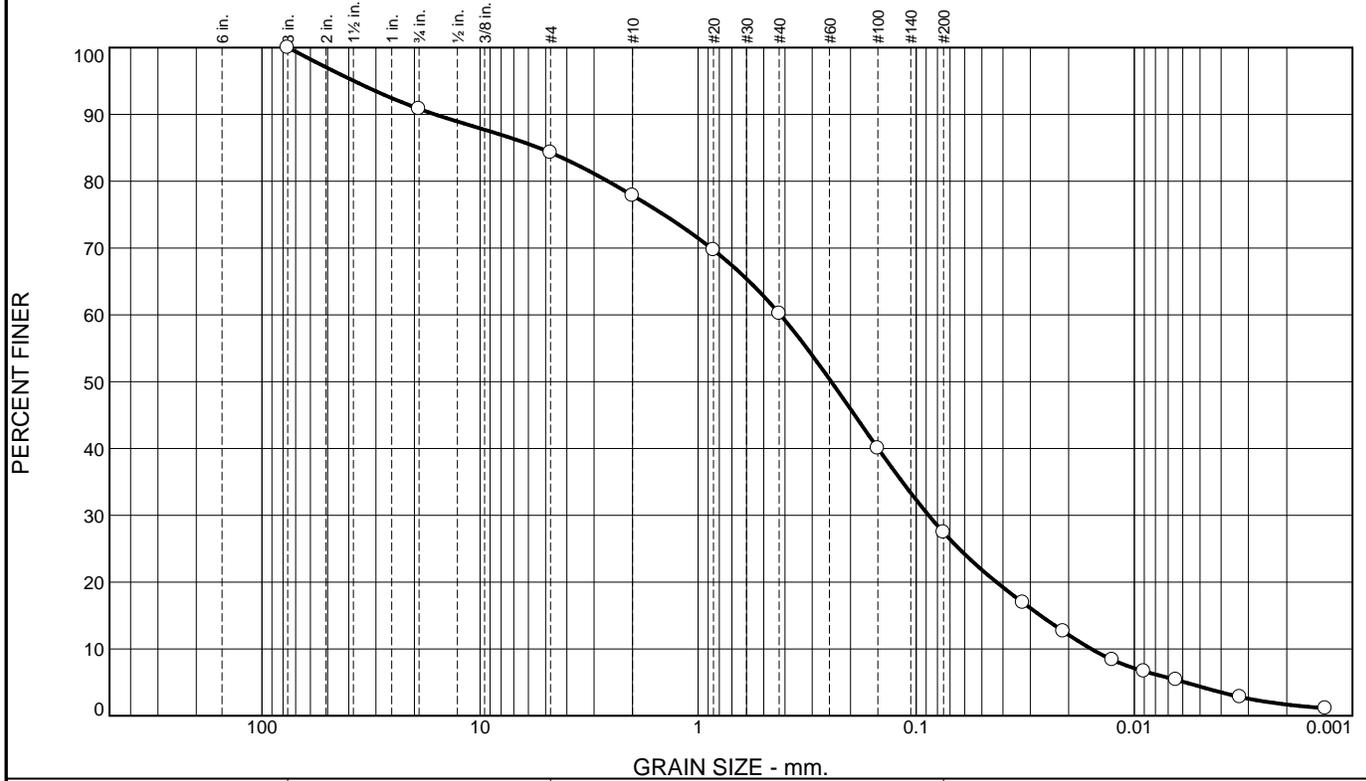
* (no specification provided)

Source of Sample: CDM-1 Depth: 15-17 Date: 2/28/2014
Sample Number: S-4

CDM Smith Cambridge, Massachusetts	Client: City of New Bedford Project: Fisherman's Memorial Pier Project No: 309-101012 Figure
---	--

Tested By: NE Checked By: AT

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	9.2	6.5	6.4	17.7	32.8	23.0	4.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3	100.0		
3/4	90.8		
#4	84.3		
#10	77.9		
#20	69.7		
#40	60.2		
#100	40.0		
#200	27.4		

Material Description

Silty sand with gravel

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 16.0904 D₈₅= 5.3879 D₆₀= 0.4198
D₅₀= 0.2453 D₃₀= 0.0877 D₁₅= 0.0269
D₁₀= 0.0158 C_u= 26.64 C_c= 1.16

Classification

USCS= SM AASHTO=

Remarks

As received moisture content=11.8%
Fines classification and description based on
Visual Manual Procedure ASTM D2488

* (no specification provided)

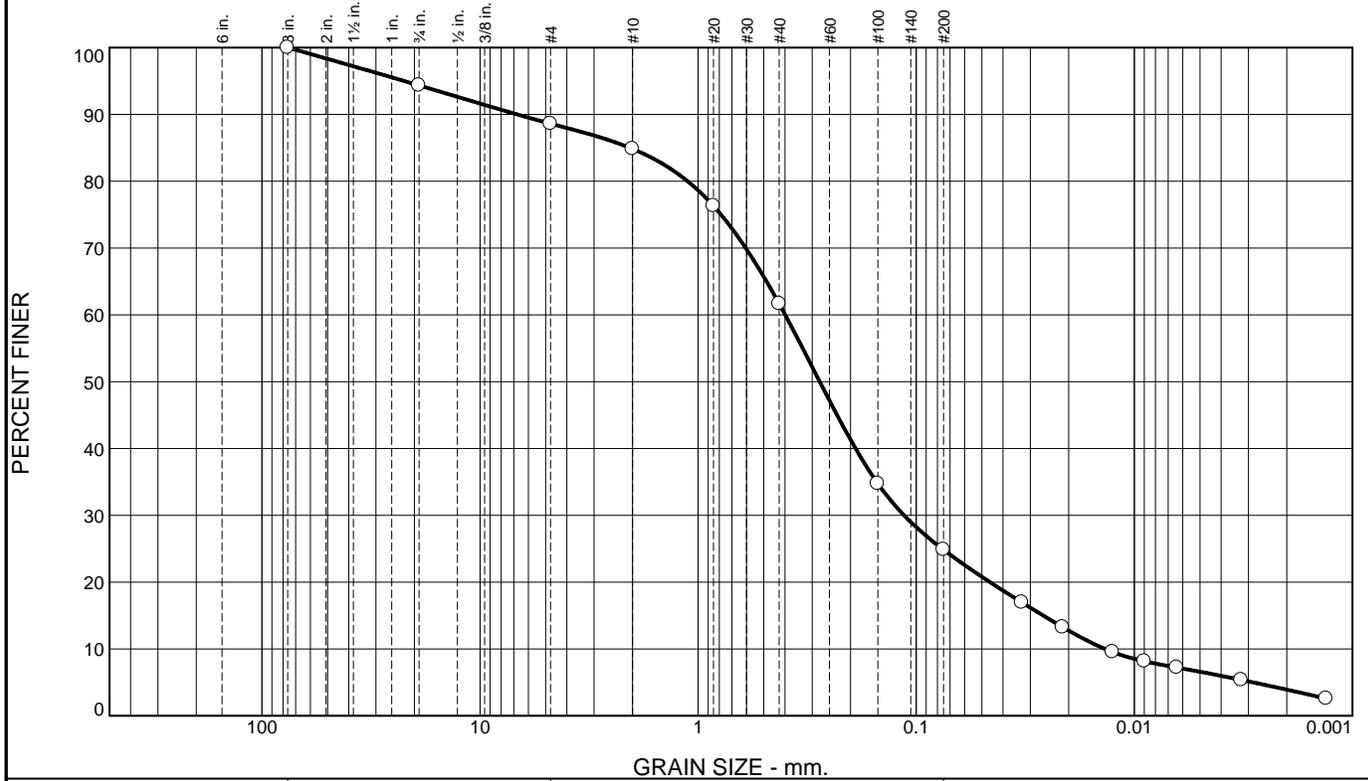
Source of Sample: CDM-1 Depth: 19-21
Sample Number: S-6

Date: 2/28/2014

CDM Smith Cambridge, Massachusetts	Client: City of New Bedford Project: Fisherman's Memorial Pier Project No: 309-101012
Figure	

Tested By: NE Checked By: AT

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	5.7	5.7	3.8	23.1	36.8	18.3	6.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3	100.0		
3/4	94.3		
#4	88.6		
#10	84.8		
#20	76.3		
#40	61.7		
#100	34.7		
#200	24.9		

Material Description

Silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 6.7613 D₈₅= 2.0566 D₆₀= 0.3988
D₅₀= 0.2770 D₃₀= 0.1138 D₁₅= 0.0262
D₁₀= 0.0137 C_u= 29.21 C_c= 2.38

Classification

USCS= SM AASHTO=

Remarks

As received moisture content=11.9%
Fines classification and description based on
Visual Manual Procedure ASTM D2488

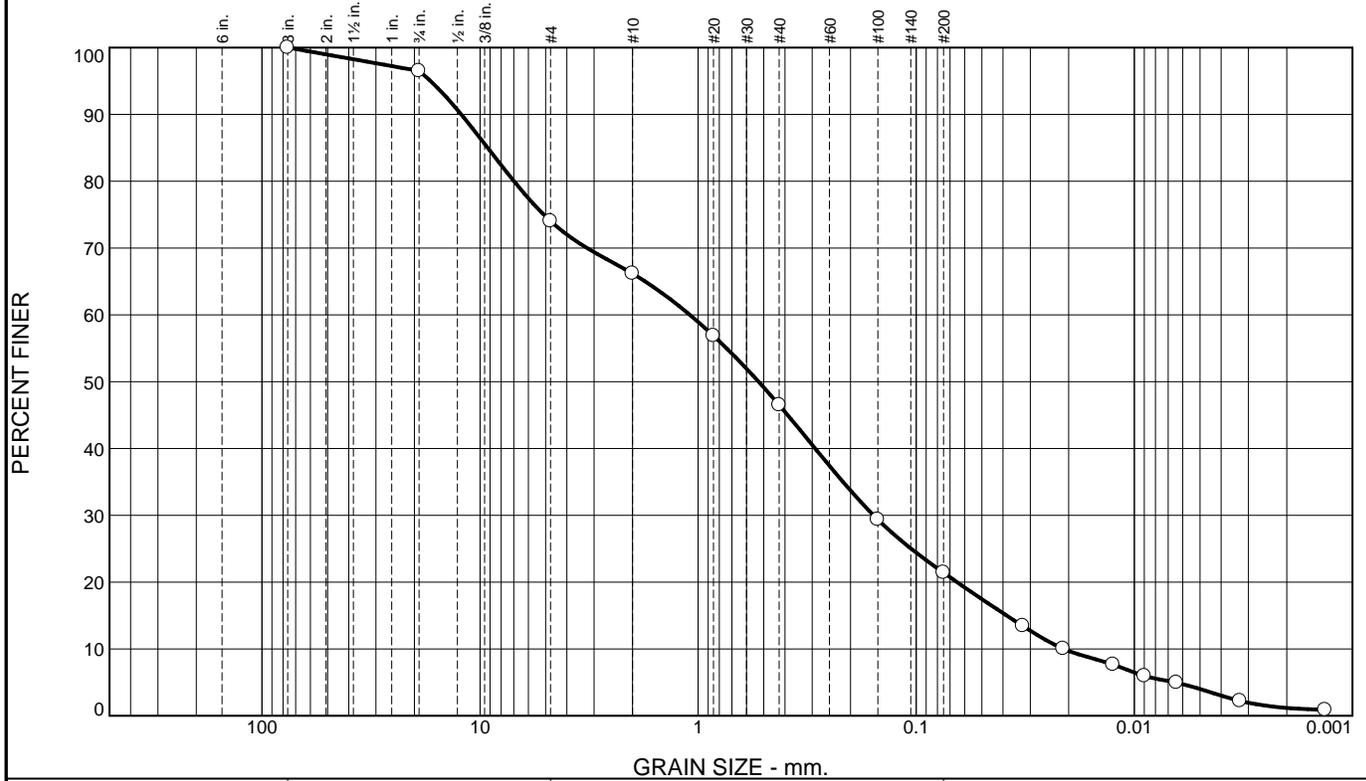
* (no specification provided)

Source of Sample: CDM-2 Depth: 9-11 Date: 2/28/2014
Sample Number: S-1

CDM Smith Cambridge, Massachusetts	Client: City of New Bedford Project: Fisherman's Memorial Pier Project No: 309-101012 Figure
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Tested By: NE Checked By: AT

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	3.5	22.5	7.8	19.7	25.1	17.4	4.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3	100.0		
3/4	96.5		
#4	74.0		
#10	66.2		
#20	56.9		
#40	46.5		
#100	29.4		
#200	21.4		

Material Description

Silty sand with gravel

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 12.2072 D₈₅= 9.2261 D₆₀= 1.0917
D₅₀= 0.5282 D₃₀= 0.1569 D₁₅= 0.0385
D₁₀= 0.0211 C_u= 51.82 C_c= 1.07

Classification

USCS= SM AASHTO=

Remarks

As received moisture content=9.7%
Fines classification and description based on
Visual Manual Procedure ASTM D2488

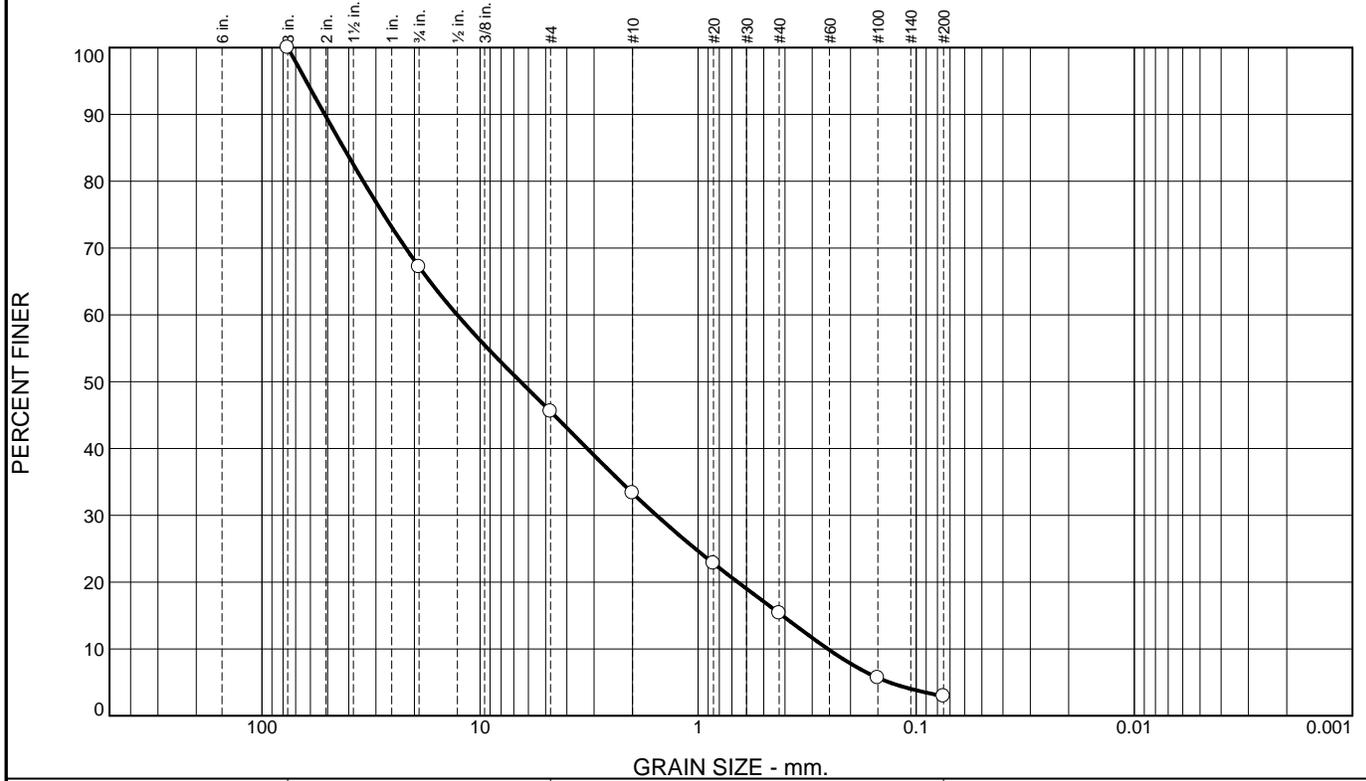
* (no specification provided)

Source of Sample: CDM-2 Depth: 11-13 Date: 2/28/2014
Sample Number: S-2

CDM Smith Cambridge, Massachusetts	Client: City of New Bedford Project: Fisherman's Memorial Pier Project No: 309-101012 Figure
---	--

Tested By: NE Checked By: AT

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	32.8	21.7	12.2	17.9	12.5	2.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3	100.0		
3/4	67.2		
#4	45.5		
#10	33.3		
#20	22.8		
#40	15.4		
#100	5.7		
#200	2.9		

Material Description

Poorly graded gravel with sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 51.5583 D₈₅= 42.2006 D₆₀= 12.7319
D₅₀= 6.5270 D₃₀= 1.5517 D₁₅= 0.4111
D₁₀= 0.2543 C_u= 50.07 C_c= 0.74

Classification

USCS= GP AASHTO=

Remarks

As received moisture content=4.5%

* (no specification provided)

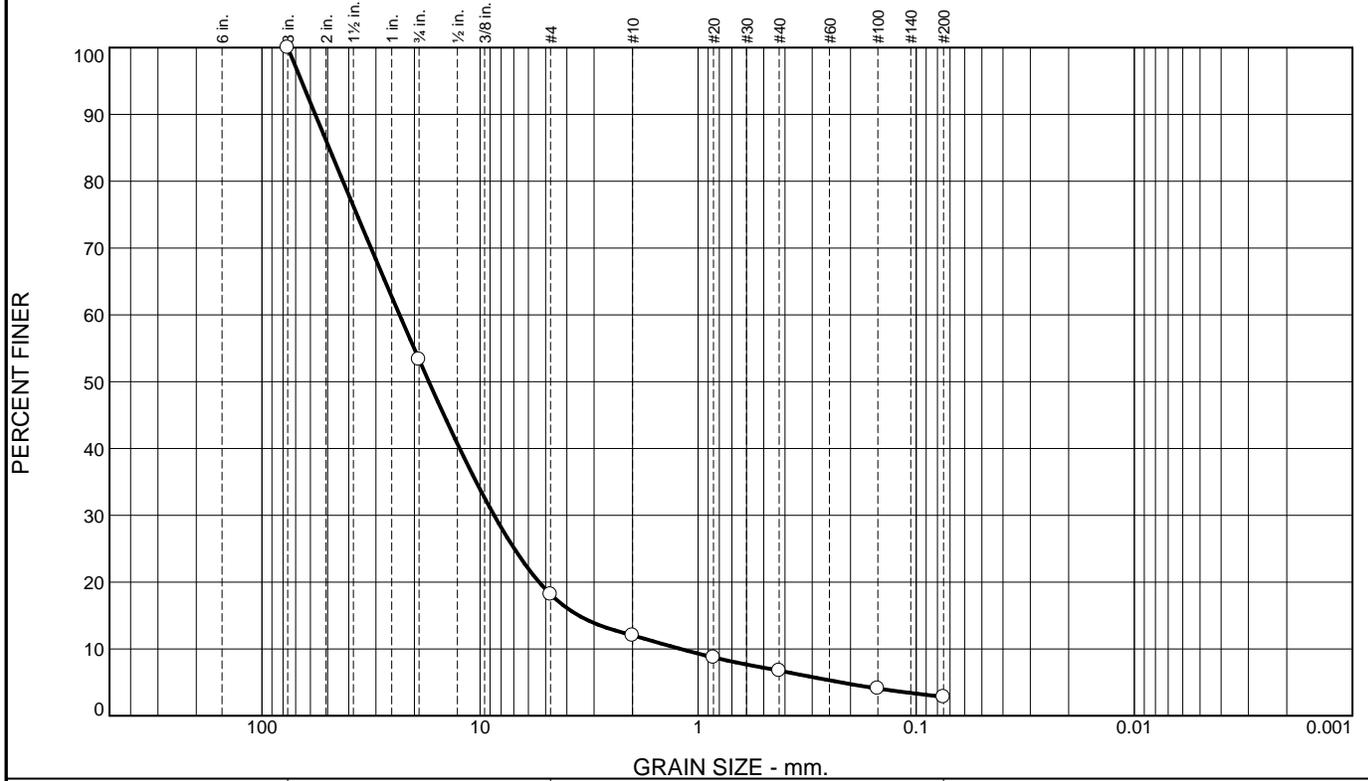
Source of Sample: TP-1 Depth: 3-5
Sample Number: G-3

Date: 2/26/2014

<p>CDM Smith</p> <p>Cambridge, Massachusetts</p>	<p>Client: City of New Bedford Project: Fisherman's Memorial Pier</p> <p>Project No: 309-101012</p> <p style="text-align: right;">Figure</p>
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Tested By: NE Checked By: AT

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	46.7	35.1	6.2	5.3	3.9	2.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3	100.0		
3/4	53.3		
#4	18.2		
#10	12.0		
#20	8.7		
#40	6.7		
#100	4.1		
#200	2.8		

Material Description

Well-graded gravel with sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 56.9590 D₈₅= 49.2201 D₆₀= 23.3852
D₅₀= 17.1653 D₃₀= 8.6176 D₁₅= 3.5293
D₁₀= 1.2031 C_u= 19.44 C_c= 2.64

Classification

USCS= GW AASHTO=

Remarks

As received moisture content=2.6%

* (no specification provided)

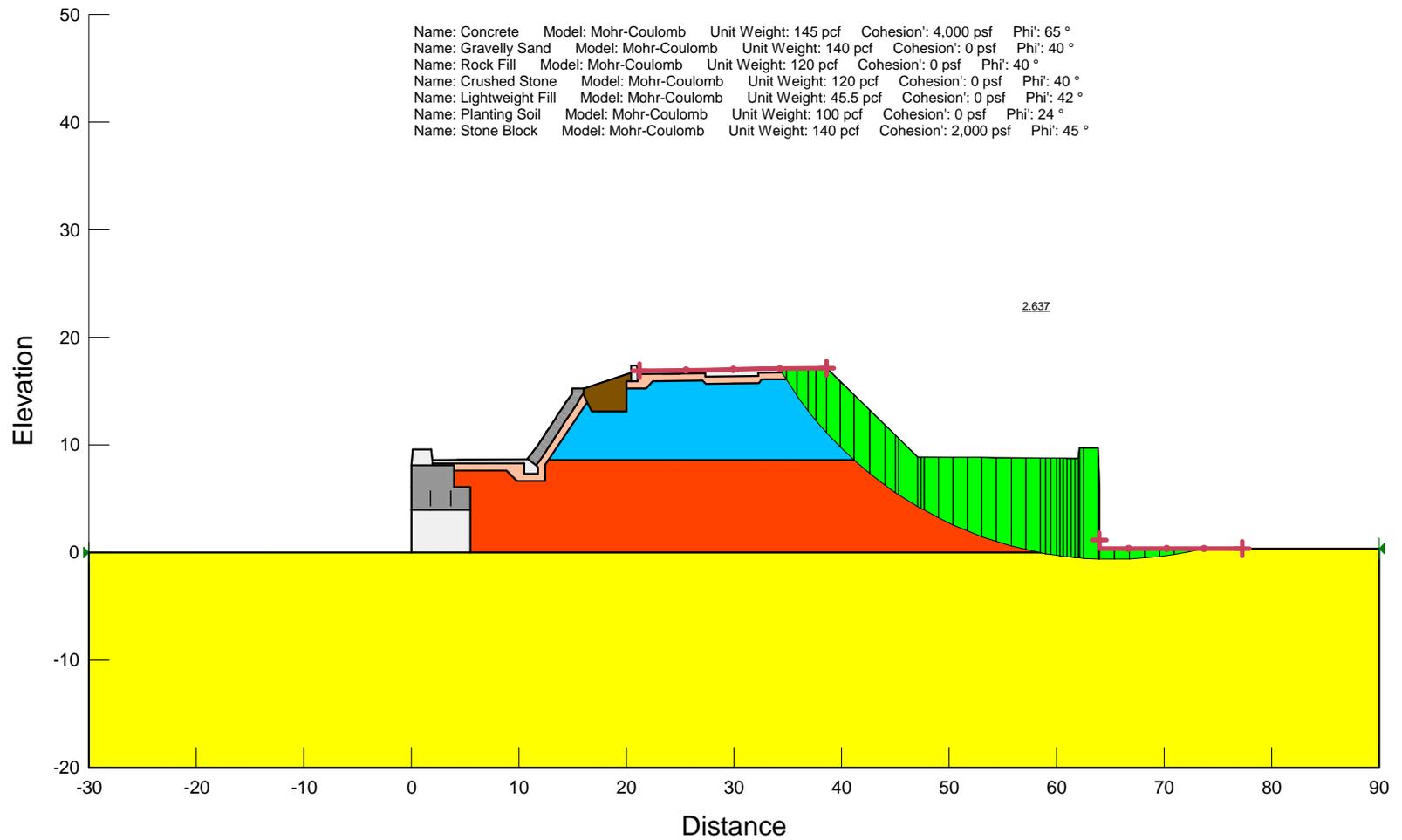
Source of Sample: TP-2 Depth: 2.5
Sample Number: G-2

Date: 2/26/2014

CDM Smith Cambridge, Massachusetts	Client: City of New Bedford Project: Fisherman's Memorial Pier Project No: 309-101012
Figure	

Tested By: NE Checked By: AT

Fisherman's Memorial Pier - Stability Analysis



Fisherman's Memorial Pier - Stability Analysis

Name: Concrete Model: Mohr-Coulomb Unit Weight: 145 pcf Cohesion': 4,000 psf Phi': 65 °
 Name: Gravelly Sand Model: Mohr-Coulomb Unit Weight: 140 pcf Cohesion': 0 psf Phi': 40 °
 Name: Rock Fill Model: Mohr-Coulomb Unit Weight: 120 pcf Cohesion': 0 psf Phi': 40 °
 Name: Crushed Stone Model: Mohr-Coulomb Unit Weight: 120 pcf Cohesion': 0 psf Phi': 40 °
 Name: Lightweight Fill Model: Mohr-Coulomb Unit Weight: 45.5 pcf Cohesion': 0 psf Phi': 42 °
 Name: Planting Soil Model: Mohr-Coulomb Unit Weight: 100 pcf Cohesion': 0 psf Phi': 24 °
 Name: Stone Block Model: Mohr-Coulomb Unit Weight: 140 pcf Cohesion': 2,000 psf Phi': 45 °
 Name: Concrete Footing Model: High Strength Unit Weight: 145 pcf

