A. SITE DESCRIPTION

THE RELIEVING PLATFORM IS 70–FT–WIDE AND CONSISTS OF A 15–INCH–THICK REINFORCED CONCRETE SLAB SPANNING BETWEEN CONCRETE PILE–SUPPORTED BENTS. A CONTINUOUS REAR CONCRETE BEAM EXTENDS ALONG THE ENTIRE INBOARD EDGE OF THE PLATFORM. A TIMBER SHEETING BULKHEAD WAS CONSTRUCTED AT THE REAR OF THE PLATFORM.

1. THE PLATFOEM DECK IS A COMPOSITE SECTION CONSISTING OF 7.5–INCH–THICK PRE–CAST PRE–STRESSED CONCRETE PLANKS OVERLAIN BY 7.5–INCH–THICK REINFORCED CAST–IN–PLACE CONCRETE.
2. THE PILE BENTS ARE SPACED AT NOMINAL 23–FT–ON–CENTER. BOTH THE PILE BENTS AND REAR BEAM CONSIST OF REINFORCED CAST–IN–PLACE CONCRETE AND EXTEND 45 INCHES BELOW THE PLATFORM DECK.
3. EIGHT VERTICAL PILES AND ONE BATTER PILE SUPPORT EACK BENT. ALL PILE ELEMENTS CONSIST OF 20–INCH–SQUARE PRE–CAST PRE–STRESSED PILES BEARING ON ROCK.
4. THE BULKHEAD STRUCTURE CONSISTS OF 6 BY 12 INCH 16–FT–LONG CREOSOTE TREATED TONGUE AND GROOVE TIMBER SHEETS FASTENED AGAINST THE BACKSIDE OF THE REAR CONCRETE BEAM. THE TOP OF THE SHEETS IS FLUSH WITH THE TOP OF THE PLATFORM AND REAR BEAM. THE TIMBER SHEETS EXTEND FROM EL 2.5 TO EL–13.5.
5. A CONCRETE SEAWALL CONSISTING OF A SKIRT WALL AND FASCIA BOUND THE OUTBOARD SIDE OF THE PLATFORM. THE SKIRT WALL EXTENDS BELOW MEAN LOW WATER. THEREFORE, ACCESS TO THE WORK AREA REQUIRES SUBMERGENCE TO SWIM UNDER THE SKIRT WALL. ALTERNATELY, A TEMPORARY OPENING CAN BE CUT IN THE WALL FOR ACCESS, AS SHOWN ON THE CONTRACT DRAWINGS.
6. CRUSHED QUARRY STONE WAS PLACED ON EITHER SIDE OF THE SHEETS TO FORM AN EMBANKMENT THAT TOGETHER WITH THE TIMBER SHEETING ACTS AS CONTAINMENT FOR THE BPC HYDRAULIC SAND FILL. A FILTER BLANKET OF MODERATE SIZED CRUSHED STONE WAS PLACED BETWEEN THE QUARRY STONE AND THE SAND FILL.
7. PROTECTIVE RIPRAP WAS PLACED OUTBOARD OF THE SHEETS. THE RIPRAP RANGES FROM COBBLE–SIZED PARTICLES TO 5–FT–DIAMETER BOULDERS.
8. THE TOP OF THE PLATFORM IS OVERTAIN BY 5 5 TO 6 FT OF SAND FILL MATERIAL AND DEVELOPED WITH ASPHALT OR GRANITE PAVERS, BENCHES, RETAINING WALLS, AND OTHER SITE ELEMENTS.
9. THE REAR OF THE PLATFORM IS SUBJECT TO MODERATE TO HEAVY WAVE ACTION THAT CAN SIGNIFICANTLY ENCUMBER THE PROGRESS OF THE WORK. THE CONTRACTOR MAY ELECT TO CONSTRUCT A TEMPORARY WAVE SCREEN OR BREAKWATER, SUBJECT TO THE APPROVAL OF THE AUTHORITY AND GOVERNING AGENCIES.
10. THE TIMBER SHEETS ARE EXPOSED FROM THE WATERSIDE, WITH THE HEIGHT OF EXPOSURE GENERALLY RANGING FROM 1 to 4 FT. IT IS NOTED THAT THE EXPOSED TIMBER SHEETS DO NOT FORM A CONTINUOUS PLANAR SURFACE. INSTEAD, INDIVIDUAL SHEETS MAY HAVE "KICKED" OUT; THE DEVIATION BETWEEN ADJACENT BOARDS CAN BE 1 INCH OR MORE.

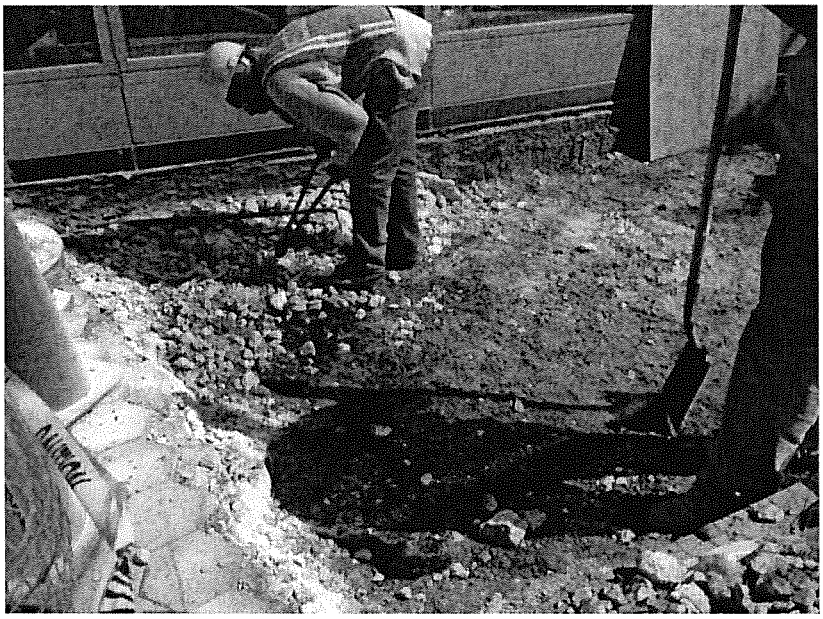
B. ABOVE–DECK AREA:

THE ESPLANSDE AREA IS VERY HEAVILY TRAFFICKED BY PEDESTRIANS AND SHALL REMAIN ACCESSIBLE AND SAFE TO PEDESTRIANS AT ALL TIMES DURING WORK.

SECTION 3: TEST PIT EXCAVATION MONITORING DATA AND FINDING

Excavation of the test pit in the representing area of the depression started on Monday, September 02, 2013 by CJF Contracting Inc. – Contractor retained by Battery Park City Authority. Contractor mobilized all the necessary labor equipment and materials they could use on the test pit. The area around the test pit was safely secured and fenced off by temporary barricades to protect pedestrians. The following conditions were discovered during excavation:

- 0 inches to 2 ½ inches - Manufactured Asphalt Concrete Pavers
- 2 ½ inches to 3 inches - Asphalt Shim Underlayment
- 3 inches to 9 inches - Unreinforced Class A Concrete Base Slab
- 9 inches to 60 inches - Unclassified Fill containing Organic Materials



CJF Contracting, Inc. carefully removed asphalt pavers for future pavement restoration upon exploratory work completion. Subsequent to pavers removal asphalt shim underlayment was removed by utilizing 90 pound jackhammers and properly disposed. Contractor utilized a Caterpillar 446 loader backhoe combination tractor to perform test pit excavation to discover assumed cause of the settlement/depression development in the front of NYMEX Building on a west side. KSE engineers assumed that it could be three reasons for development of a settlement, as it indicated on page 5 of this report.

While proceeding with the excavation it was observed that backfill material under concrete slab was not properly compacted, and has a lot of silt and organic in it. Therefore, KSE engineer ordered additional soil testing to be performed by Certified Testing Lab. Contractor utilized Cole Technologies to perform required testing.

Below is actual soil testing results for soil samples taking at the site:

Cole Technologies

SOIL GRADATION TEST REPORT

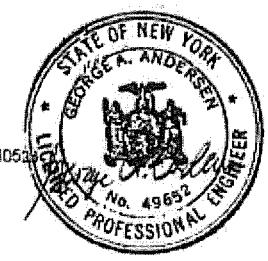
CLIENT:	CJF Construction	**DATE SAMPLED:**	9/13/2013
PROJECT NO.:	MT 0913097	**DATE PICKED UP:**	9/13/2013
PROJECT:	Battery Park	**PICKED UP BY:**	A. Melendez
SAMPLE ID:	Sample No.1	**DATE TESTED:**	9/16/2013
REPORT NUMBER:	SG-001(Revised)	**LAB TECHNICIAN:**	P. Marcelin
SAMPLING TECHNICIAN:	A. Melendez	**CHECKED BY:**	S. A. Khan

GRADATION TEST RESULTS (ASTM C-136)

SIEVE SIZE	PERCENT PASSING (%)	SPECIFICATIONS	SIEVE SIZE	PERCENT PASSING (%)	SPECIFICATIONS
4 - in			No 10	62.8	
3 - in			No 16		
2 - in			No 20		
1½ - in			No 30		
1 - in	100		No 40	13.6	
¾ - in	99.0		No 50		
½ - in			No 60		
3/8 - in	80.5		No 80		
¼ - in			No 100	3.1	
No 4	68.0		No 200	1.3	
No 8			PAN		

Specification: N/A

Remarks: Recycled Materials (Sand with Gravel – Sample has some (10-15% visually) light weight aggregates in it).



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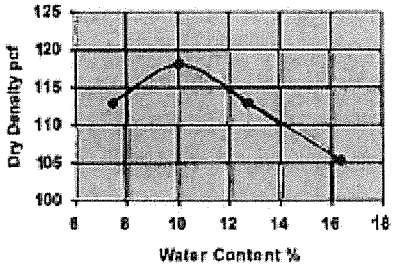
MOISTURE DENSITY TEST DATA

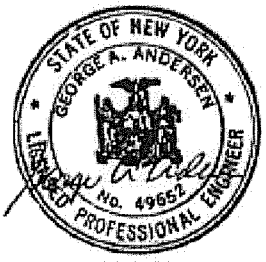
DATE SAMPLED:	13 September 2013	**PROJECT NO.:**	MT 0913097
CLIENT:	CJF Construction	**REPORT NO.:**	MDT-001(Revised)
PROJECT:	Battery Park	**SAMPLE ID:**	Sample No. 1
DATE TESTED:	16 September 2013	**TESTED BY:**	P. Marcelin
		CHECKED BY:	S. A. Khan

TEST DATA AND RESULTS

Type of Test: ASTM D 698 Procedure C
Mold Diameter: 6.0 inch.
Hammer Weight: 5.5 lb
Drop: 12.0 inch
Layers: 3
Blows Per Layer: 56



Point No	1	2	3	4
Moisture	7.5	10.1	12.8	16.4
Dry Density:	113.0	118.2	113.0	105.5



Maximum Dry Density: 118.2 pcf

Optimum Moisture Content: 10.1%

Soil Description: Recycled Materials (Sand with Gravel- Sample has some (10-15% visually) light weight aggregates in it).

Color/Odor/Contamination: Brownish Gray/None/None

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SOIL GRADATION TEST REPORT

CLIENT:	CJF Construction	DATE SAMPLED:	9/13/2013
PROJECT NO.:	MT 0913007	DATE PICKED UP:	9/13/2013
PROJECT:	Battery Park	PICKED UP BY:	A. Melendez
SAMPLE ID:	Sample No.1	DATE TESTED:	9/16/2013
REPORT NUMBER:	SG-001	LAB TECHNICIAN:	P. Marcelin
SAMPLING TECHNICIAN:	A. Melendez	CHECKED BY:	S. A. Khan

GRADATION TEST RESULTS (ASTM C-136)

SIEVE SIZE	PERCENT PASSING (%)	SPECIFICATIONS	SIEVE SIZE	PERCENT PASSING (%)	SPECIFICATIONS
4 - in			No 10	82.8	
3 - in			No 16		
2 - in			No 20		
1½ - in			No 30		
1 - in	100		No 40	13.6	
¾ - in	99.0		No 50		
⅜ - in			No 60		
⅜ - in	80.6		No 80		
½ - in			No 100	3.1	
No 4	68.0		No 200	1.3	
No 8			PAN		

Specification: N/A

Remarks: Recycled Materials (Sand with Gravel)

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SOIL FIELD COMPACTION REPORT

(NUCLEAR DENSITY METHOD – ASTM D-6938)

DATE: 17 September 20[illegible]	TAA Nº:
SHIFT: Day ☒ Night ☐	CTO PROJECT Nº: [illegible]
CLIENT: CJF Construction	CTO REPORT Nº: [illegible]
PROJECT NAME: Battery Park City	ARCHITECT/ENGINEER:
WEATHER/TEMP: Sunny/[illegible]	INSPECTOR: P. Wadugo
TIME IN: 7:30 AM — TIME OUT: 11:[illegible] AM	TOTAL HOURS: 4
SAME DAY CANCELLATION: Yes ☐ No ☐ — TIME OF CANCELLATION:	BY WHOM:

TEST Nº	PROBE DEPTH (IN)	ELEVATION (Ft)	MAXIMUM PROCTOR DENSITY (PCF)	MAXIMUM WET DENSITY (PCF)	MOISTURE CONTENT (%)	IN-PLACE DRY DENSITY (PCF)	FIELD COMPACTION (%)	REQUIRED COMPACTION (%)	COMMENTS
1	12	RCA Blend	118.2	90.9	9.4	83.0	70.3		
2	12	RCA Blend	118.2	92.7	9.7	84.5	71.5		
3									
4									
5									
6									
7									
8									
9									
10									

Model Nº: 0001 EZ-1280	MS: 480	DS: 2419

TEST Nº	LOCATION: Soil Compaction Test Results for RCA Blend under the Sidewalk (See attached Photos)
1 to 2	

LOCATION(S) INSPECTED:

NOTES/COMMENTS:

Note: Densities shown lbs. Per cubic foot.
Water content percent of dry weight.
Percent compaction based on max. dry density.
Obtained on sample indicated by soil ID number.

Comments*: 1. Fill Material 2. Backfill 3. Base Course

A. Test results comply with specifications.
B. Re-compaction required.
C. Test is after re-compaction.

METHOD(S) OF EVALUATION

ASTM D 6938: Test method for Density of Soil and soil Aggregate in place by Nuclear Method (shallow depth)

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Controlled Inspections Inc.

SEP 1 8 2013

FIELD COMPACTION REPORT

(NUCLEAR DENSITY METHOD - ASTM # 6938)

DATE: 09-17-2013	PROJECT NO:	REPORT NO:
CLIENT:	CONTRACTOR: S-J-CONCRETE	PAGE NO:
PROJECT: Battery Park City	LOCATION: SIDE WORK	WEATHER: SUNNY 70°
INSPECTOR: P. WADUCKI	TIME IN: 7:30	TIME OUT: 11:00
SAME DAY CANCELLATION: NO	TIME:	BY WHOM:

TEST NO.	PROBE DEPTH (IN)	ELEVATION	MAXIMUM PROCTOR DENSITY (PCF)	MAXIMUM WET DENSITY (PCF)	MOISTURE CONTENT %	IN PLACE DRY DENSITY (PCF)	PERCENT COMPACTION (%)	REQUIRED COMPACTION (%)	COMMENTS
1	12	RCA	132	90.9	9.4	83.0	70.3		
2		BLEND		93.7	9.7	84.5	71.5		

MODEL NO.: EZ 5001 # 1280 MS: 460 DS: 2419

TEST NO.	LOCATION:
1 to	SOIL COMPACTION TEST RESULT FOR
	RCA BLEND UNDER THE SWB WORK.

REMARKS:

Note: Densities shown lbs. Per cubic foot. Water content percent of dry weight. Percent compaction based on max. dry density obtained on representative sample.

Comments: 1. Fill Material 2. Backfill 3. Base Course

A. Test results comply with specifications. B. Recompaction required. C. Test is after recompaction.

METHODS OF EVALUATION:

ASTM D 6938: Test Method for Density of Soil and Soil Aggregate in place by Nuclear Method (Shallow Depth)

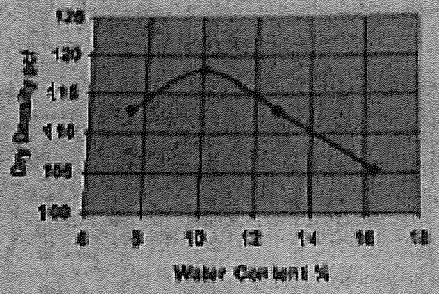
Cole Technologies

MOISTURE DENSITY TEST DATA

DATE SAMPLED:	13 September 2013	PROJECT NO.:	ME 0913097
CLIENT:	CJF Construction	REPORT NO.:	MDT-001
PROJECT:	Battery Park	SAMPLE ID:	Sample No. 1
DATE TESTED:	16 September 2013	TESTED BY:	P. Marcellin
		CHECKED BY:	S. A. Khan

TEST DATA AND RESULTS

Type of Test: ASTM D 698 Procedure C
Mold Diameter: 6.0 inch
Hammer Weight: 5.5 lb
Drop: 12.0 inch
Layers: 3
Blows Per Layer: 56



Point No	1	2	3	4
Moisture	7.5	10.1	12.8	16.4
Dry Density:	113.0	118.2	113.0	105.5

Maximum Dry Density: 118.2 pcf

Optimum Moisture Content: 10.1%

Soil Description: Recycled Materials (Sand with Gravel)

Color/Odor/Contamination: Brownish Gray/None/None

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