S.W.COLE ENGINEERING, INC.

Report of Field Density
ASTM D6938

Project: **PORTLAND ME - CUMBERLAND COUNTY CIVIC CENTER RENOVATIONS - CONSTRUCTION MATERIALS TESTING**

Project Number: **12-0034.1**

Client: **CUMBERLAND COUNTY CIVIC CENTER**

Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
1	11/8/2012	KBG	AA (-3'), A1 (+10')	76	12	16128G	136.1	6.0	97.1	95
2	11/8/2012	KBG	AA (-3'), A4 (-10')	76	12	16128G	137.9	3.8	98.4	95
3	11/8/2012	KBG	AA (-3'), A3	77	12	16128G	136.8	4.5	97.6	95
4	11/8/2012	KBG	AA (-3'), A2	78	12	16128G	135.8	4.8	96.9	95
5	11/8/2012	KBG	AA (-3'), A3 (+15')	78	12	16128G	136.3	4.6	97.3	95
6	11/8/2012	KBG	AA (-6'), A2 (-5')	79	12	16128G	135.5	4.7	96.7	95
7	11/8/2012	KBG	AB, A5 (-5')	75	12	16128G	137.6	4.7	98.2	95
8	11/8/2012	KBG	AA (-5'), A1 (+5')	80	12	16128G	138.6	3.9	98.9	95
9	11/8/2012	KBG	AA (-5'), A4 (-5)	80	12	16128G	137.9	4.1	98.4	95
10	11/8/2012	KBG	AA (-5'), A5 (-5')	76	12	16128G	138.2	4.4	98.6	95
11	11/8/2012	KBG	AA (-6'), A3 (+10')	81	12	16128G	136.9	4.5	97.7	95
12	11/8/2012	KBG	AA (-3'), A1 (+10')	81	12	16128G	136.3	4.2	97.3	95
13	11/8/2012	KBG	AA (-4'), A5	77	12	16128G	138.6	3.8	98.9	95
14	11/8/2012	KBG	AA(-3'), A3 (+5')	82	12	16128G	135.9	3.9	97.0	95
15	11/8/2012	KBG	AA (-3'), A5 (-5')	78	12	16128G	137.5	3.7	98.1	95
16	11/8/2012	KBG	AA (-7'), A2 (-5')	83	12	16128G	136.8	4.0	97.6	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
16128G	11/9/2012	Shaw Bros - O Pit	WBRC Granular Fill	ASTM D-1557 Modified C	140.1	5.8	

Elevation Notes:

Comments:

Reviewed By

S.W.COLE ENGINEERING, INC.

Report of Field Density
ASTM D6938

Project: **PORTLAND ME - CUMBERLAND COUNTY CIVIC CENTER RENOVATIONS - CONSTRUCTION MATERIALS TESTING**

Project Number: **12-0034.1**

Client: **CUMBERLAND COUNTY CIVIC CENTER**

Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
17	11/19/2012	KBG	AA (-5')/A5 (+8')	83	12	16128G	135.2	3.6	96.5	95
18	11/19/2012	KBG	AA (-10')/A6 (-5')	83	12	16128G	137.3	3.4	98.0	95
19	11/19/2012	KBG	AA (-5')/A6	84	12	16128G	138.2	3.1	98.6	95
20	11/19/2012	KBG	AA (-5')/A5 (+5')	84	12	16128G	137.9	3.0	98.4	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density	Optimum Moisture Content (%)	Comments
16128G	11/9/2012	Shaw Bros - O Pit	WBRC Granular Fill	ASTM D-1557 Modified C	140.1	5.8	

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Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
21	11/26/2012	KBG	A5 (+12'), 2' N ENTRY WALL	87	12	16128G	133.4	2.8	95.2	95
22	11/26/2012	KBG	A5 (+8'), AA (-5')	85	12	16128G	134.6	1.8	96.1	95
23	11/26/2012	KBG	A5 (+5'), AA (-10')	86	12	16128G	137.3	2.3	98.0	95
24	11/26/2012	KBG	A6 (-4'), AA (-8')	86	12	16128G	136.0	1.9	97.1	95
25	11/26/2012	KBG	A5 (+10'), AA (-3')	87	12	16128G	139.0	2.6	99.2	95
26	11/26/2012	KBG	A6 (-7'), AA (-4')	88	12	16128G	136.2	2.4	97.2	95
27	11/26/2012	KBG	A6 (-5'), 3' N ENTRY WALL	88	12	16128G	135.0	2.3	96.4	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
16128G	11/9/2012	Shaw Bros - O Pit	WBRC Granular Fill	ASTM D-1557 Modified C	140.1	5.8	

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Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
28	11/27/2012	KBG	A6 (-5'), AA (-5')	89	12	16128G	137.8	2.3	98.4	95
29	11/27/2012	KBG	A6 (+3'), AA (-5')	86	12	16128G	137.7	3.6	98.3	95
30	11/27/2012	KBG	A6 (+3'), AB (+8')	82	12	16128G	134.3	3.0	95.9	95
31	11/27/2012	KBG	A6 (+3'), AC (-5')	83	12	16128G	137.5	3.0	98.1	95
32	11/27/2012	KBG	A6 (+5'), AC (-10')	84	12	16128G	135.1	2.8	96.4	95
33	11/27/2012	KBG	A5 (+3'), AC	76	12	16128G	138.6	2.9	98.9	95
34	11/27/2012	KBG	A5 (+3'), AD	76	12	16128G	137.3	3.1	98.0	95
35	11/27/2012	KBG	A5 (+3'), AB (+5')	77	12	16128G	134.8	3.4	96.2	95
36	11/27/2012	KBG	A5 (+4'), AD (+5')	77	12	16128G	135.9	3.2	97.0	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
16128G	11/9/2012	Shaw Bros - O Pit	WBRC Granular Fill	ASTM D-1557 Modified C	140.1	5.8	

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Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
37	11/28/2012	KBG	A5 (+6'), AB (+4')	78	12	16128G	137.9	2.5	98.4	95
38	11/28/2012	KBG	A5 (+12'), AE (-6')	76	12	16128G	136.1	2.5	97.1	95
39	11/28/2012	KBG	A6 (-7'), AE (-10')	78	12	16128G	137.8	2.6	98.4	95
40	11/28/2012	KBG	A6 (-8'), AB (+10')	79	12	16128G	136.3	2.8	97.3	95
41	11/28/2012	KBG	A5 (+9'), AC.3	80	12	16128G	139.0	2.7	99.2	95
42	11/28/2012	KBG	A6 (-5'), AC	81	12	16128G	135.4	2.7	96.6	95
43	11/28/2012	KBG	A5 (+5'), AD	81	12	16128G	138.4	2.6	98.8	95
44	11/28/2012	KBG	A5 (+12'), AC (+10')	82	12	16128G	134.8	2.9	96.2	95
45	11/28/2012	KBG	A5 (+5'), AD (-5')	82	12	16128G	137.3	2.8	98.0	95
46	11/28/2012	KBG	A6 (-4'), AB (-4')	83	12	16128G	137.8	2.2	98.4	95
47	11/28/2012	KBG	A6 (-5'), AC.3	83	12	16128G	138.7	2.9	99.0	95
48	11/28/2012	KBG	A5 (+7'), AC.3 (+6')	84	12	16128G	135.1	2.6	96.4	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
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Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
49	11/29/2012	KBG	A6 (-6'), AB (-3')	85	12	16128G	138.5	2.9	98.9	95
50	11/29/2012	KBG	A5 (-5'), AA	83	12	16128G	139.3	3.7	99.4	95
51	11/29/2012	KBG	A5 (+5'), AB (-3')	86	12	16128G	138.5	2.4	98.9	95
52	11/29/2012	KBG	A6 (-8'), AC.3	86	12	16128G	134.8	3.2	96.2	95
53	11/29/2012	KBG	A6 (-12'), AB (-9')	87	12	16128G	137.0	2.3	97.8	95
54	11/29/2012	KBG	A5 (+8'), AC.3 (-3')	88	12	16128G	138.9	2.4	99.1	95
55	11/29/2012	KBG	A6 (+3'), AC	82	12	16128G	138.5	3.1	98.9	95
56	11/29/2012	KBG	A6 (+4'), AD (-7')	83	12	16128G	137.2	2.6	97.9	95
57	11/29/2012	KBG	A6 (+5'), AC.3 (-5')	84	12	16128G	135.2	2.8	96.5	95
58	11/29/2012	KBG	A5 (-5'), AB	85	12	16128G	139.6	2.5	99.6	95
59	11/29/2012	KBG	A6 (+4'), AC (-10')	85	12	16128G	136.2	3.4	97.2	95
60	11/29/2012	KBG	A5 (-5'), AA (-4')	86	12	16128G	140.0	2.6	99.9	95
61	11/29/2012	KBG	A6 (+3'), AD (+5')	81	12	16128G	137.0	2.4	97.8	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
16128G	11/9/2012	Shaw Bros - O Pit	WBRC Granular Fill	ASTM D-1557 Modified C	140.1	5.8	

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Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
62	11/30/2012	KBG	A5 (+2'), AA (-6')	89	12	16128G	139.6	2.4	99.6	95
63	11/30/2012	KBG	A5 (-3'), AA (-6')	87	12	16128G	139.0	2.6	99.2	95
64	11/30/2012	KBG	A6 (+4'), AE (-8')	83	12	16128G	135.5	3.1	96.7	95
65	11/30/2012	KBG	A6 (+5'), AD	84	12	16128G	138.6	2.9	98.9	95
66	11/30/2012	KBG	A6 (+3'), AE (-5)	85	12	16128G	135.9	2.6	97.0	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
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Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
67	1/21/2013	VLT	5' N 5' W OF INT LINE AA + A1	83.5	12	16417G	134.1	3.4	97.0	95
68	1/21/2013	VLT	5' N OF INT LINE AA + A4	84.5	12	16417G	138.7	3.0	100.3	95
69	1/21/2013	VLT	5' N OF INT LINE AA + A2	84.5	12	16417G	136.2	3.7	98.5	95
70	1/21/2013	VLT	5' N 15' E OF LINE AA + A4	85.5	12	16417G	134.5	3.3	97.3	95
71	1/21/2013	VLT	6' N 5' W OF LINE AA + A2	85.5	12	16417G	137.8	2.0	99.6	95
72	1/21/2013	VLT	3' N OF INT AA + A4	86.5	12	16417G	134.6	3.3	97.3	95
73	1/21/2013	VLT	5' N 10' W OF LINE AA + A1	86.5	12	16417G	134.1	3.3	97.0	95
74	1/21/2013	VLT	5' N 10' E OF LINE AA + A4	87.5	12	16417G	137.1	2.4	99.1	95
75	1/21/2013	VLT	7' N 2' E OF AA + A2	87.5	12	16417G	134.9	3.7	97.5	95
76	1/21/2013	VLT	SIDEWALK W OF AA + A4	88.5	12	16417G	136.2	3.0	98.5	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
16417G	1/22/2013	Brickyard Quarry	Aggregate Base (Type B)	ASTM D-1557 Modified C	138.3	6.2	

Elevation Notes:

Comments:
INT - INTERSECTION

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S.W.COLE ENGINEERING, INC.

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Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
77	6/20/2013	AM	PIER TO LEDGE CE + BY LINES	4' BTOP	12	16417G	133.2	2.9	96.3	95
78	6/20/2013	AM	PIER TO LEDGE CE + BY LINES	3' BTOP	12	16417G	132.6	4.0	95.9	95
79	6/20/2013	AM	PIER TO LEDGE CE + BY LINES	2' BTOP	12	16417G	134.3	5.7	97.1	95
80	6/20/2013	AM	PIER TO LEDGE CE + BY LINES	1' BTOP	12	16417G	133.1	5.3	96.2	95
81	6/20/2013	AM	PIER TO LEDGE CE + BY LINES	TOP	12	16417G	134.2	5.1	97.0	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
16417G	1/22/2013	Brickyard Quarry	Aggregate Base (Type B)	ASTM D-1557 Modified C	138.3	6.2	

Elevation Notes:

BTOP -BELOW TOP OF PIER
TOP - TOP OF PIER

Comments:

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82	8/2/2013	KBG	BW(-4)/B1(+15)	62	12	16128G	137.4	3.2	98.1	95
83	8/2/2013	KBG	BA(+5)/B1(+10)	60	12	16128G	138.5	3.1	98.9	95
84	8/2/2013	KBG	BX(+3)/B2(-10)	61	12	16128G	141.6	3.7	101.1	95
85	8/2/2013	KBG	BW(+3)/B2(-10)	63	12	16128G	138.1	3.2	98.6	95
86	8/2/2013	KBG	BA(+5)/B1(+5)	63	12	16128G	137.3	3.8	98.0	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
16128G	11/9/2012	Shaw Bros - O Pit	WBRC Granular Fill	ASTM D-1557 Modified C	140.1	5.8	

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87	8/5/2013	KBG	BY/B1(-5)	59	12	16128G	139.7	2.3	99.7	95
88	8/5/2013	KBG	BW(-12)/B1(+15)	64	12	16128G	138.5	2.7	98.9	95
89	8/5/2013	KBG	XE/B1(+10)	58	12	16128G	138.8	1.9	99.1	95
90	8/5/2013	KBG	XE/B1(+15)	59	12	16128G	138.1	2.3	98.6	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
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91	8/6/2013	KBG	CE(-5)/C2	54	12	16128G	138.2	2.4	98.6	95
92	8/6/2013	KBG	BY(-5)/B2(-5)	55	12	16128G	137.4	2.4	98.1	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
16128G	11/9/2012	Shaw Bros - O Pit	WBRC Granular Fill	ASTM D-1557 Modified C	140.1	5.8	

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93	8/8/2013	KBG	CE/C3(+5)	57	12	16128G	134.8	2.7	96.2	95
94	8/8/2013	KBG	CE(-5)/C3(-10)	58	12	16128G	135.6	2.8	96.8	95
95	8/8/2013	KBG	CD/(+10)/C3	59	12	16128G	135.2	2.7	96.5	95
96	8/8/2013	KBG	CE(+15)/B2(+10)	61	12	16128G	137.1	3.4	97.9	95
97	8/8/2013	KBG	B1(+10)/BC(+5)	59	12	16128G	136.2	2.1	97.2	95

Laboratory Compaction Test Reference

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16128G	11/9/2012	Shaw Bros - O Pit	WBRC Granular Fill	ASTM D-1557 Modified C	140.1	5.8	

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98	8/12/2013	KBG	BC/B2(+8)	65	12	16128G	139.1	1.4	99.3	95
99	8/12/2013	KBG	XE/B3(-5)	66	12	16128G	137.2	2.8	97.9	95
100	8/12/2013	KBG	CE(+10)/C2	57	12	16128G	138.5	2.1	98.9	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
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101	8/21/2013	KBG	MIDDLE	45	12	16128G	140.4	1.6	100.2	95
102	8/21/2013	KBG	N THIRD	46	12	17134G	127.6	3.0	95.8	95
103	8/21/2013	KBG	MIDDLE	47	12	17134G	131.0	3.0	98.3	95
104	8/21/2013	KBG	S THIRD	47	12	17128G	134.0	2.1	98.2	95
105	8/21/2013	KBG	N END	48	12	17134G	128.6	2.9	96.5	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
16128G	11/9/2012	Shaw Bros - O Pit	WBRC Granular Fill	ASTM D-1557 Modified C	140.1	5.8	
17128G	8/20/2013	Shaw Brothers O-pit	Granular Fill	ASTM D-1557 Modified C	136.5	5.9	
17134G	8/21/2013	Shaw. Bros. N-Pit	Granular Fill	ASTM D-1557 Modified C	133.2	6.2	

Elevation Notes:

Comments:
ALL LOCATIONS ARE CMP VAULT E SIDE

Reviewed By

S.W.COLE ENGINEERING, INC.

Report of Field Density
ASTM D6938

Project: **PORTLAND ME - CUMBERLAND COUNTY CIVIC CENTER RENOVATIONS - CONSTRUCTION MATERIALS TESTING**

Project Number: **12-0034.1**

Client: **CUMBERLAND COUNTY CIVIC CENTER**

Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
106	8/22/2013	KBG	CA(-5)/C5.3	48	12	17134G	129.7	2.8	97.4	95
107	8/22/2013	KBG	CA(-4)/C2.8	49	12	17134G	129.3	2.3	97.1	95
108	8/22/2013	KBG	CA(-5)/X11(+10)	56	12	17134G	131.3	2.4	98.6	95
109	8/22/2013	KBG	CA(-6)/X11	57	12	17134G	132.7	2.1	99.6	95
110	8/22/2013	KBG	CA(-5)/X10(+5)	58	12	17134G	132.5	2.2	99.5	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
17134G	8/21/2013	Shaw. Bros. N-Pit	Granular Fill	ASTM D-1557 Modified C	133.2	6.2	

Elevation Notes:

Comments:

Reviewed By

S.W.COLE ENGINEERING, INC.

Report of Field Density
ASTM D6938

Project: **PORTLAND ME - CUMBERLAND COUNTY CIVIC CENTER RENOVATIONS - CONSTRUCTION MATERIALS TESTING**

Project Number: **12-0034.1**

Client: **CUMBERLAND COUNTY CIVIC CENTER**

Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
111	8/23/2013	KBG	CA(-3)/X10(-10)	59	12	17134G	129.5	3.5	97.2	95
112	8/23/2013	KBG	CA(-4)/X11(+5)	59	12	17134G	128.6	3.2	96.5	95
113	8/23/2013	KBG	CA(-3)/C3	51	12	17134G	127.9	3.0	96.0	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
17134G	8/21/2013	Shaw. Bros. N-Pit	Granular Fill	ASTM D-1557 Modified C	133.2	6.2	

Elevation Notes:

Comments:

Reviewed By

S.W.COLE ENGINEERING, INC.

Report of Field Density
ASTM D6938

Project: **PORTLAND ME - CUMBERLAND COUNTY CIVIC CENTER RENOVATIONS - CONSTRUCTION MATERIALS TESTING**

Project Number: **12-0034.1**

Client: **CUMBERLAND COUNTY CIVIC CENTER**

Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
114	8/26/2013	KBG	BY(+5)/B1	56	12	17134G	132.5	2.1	99.5	95
115	8/26/2013	KBG	CE(-5)/C1(+8)	55	12	16128G	137.1	2.4	97.9	95
116	8/26/2013	KBG	CE(+10)/C1(+12)	56	12	17134G	128.1	3.0	96.2	95
117	8/26/2013	KBG	BC(+10)/B1(+5)	58	12	17134G	128.7	3.6	96.6	95
118	8/26/2013	KBG	CE(-10/B1(-10)	59	12	17134G	130.4	3.2	97.9	95
119	8/26/2013	KBG	CE(-10)/B1	58.5	12	17134G	129.8	3.0	97.4	95
120	8/26/2013	KBG	CE/B1(+5)	54	12	16128G	136.0	2.3	97.1	95
121	8/26/2013	KBG	CE(-5)/C2(-5)	56	12	17134G	129.6	3.2	97.3	95
122	8/26/2013	KBG	CE(-10)/C2(-10)	57	12	17134G	128.0	2.7	96.1	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
16128G	11/9/2012	Shaw Bros - O Pit	WBRC Granular Fill	ASTM D-1557 Modified C	140.1	5.8	
17134G	8/21/2013	Shaw. Bros. N-Pit	Granular Fill	ASTM D-1557 Modified C	133.2	6.2	

Elevation Notes:

Comments:

Reviewed By

S.W.COLE ENGINEERING, INC.

Report of Field Density
ASTM D6938

Project: **PORTLAND ME - CUMBERLAND COUNTY CIVIC CENTER RENOVATIONS - CONSTRUCTION MATERIALS TESTING**

Project Number: **12-0034.1**

Client: **CUMBERLAND COUNTY CIVIC CENTER**

Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
123	8/27/2013	KBG	CB(-7')/C1.8	50	12	17134G	129.2	5.1	97.0	95
124	8/27/2013	KBG	CB/C1.8(+10)	50	12	17134G	128.0	3.2	96.1	95
125	8/27/2013	KBG	CC/C2	51	12	17134G	127.4	3.3	95.6	95
126	8/27/2013	KBG	CC(+5)/C1(+5)	51	12	17134G	128.5	3.1	96.5	95
127	8/27/2013	KBG	CC/C3(-5)	50	12	17134G	129.0	3.1	96.8	95
128	8/27/2013	KBG	CC(-7)/C3(-15)	50	12	17134G	129.1	3.2	96.9	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
17134G	8/21/2013	Shaw. Bros. N-Pit	Granular Fill	ASTM D-1557 Modified C	133.2	6.2	

Elevation Notes:

Comments:

Reviewed By

Report of Field Density

ASTM D6938

Project: **PORTLAND ME - CUMBERLAND COUNTY CIVIC CENTER RENOVATIONS - CONSTRUCTION MATERIALS TESTING**

Project Number: **12-0034.1**

Client: **CUMBERLAND COUNTY CIVIC CENTER**

Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
129	8/28/2013	KBG	CB(-5)/C2.8(+8)	50	12	17134G	129.5	3.4	97.2	95
130	8/28/2013	KBG	CA(+10)/C2(+10)	50	12	17134G	127.8	3.0	95.9	95
131	8/28/2013	KBG	CC/C2	52	12	17134G	127.9	2.9	96.0	95
132	8/28/2013	KBG	CA(+5)/C2.3	51	12	17134G	130.9	2.7	98.3	95
133	8/28/2013	KBG	CB(+5)/C3(+5)	53	12	17134G	128.4	3.1	96.4	95
134	8/28/2013	KBG	CB(+5)/C2	53	12	17134G	127.6	3.3	95.8	95
135	8/28/2013	KBG	CC/C1(+10)	53	12	17134G	131.9	3.0	99.0	95
136	8/28/2013	KBG	CB/C3	54	12	17134G	131.4	2.7	98.6	95
137	8/28/2013	KBG	CB(+5)/C2(+5)	54	12	17134G	130.7	3.3	98.1	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
17134G	8/21/2013	Shaw. Bros. N-Pit	Granular Fill	ASTM D-1557 Modified C	133.2	6.2	

Elevation Notes:

Comments:

Reviewed By

S.W.COLE ENGINEERING, INC.

Report of Field Density
ASTM D6938

Project: **PORTLAND ME - CUMBERLAND COUNTY CIVIC CENTER RENOVATIONS - CONSTRUCTION MATERIALS TESTING**

Project Number: **12-0034.1**

Client: **CUMBERLAND COUNTY CIVIC CENTER**

Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
138	8/29/2013	KBG	CA(14)/X12(+5)	56	12	17134G	127.5	2.7	95.7	95
139	8/29/2013	KBG	CA(-18)/X11(+10)	60	12	17134G	132.4	2.3	99.4	95
140	8/29/2013	KBG	CA(-15)/X12(+5)	57	12	17134G	128.1	4.3	96.2	95
141	8/29/2013	KBG	CA(-13)/X13(+5)	56	12	17134G	129.8	3.6	97.4	95
142	8/29/2013	KBG	CA(-15)/X13	57	12	17134G	132.2	3.8	99.2	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
17134G	8/21/2013	Shaw. Bros. N-Pit	Granular Fill	ASTM D-1557 Modified C	133.2	6.2	

Elevation Notes:

Comments:

Reviewed By

Report of Field Density

ASTM D6938

Project: **PORTLAND ME - CUMBERLAND COUNTY CIVIC CENTER RENOVATIONS - CONSTRUCTION MATERIALS TESTING**

Project Number: **12-0034.1**

Client: **CUMBERLAND COUNTY CIVIC CENTER**

Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
143	8/30/2013	KBG	CA(-5)/X12(+5)	56	12	17134G	128.6	4.3	96.5	95
144	8/30/2013	KBG	CA(-4)/X13	56	12	17134G	130.4	3.4	97.9	95
145	8/30/2013	KBG	CA(-3)/X13(-10)	57	12	17134G	133.2	3.1	100.0	95
146	8/30/2013	KBG	CA(-5)/X11(+10)	58	12	17134G	127.2	3.9	95.5	95
147	8/30/2013	KBG	CA(-4)/X12	59	12	17134G	133.0	3.1	99.8	95
148	8/30/2013	KBG	CA(-5)/X11	60	12	17134G	128.9	3.3	96.8	95
149	8/30/2013	KBG	CA(-3)/X12(+10)	61	12	17134G	127.8	3.4	95.9	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
17134G	8/21/2013	Shaw. Bros. N-Pit	Granular Fill	ASTM D-1557 Modified C	133.2	6.2	

Elevation Notes:

Comments:

Reviewed By

S.W.COLE ENGINEERING, INC.

Report of Field Density
ASTM D6938

Project: **PORTLAND ME - CUMBERLAND COUNTY CIVIC CENTER RENOVATIONS - CONSTRUCTION MATERIALS TESTING**

Project Number: **12-0034.1**

Client: **CUMBERLAND COUNTY CIVIC CENTER**

Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
150	9/17/2013	KBG	DA(-8)/D1(-3)	69	12	17134G	128.1	3.0	96.2	95
151	9/17/2013	KBG	DA(-12)/D1(+10)	70	12	17134G	128.8	2.8	96.7	95
152	9/17/2013	KBG	DA(-4)/D1(+8)	70	12	17134G	132.1	3.3	99.2	95
153	9/17/2013	KBG	DA(-3)/D2(-7)	71	12	17134G	129.8	3.1	97.4	95
154	9/17/2013	KBG	DA(-9)/X1(+4)	70	12	17134G	127.6	3.2	95.8	95
155	9/17/2013	KBG	DA(-3)/D1(-3)	71	12	17134G	130.7	3.3	98.1	95
156	9/17/2013	KBG	DB(+5)/D2(-5)	61	12	17134G	129.2	3.1	97.0	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
17134G	8/21/2013	Shaw. Bros. N-Pit	Granular Fill	ASTM D-1557 Modified C	133.2	6.2	

Elevation Notes:

Comments:

Reviewed By

S.W.COLE ENGINEERING, INC.

Report of Field Density
ASTM D6938

Project: **PORTLAND ME - CUMBERLAND COUNTY CIVIC CENTER RENOVATIONS - CONSTRUCTION MATERIALS TESTING**

Project Number: **12-0034.1**

Client: **CUMBERLAND COUNTY CIVIC CENTER**

Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
157	9/18/2013	KBG	DB/D1	70	12	17134G	128.3	3.3	96.3	95
158	9/18/2013	KBG	XKA/D2(-5)	69	12	17134G	127.9	3.2	96.0	95
159	9/18/2013	KBG	DB(+5)/X2.2(+5)	70	12	17134G	127.8	3.4	95.9	95
160	9/18/2013	KBG	XK/X1(-5)	71	12	17134G	128.8	3.1	96.7	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
17134G	8/21/2013	Shaw. Bros. N-Pit	Granular Fill	ASTM D-1557 Modified C	133.2	6.2	

Elevation Notes:

Comments:

Reviewed By

S.W.COLE ENGINEERING, INC.

Report of Field Density
ASTM D6938

Project: **PORTLAND ME - CUMBERLAND COUNTY CIVIC CENTER RENOVATIONS - CONSTRUCTION MATERIALS TESTING**

Project Number: **12-0034.1**

Client: **CUMBERLAND COUNTY CIVIC CENTER**

Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
161	9/19/2013	KBG	DC/D1	75	12	17134G	130.4	3.0	97.9	95
162	9/19/2013	KBG	XKA(-5)/D1(+10)	75	12	17134G	131.1	2.9	98.4	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
17134G	8/21/2013	Shaw. Bros. N-Pit	Granular Fill	ASTM D-1557 Modified C	133.2	6.2	

Elevation Notes:

Comments:

Reviewed By

S.W.COLE ENGINEERING, INC.

Report of Field Density
ASTM D6938

Project: **PORTLAND ME - CUMBERLAND COUNTY CIVIC CENTER RENOVATIONS - CONSTRUCTION MATERIALS TESTING**

Project Number: **12-0034.1**

Client: **CUMBERLAND COUNTY CIVIC CENTER**

Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
163	9/20/2013	KBG	QUAD C: CB (-5)/C1(+15)	52	12	17134G	128.1	2.9	96.2	95
164	9/20/2013	KBG	QUAD C: CB(-10)/C1(+20)	53	12	17134G	129.5	3.3	97.2	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
17134G	8/21/2013	Shaw. Bros. N-Pit	Granular Fill	ASTM D-1557 Modified C	133.2	6.2	

Elevation Notes:

Comments:

Reviewed By

S.W.COLE ENGINEERING, INC.

Report of Field Density
ASTM D6938

Project: **PORTLAND ME - CUMBERLAND COUNTY CIVIC CENTER RENOVATIONS - CONSTRUCTION MATERIALS TESTING**

Project Number: **12-0034.1**

Client: **CUMBERLAND COUNTY CIVIC CENTER**

Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
165	9/23/2013	KBG	DA(-4)/D4(+7)	63	12	17134G	127.5	3.5	95.7	95
166	9/23/2013	KBG	DA(-7)/D3(+10)	65	12	17134G	130.3	3.8	97.8	95
167	9/23/2013	KBG	DA(-8)/X7(+10)	64	12	17134G	128.0	4.1	96.1	95
168	9/23/2013	KBG	DA(-5)/D2.5	66	12	17134G	128.8	3.2	96.7	95
169	9/23/2013	KBG	DA(-5)/D5	64	12	17134G	129.0	3.0	96.8	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
17134G	8/21/2013	Shaw. Bros. N-Pit	Granular Fill	ASTM D-1557 Modified C	133.2	6.2	

Elevation Notes:

Comments:

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S.W.COLE ENGINEERING, INC.

Report of Field Density
ASTM D6938

Project: **PORTLAND ME - CUMBERLAND COUNTY CIVIC CENTER RENOVATIONS - CONSTRUCTION MATERIALS TESTING**

Project Number: **12-0034.1**

Client: **CUMBERLAND COUNTY CIVIC CENTER**

Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
170	9/24/2013	KBG	XKA/D3	64	12	17134G	127.9	3.0	96.0	95
171	9/24/2013	KBG	XK/D3 (+10)	65	12	17134G	129.2	3.2	97.0	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
17134G	8/21/2013	Shaw. Bros. N-Pit	Granular Fill	ASTM D-1557 Modified C	133.2	6.2	

Elevation Notes:

Comments:

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Project Number: **12-0034.1**

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Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
172	9/25/2013	KBG	XKA/D4	64	12	17134G	130.7	3.3	98.1	95
173	9/25/2013	KBG	XK(-5)/X6(+5)	65	12	17134G	129.5	3.4	97.2	95
174	9/25/2013	KBG	DB(+5)/X7(-5)	65	12	17134G	130.4	3.2	97.9	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
17134G	8/21/2013	Shaw. Bros. N-Pit	Granular Fill	ASTM D-1557 Modified C	133.2	6.2	

Elevation Notes:

Comments:

Reviewed By