

## PROJECT MEMORANDUM

To: Blaine Buck

Cordjia Capital Projects Group

Copy: Aaron C. Jones, P.E. (Via Email)

**Structural Integrity Consulting Engineers** 

Ryan J. Senatore, Architect (Via Email)

Ryan Senatore Architecture

From: Erik J. Wiberg, P.E. EJW

R.W. Gillespie & Associates, Inc.

Date: 04 March 2016

Subject: Geotechnical Subgrade Observations

Building Lines T, 2, and 7, and Mass Concrete Footing

667 Congress Street Apartments

Portland, Maine

RWG&A Project No. 1565-001

This memo summarizes R.W. Gillespie & Associates, Inc.'s (RWG&A's) site visit made on 04 March 2016 at the request of PC Construction. The purpose of the site visit was to observe exposed foundation subgrade on building line T. Exposed conditions on building lines 2 and 7 between about buildings lines M and V, and in the area of the mass concrete footing were also observed. Erik J. Wiberg, P.E. made the site visit and was accompanied by William (Bill) S. Lawrence of PC Construction, William (Bill) M. Peterlein, P.E. of Summit Geoengineering Services (project geotechnical engineer), and Aaron C. Jones, P.E. of Structural Integrity Consulting Engineers (project structural engineer).

## Subgrade Observations

## **Building Line T**

RWG&A observed the portion of foundation subgrade on building line T from about building line 2 to line 7; see observed location on attached *Sketch 1*. At the time of the site visit, PC Construction had installed footing reinforcing steel along most of the alignment in preparation for a concrete placement later in the day. The exposed subgrade consisted of compacted crushed stone which extended below the bedrock surface based on conditions exposed in the excavation side wall between building line T and Congress Street. Groundwater was not observed in the foundation excavation. A photograph of building line T is enclosed as Figure 1. The exposed

conditions appeared consistent with geotechnical recommendations provided in the response to PC Construction's *Request for Information 0047* dated 17 February 2016.

## Building Lines 2 and 7

Based on exposed conditions on building line 7 and conditions reported by PC Construction on building line 2, the top of bedrock is at or below the design bottom of footing in the area between building lines M and R. See Figures 2 and 3 for photographs of these areas. It is understood that the foundation design is based on foundations bearing on compacted crushed stone over prepared bedrock surface. Bill Lawrence reviewed subsurface conditions with Bill Peterlein, P.E., and Aaron Jones, P.E. It's understood that the foundation design and subgrade requirements for these areas will be reviewed, and additional guidance provided in writing in the near future.

## Mass Concrete Footing – Area of Building Line M.9 to P.3

Exposed foundation subgrade consisted of a lean concrete mud slab. Reportedly the concrete was placed directly on bedrock, is about 3 to 6 inches thick, and the surface was finished using a bull float. Bedrock was exposed in the foundation excavation side walls. See Figure 4 for a photograph of the area. Aaron Jones, P.E. reviewed the exposed finish and constructed conditions with Bill Lawrence.

## Closure

We trust the above information meets the project's needs. Please contact us if you have any questions.

EJW:md

## Attachments

Sketch 1, Subgrade Observation Areas

Figure 1, Exposed conditions on building line T

Figure 2, Exposed conditions on building line 2 from building line T

Figure 3, Building line 7 from building line T

Figure 4, Mass concrete footing subgrade in area of building line M.9 to P.3

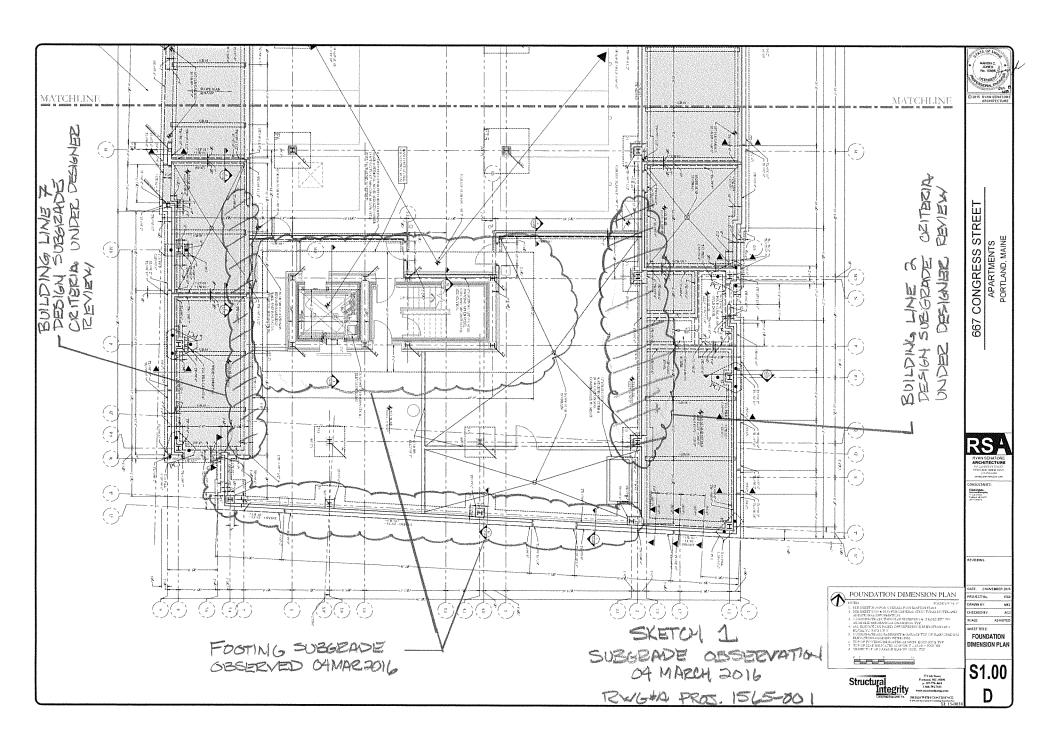




Figure 1- Exposed conditions on building line T. Photograph date: 04 March 2016



Figure 2 - Exposed conditions on building line 2 from building line T. Photograph date: 04 March 2016



Figure 3- Building line 7 from building line T. Photograph date: 04 March 2016



Figure 4 - Mass concrete footing subgrade in area of building line M.9 to P.3. Photograph date: 04 March 2016

## PROJECT MEMORANDUM

To: Blaine Buck

Cordjia Capital Projects Group

Copy: Aaron C. Jones, P.E. (Via Email)

Structural Integrity Consulting Engineers

Ryan J. Senatore, Architect (Via Email)

Ryan Senatore Architecture

From: Erik J. Wiberg, P.E. EJW

R.W. Gillespie & Associates, Inc.

Date: 07 March 2016

Subject: Geotechnical Subgrade Observations

Building Lines 1 and 2

667 Congress Street Apartments

Portland, Maine

RWG&A Project No. 1565-001

This memo summarizes R.W. Gillespie & Associates, Inc.'s (RWG&A's) site visit made on 07 March 2016 at the request of PC Construction. The purpose of the site visit was to observe exposed foundation subgrade on building lines 1 and 2 in the south part of the site. Erik J. Wiberg, P.E. made the site visit and was accompanied by William (Bill) S. Lawrence and Christopher Rodenhizer of PC Construction.

## Subgrade Observations

RWG&A observed the portion of foundation subgrade on building line 1 from about building line L to line M.9 and on building line 2 from about line L to line T; see observed locations on attached *Sketch 1*. At the time of the site visit Eastern Excavation, Inc., the site earthwork contractor, was excavating for foundation subgrade using a smooth-edged bucket on lines 1 and 2 in a south to north direction (away from Congress Street). The exposed subgrade appeared to consist of natural silty sand and gravel (i.e., glacial till) except for fractured bedrock on line 2 from about line P.3 to line T. The exposed bedrock appeared to diagonally cross the footing subgrade at the intersection of lines T and 2; see *Sketch 1*. It appears likely that glacial till subgrade conditions extends beyond line L toward line A'.

Sheet S1.00 and *Request for Information 0047* indicates that foundations on building line 2 are designed to be supported on crushed stone over a prepared bedrock surface. The exposed conditions varies from the design basis, and RWG&A recommends that the designers and

Summit Geoengineering Services, the project geotechnical engineering consultant, review exposed conditions relative to the design prior to foundation construction.

While on-site RWG&A reviewed geotechnical design recommendations with Bill Lawrence and Christopher Rodenhizer for proofrolling exposed glacial till subgrades with a 5-ton minimum vibratory roller. A representative of Eastern Excavation, Inc. indicated a compactor would be mobilized to the site in the near future. PC Construction indicated that they might seek additional guidance about proofrolling requirements from the project designers.

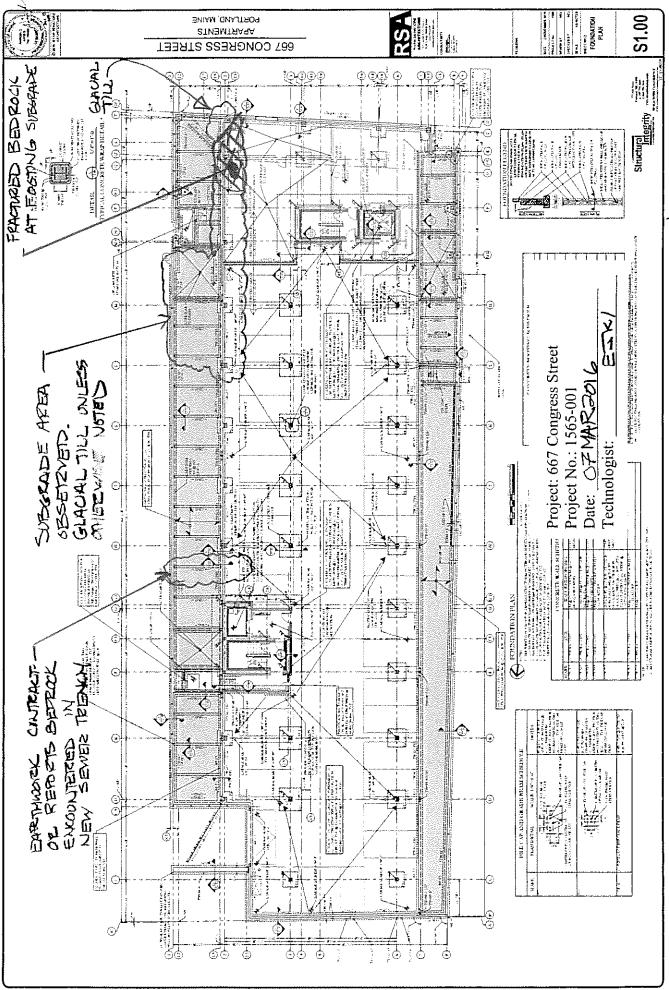
## Closure

We trust the above information meets the project's needs. Please contact us if you have any questions.

EJW:md

Attachments

Sketch 1, Subgrade Observation Areas – 07 March 2016



SKETCH A OTWARDOW

## R. W. Gillespie & Associates, Inc.

86 Industrial Park Road, Suite 4, Saco, ME 04072 207-286-8008 200 Int'l Drive, Suite 170, Portsmouth, NH 03801 603-427-0244 44 Wood Avenue, Suite I, Mansfield, MA 508-623-0101

## LETTER OF TRANSMITTAL

**Managed and ***	Date:	Project No.:
	April 15, 2016	1565-001
	Attention:	
	Blaine Buck (bbuck)	@cordjiacpg.com)
Cordjia Capital Projects Group	Re:	
	In-Place De	ensity Testing
PO Box 1367	667 Congre	ess Street Apartments Project
	Portland, M	<b>1</b> E 04101
Camden, Maine 04843		

Camden, l	Maine 04843		
	We are sending you atta	iched In-Plac	e Density Test Results.
Date(s) Pe	erformed:		Test (s) Performed
	06 & 08 April 2016	In	Place Density Testing - Nuclear Method ASTM D6938
		Ø	Meets Specification
		0	Selected Tests Do Not Meet Specification - Noted with an *
	erials descriptions and maximum laboratory dry density value renced in the attached summaries by the material number.	es were transi	nitted under separate cover and are
Remarks:			
Copy to:	Kate Gerrish (kgerrish@cordjiacpg.com) Aaron Jones (aaron@structuralinteg.com) Matt Legere (matt@structuralinteg.com) Christopher Rodenhizer (crodenhizer@pcconstruction.com) Bill Lawrence (blawrence@pcconstruction.com) Marieke Sparrow-Penin (msparrow-penin@pcconstruction.com)		Signed: Muth J

Marieke Sparrow-Pepin (msparrow-pepin@pcconstruction.com)

William Savage (wsavage@acorn-engineering.com) Ryan Senatore (ryan@sentorearchitecture.com) Nick Rouleau (nrouleau@pcconstructin.com)

If enclosures are not noted, kindly notify us at once.

## 667 CONGRESS STREET APARTMENTS PROJECT PORTLAND, MAINE CORDJIA CAPITAL PROJECTS GROUP RWG&A PROJECT NO. 1565-001

Checked By: Matthew T. Grady, 04/15/2016

Report Issue Date: Friday, April 15, 2016

R.W. Gillespie & Associates, Inc.

Test No.	Test Location	Elevation	ASTM D6938 Dry Density (pcf)	ASTM D6938 Water Content (%)	Sample Lab No.	Max Dry Density (pcf)	Opt Moisture (%)	Percent of Max (%)	Date	Technician	Gauge #
01	South Side - Lift 1 - See Map;	-4.5	114.9	5.8	13995	114.8	10.6	100	04/06/2016	Mary Sanders	5697
02	West Side - Lift 1 - See Map;	-4.5		8.9	13995	114.8	10.6	97	04/06/2016	Mary Sanders	5697
03	East Side - Lift 1 - See Map;	-4.5	114.4	8.7	13995	114.8	10.6	100	04/06/2016	Mary Sanders	2692
04	North Side - Lift 1 - See Map;	-4.5	111.3	7.7	13995	114.8	10.6	76	04/06/2016	Mary Sanders	5697
05	South Side - Lift 2 - See Map;	-3	111.9	7.4	13995	114.8	10.6	97	04/06/2016	Mary Sanders	5697
06	West Side - Lift 2 - See Map;	3	110.3	9.6	13995	114.8	10.6	96	04/06/2016	Mary Sanders	5697
07	East Side - Lift 2 - See Map;	-3	113.4	9.2	13995	114.8	10.6	66	04/06/2016	Mary Sanders	2695
08	North Side - Lift 2 - See Map;	-3	112.8	6.0	13995	114.8	10.6	86	04/06/2016	Mary Sanders	2695
60	South Side - Lift 3 - See Map;	1-	111.2	7.8	13995	114.8	10.6	97	04/06/2016	Mary Sanders	5697
10	West Side - Lift 3 - See Map;	-1	111.8	7.2	13995	114.8	10.6	-64	04/06/2016	Mary Sanders	5697
11	East Side - Lift 3 - See Map;	7	111.6	7.2	13995	114.8	10.6	97	04/06/2016	Mary Sanders	5697
12	North Side - Lift 3 - See Map;	-1	112.0	9.2	13995	114.8	10.6	86	04/06/2016	Mary Sanders	5697
13	West Side - Lift 4 - See Map;	0	113.4	8.8	13995	114.8	10.6	66	04/06/2016	Mary Sanders	5697
14	North Side - Lift 4 - See Map;	0	112.3	7.9	13995	114.8	10.6	86	04/06/2016	Mary Sanders	2695

Remarks:

01: Tests were on Sample 13995 Foundation Backfill Type E and require 95% of ASTM D1557 maximum density. TOF = Top of Footing

FG = Finish Grade
FF = Finish Floor
FGB = Finish Grade of Base
FGSB = Finish Grade of Subbase
FGSG = Finish Grade of Subbase

TOW=Top of Foundation Wall BOF=Bottom of Footing TOC = Top Curb

Filter Criteria: Project ID = 1565-001;Start Date = 4/6/2016;End Date = 4/6/2016 11:59:59 PM;

667 CONGRESS STREET
PPRILAND, MAINE
PORTLAND, MAINE S1.00

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145-001 667 GXXXX 51: Albly MCS

## 667 CONGRESS STREET APARTMENTS PROJECT PORTLAND, MAINE CORDJIA CAPITAL PROJECTS GROUP RWG&A PROJECT NO. 1565-001

Report Issue Date: Friday, April 15, 2016

R.W. Gillespie & Associates, Inc.

Checked By: Matthew T. Grady, 04/15/2016

Test No.	Test Location	Elevation	ASTM D6938 Dry Density (pcf)	ASTM D6938 ASTM D6938 Dry Water Density Content (pcf) (%)	Sample Lab No.	Max Dry Density (pcf)	Opt Percent Moisture of Max (%) (%)	Percent of Max (%)	Date	Technician	Gauge#
10	Exterior Wall - 2' East of L/1 - Lift 4;	0	113.8	7.3	13995	114.8	9.01	66	04/08/2016	04/08/2016 Mary Sanders	5697
02	Exterior Wall - 2' East of P.3/1 - Lift 4;	0	113.1	7.6	13995	114.8	10.6	66	04/08/2016	04/08/2016 Mary Sanders	2692
03	Exterior Wall - 2' West of M.9/7 - Lift 1;	8-	111.0	5.8	13995	114.8	10.6	76	04/08/2016	97 04/08/2016 Mary Sanders	5697
40	Exterior Wall - 2' West of R-S/7.6 - Lift 2;	9-	115.9	7.4	13995	114.8	9.01	101	04/08/2016	101 04/08/2016 Mary Sanders	5697

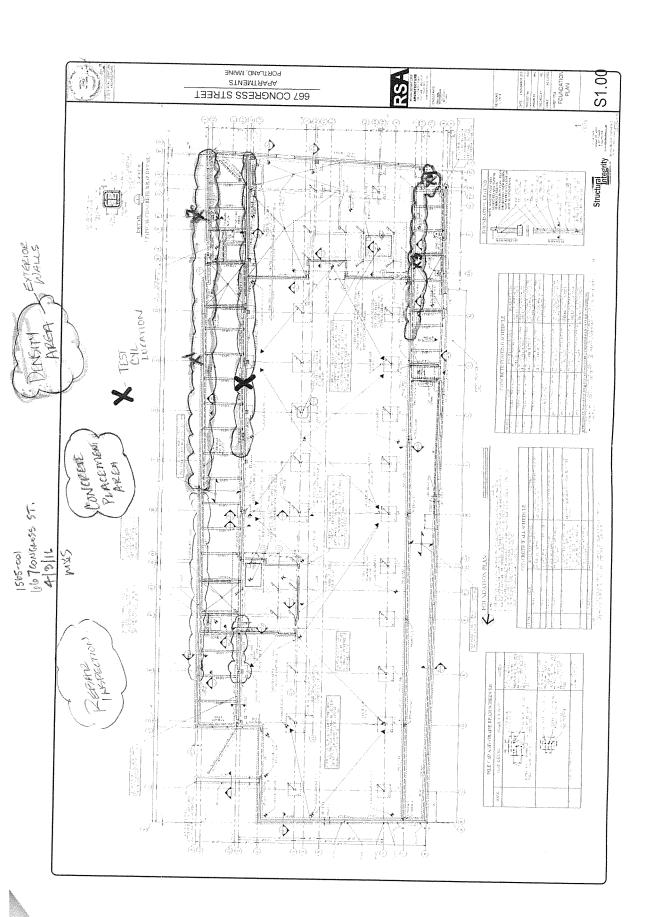
Remarks:

01: Tests were on Sample 13995 Foundation Backfill Type E and require 95% of ASTM D1557 maximum density. TOF = Top of Footing

FG = Finish Grade
FF = Finish Floor
FGB = Finish Grade of Base
FGSB = Finish Grade of Subbase
FGSG = Finish Grade of Subbase

TOW=Top of Foundation Wall BOF=Bottom of Footing TOC = Top Curb

Filter Criteria: Project ID = 1565-001;Start Date = 4/8/2016;End Date = 4/8/2016 11:59:59 PM;



## R. W. Gillespie & Associates, Inc.

86 Industrial Park Road, Suite 4, Saco, ME 04072 207-286-8008 200 Int'l Drive, Suite 170, Portsmouth, NH 03801 603-427-0244 44 Wood Avenue, Suite I, Mansfield, MA 508-623-0101

## LETTER OF TRANSMITTAL

**************************************	Date:	Project No.:
	April 22, 2016	1565-001
	Attention:	
	Blaine Buck (bbuck@co	ordjiacpg.com)
Cordjia Capital Projects Group	Re:	
	In-Place Densi	ty Testing
O Box 1367	667 Congress S	Street Apartments Project
	Portland, ME (	94101
Camden, Maine 04843		

Camden, Maine 04843	
We are sending you att	tached In-Place Density Test Results.
Date(s) Performed:	Test (s) Performed
April 13 & 15, 2016	In-Place Density Testing - Nuclear Method ASTM D6938
	Meets Specification
	O Selected Tests Do Not Meet Specification - Noted with an *
Note: Materials descriptions and maximum laboratory dry density value referenced in the attached summaries by the material number.	ues were transmitted under separate cover and are
Remarks:	
Copy to: Kate Gerrish (kgerrish@cordjiacpg.com)	

Aaron Jones (aaron@structuralinteg.com) Matt Legere (matt@structuralinteg.com)

Christopher Rodenhizer (crodenhizer@pcconstruction.com)

Bill Lawrence (blawrence@pcconstruction.com)

Marieke Sparrow-Pepin (msparrow-pepin@pcconstruction.com)

William Savage (wsavage@acorn-engineering.com) Ryan Senatore (ryan@sentorearchitecture.com) Nick Rouleau (nrouleau@pcconstructin.com)

If enclosures are not noted, kindly notify us at once.

## 667 CONGRESS STREET APARTMENTS PROJECT CORDJIA CAPITAL PROJECTS GROUP PORTLAND, MAINE

RWG&A PROJECT NO. 1565-001

R.W. Gillespie & Associates, Inc.

Checked By: Matthew T. Grady, 04/22/2016

Report I	Report Issue Date:	Friday, April 22, 2016								Checked I	Checked By: Matthew T. Grady, 04/22/20	dy, 04/22/20
Test No.		Test Location	Elevation	ASTM D6938 Dry Density (pcf)	ASTM D6938 ASTM D6938 Dry Water Density Content (pcf) (%)	Sample Lab No.		Max Dry Opt Percent Density Moisture of Max (pcf) (%) (%)	Percent of Max (%)	Date	Technician	Gauge #
10		Exterior Wall - 2' West of K-J/7 - Lift 1;	8-	115.6	9.6	13995	114.8	9.01	101	04/13/2016	101 04/13/2016 Mary Sanders	5697
02		Exterior Wall - 3' West of L/7 - Lift 2;	9-	116.0	7.7	13995	114.8	10.6	101	04/13/2016	114.8 10.6 101 04/13/2016 Mary Sanders	5697

Remarks:

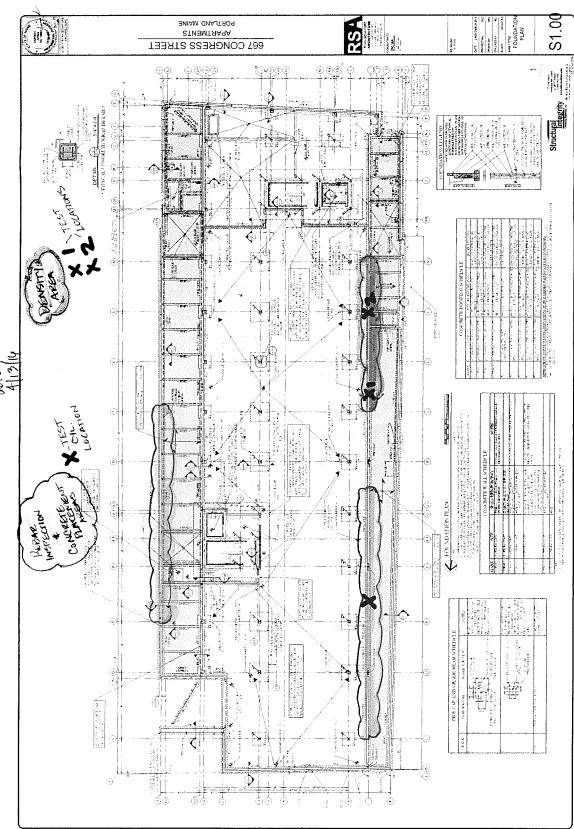
01: Tests were on sample 13995 Foundation backfill and requires 95% of ASTM D1557 maximum density.

FG = Finish Grade

FF = Finish Floor FGB = Finish Grade of Base FGSB = Finish Grade of Subbase FGSG = Finish Grade of Subgrade

TOW=Top of Foundation Wall BOF=Bottom of Footing TOC = Top Curb

Filter Criteria: Project ID = 1565-001;Start Date = 4/13/2016;End Date = 4/13/2016 I1:59:59 PM;



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# 667 CONGRESS STREET APARTMENTS PROJECT PORTLAND, MAINE CORDJIA CAPITAL PROJECTS GROUP

RWG&A PROJECT NO. 1565-001

Report Issue Date: Friday, April 22, 2016

R.W. Gillespie & Associates, Inc.

Checked By: Matthew T. Grady, 04/22/2016

Test No.	Test Location	Elevation	ASTM D6938 Dry Density (pcf)	ASTM D6938 Water Content (%)	Sample Lab No.	Max Dry Density (pcf)	y Opt Pe	Percent of Max (%)	Date	Technician	Gauge #
01	North Side of Footing - Lift 1;	-3.5	109.2	5.5	13995	114.8	9.01	95	04/15/2016	Mary Sanders	5697
02	North East Corner of Footing - Lift 2;	-2.5	118.8	7.2	13995	114.8	10.6	103	04/15/2016	Mary Sanders	5697
03	North Side of Footing - Lift 3;	-1.5	113.5	6.5	13995	114.8	9.01	66	04/15/2016	Mary Sanders	2692
04	South Side of Footing - Lift 2;	-2.5	117.4	7.1	13995	114.8	10.6	102	04/15/2016	Mary Sanders	2692
05	South Side of Footing - Lift 3;	-1.5	113.5	7.6	13995	114.8	9.01	66	04/15/2016	Mary Sanders	5697
90	East Side of Footing - Lift 4;	0	114.1	9.9	13995	114.8	9.01	66	04/15/2016	Mary Sanders	5697
07	North Side of Footing - Lift 4;	0	112.2	8.2	13995	114.8	9.01	86	04/15/2016	Mary Sanders	2692
80	South Side of Footing - Lift 4;	0	111.2	7.4	13995	114.8	9.01	67	04/15/2016	Mary Sanders	5697

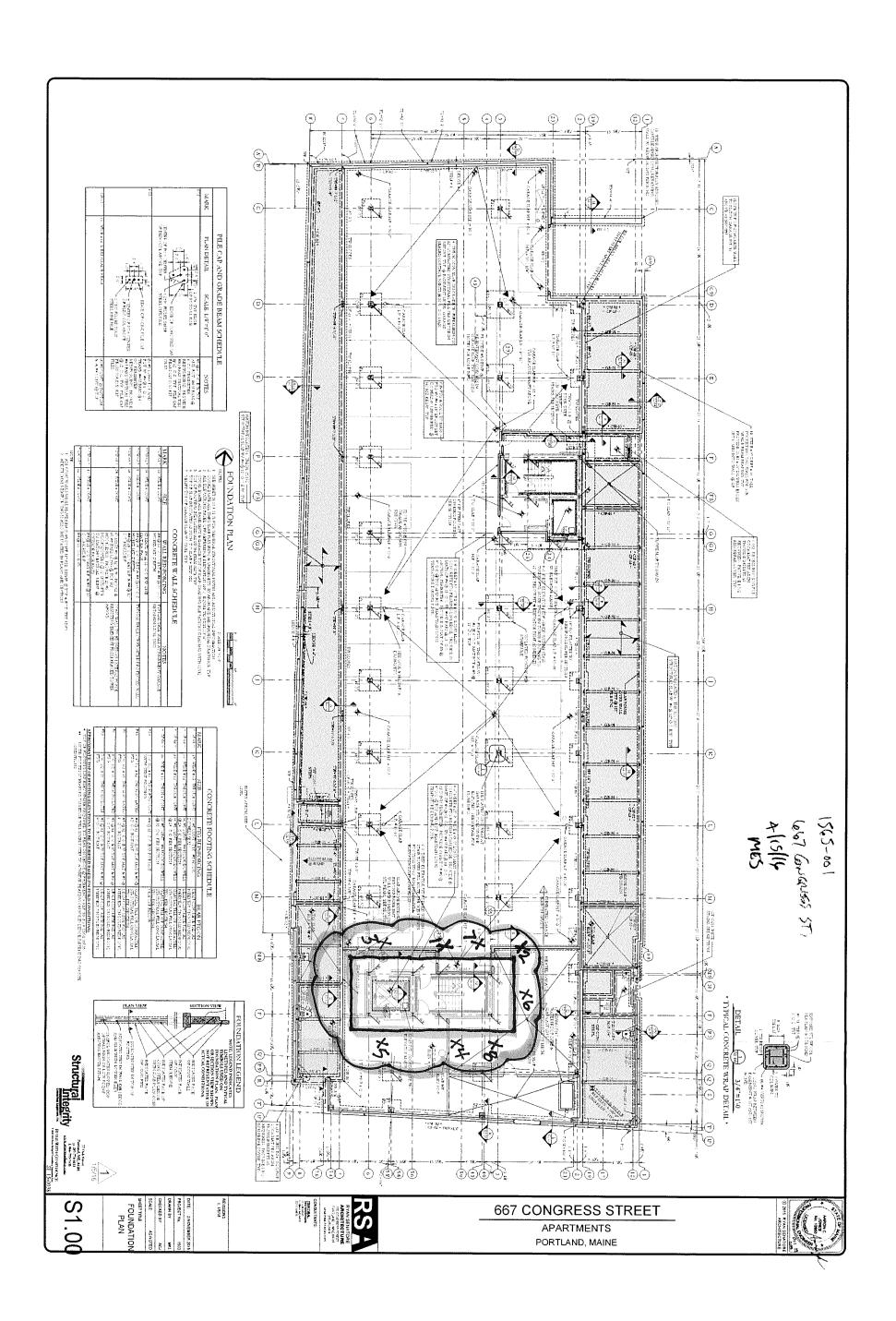
Remarks:

01: Tests were on sample 13995 Foundation backfill and require 95% of ASTM D1557 maximum density. Elevations = -3.5' from top of footing.

FG = Finish Grade FF = Finish Floor FGB = Finish Grade of Base FGSB = Finish Grade of Subbase FGSG = Finish Grade of Subbase

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Filter Criteria: Project ID = 1565-001;Start Date = 4/15/2016;End Date = 4/15/2016 11:59:59 PM;



## R. W. Gillespie & Associates, Inc.

86 Industrial Park Road, Suite 4, Saco, ME 04072 207-286-8008 200 Int'l Drive, Suite 170, Portsmouth, NH 03801 603-427-0244 44 Wood Avenue, Suite I, Mansfield, MA 508-623-0101

## LETTER OF TRANSMITTAL

	Dat	2:	Project No.:	_
		April 26, 2016	1565-001	
	Atte	ntion:		
		Blaine Buck (bbuck@core	djiacpg.com)	
Cordjia Capital Projects Group	Re:			
		In-Place Density	Testing	
PO Box 1367		667 Congress Str	reet Apartments Project	
		Portland, ME 04	101	
Camden, Maine 04843				

Camden, Maine 04843	**************************************	, , , , , , , , , , , , , , , , , , ,
	We are sending you atta	ached In-Place Density Test Results.
Date(s) Performed:		Test (s) Performed
	Friday, April 22, 2016	In-Place Density Testing - Nuclear Method ASTM D6938
		Meets Specification
		O Selected Tests Do Not Meet Specification - Noted with an *
	as and maximum laboratory dry density valu ached summaries by the material number.	nes were transmitted under separate cover and are
Remarks:		
Copy to: Kate Gerrisl	h (kgerrish@cordjiacpg.com)	1 , .

Aaron Jones (aaron@structuralinteg.com) Matt Legere (matt@structuralinteg.com)

Christopher Rodenhizer (crodenhizer@pcconstruction.com)

Bill Lawrence (blawrence@pcconstruction.com)

Marieke Sparrow-Pepin (msparrow-pepin@pcconstruction.com)

William Savage (wsavage@acorn-engineering.com) Ryan Senatore (ryan@sentorearchitecture.com) Nick Rouleau (nrouleau@pcconstructin.com)

If enclosures are not noted, kindly notify us at once.

## R.W. Gillespie & Associates, Inc.

## 667 CONGRESS STREET APARTMENTS PROJECT PORTLAND, MAINE CORDJIA CAPITAL PROJECTS GROUP RWG&A PROJECT NO. 1565-001

Report Issue Date: Tuesday, April 26, 2016

Checked By: Matthew T. Grady, 04/26/2016

Test No.	Test Location	Elevation	ASTM D6938 Dry Density (pcf)	ASTM D6938 Water Content (%)	Sample Lab No.	Max Dry Density (pcf)	Opt Percent Moisture of Max (%) (%)	Percent of Max (%)	Date	Technician	Gauge#
10	Foundation Wall Backfill, Linc I-1;	4-	1.601	3.4	13995	114.8	9.01	96	04/22/2016	04/22/2016 Tony Ashenden	L-244
02	Foundation Wall Backfill, Line G-1;	77	109.3	4.0	13995	114.8	9.01	95	04/22/2016	04/22/2016 Tony Ashenden	L-244
03	Foundation Wall Backfill, Line F-1;	4-	109.5	4.2	13995	114.8	10.6	95	04/22/2016	95 04/22/2016 Tony Ashenden	L-244

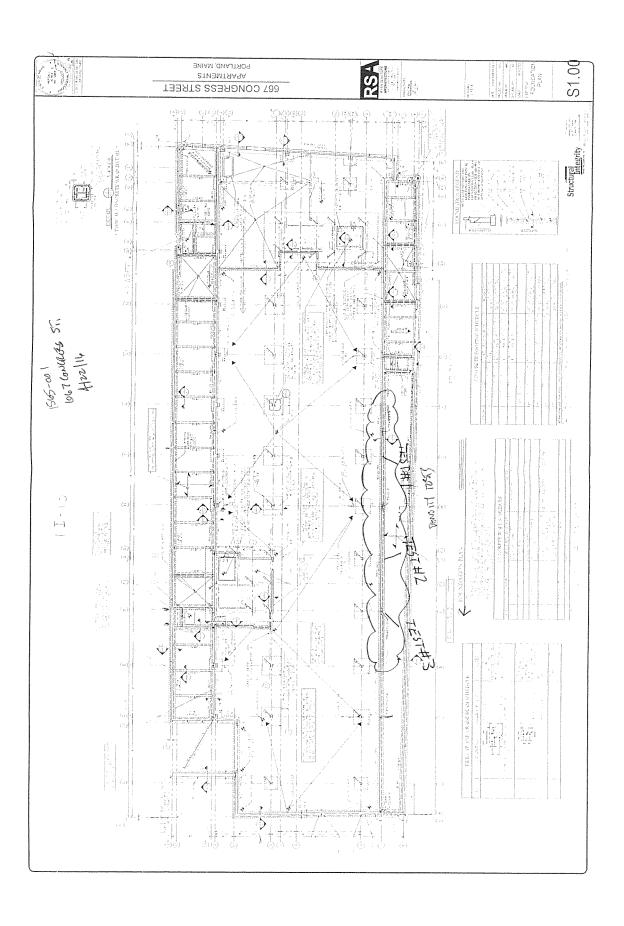
## Remarks:

01: Tests were on sample 13995 Foundation Backfill and require 95% of ASTM D1557 maximum density. Elevations were measured from Finish Grade.

FG = Finish Grade
FF = Finish Floor
FGB = Finish Grade of Base
FGSB = Finish Grade of Subbase
FGSB = Finish Grade of Subbase
FGSG = Finish Grade of Subbase

TOW=Top of Foundation Wall BOF=Bottom of Footing TOC = Top Curb

Filter Criteria: Project ID = 1565-001;Start Date = 4/22/2016;End Date = 4/22/2016 11:59:59 PM;



## PROJECT MEMORANDUM

To: Blaine Buck

Cordjia Capital Projects Group

Copy: Aaron C. Jones, P.E. (Via Email)

Structural Integrity Consulting Engineers

Ryan J. Senatore, Architect (Via Email)

Ryan Senatore Architecture

From: Erik J. Wiberg, P.E.

R.W. Gillespie & Associates, Inc.

Date: 27 April 2016

Subject: Geotechnical Subgrade Observations

Portions of Building Lines A, C.2, C.9, 1, 2, 2.3, 7, and 8

667 Congress Street Apartments

Portland, Maine

RWG&A Project No. 1565-001

This memo summarizes R.W. Gillespie & Associates, Inc.'s (RWG&A's) site visits made on 04 to 07, 20 and 21 April 2016 at the request of PC Construction. The purpose of the site visits was to observe exposed foundation subgrades in the north part of the site. Geotechnical engineers Erik J. Wiberg, P.E. and Charles R. Nickerson, P.E. made the site visits.

## Subgrade Observations

RWG&A observed foundation subgrades on portions of building lines A, C.2, and C.9 and on building lines 1, 2, 7 and 8 between building lines A and F. See attached Sketch 1, *Subgrade Observation Areas* for locations and dates observed. Representative photographs of observed conditions are attached. PC Construction's earthwork subcontractor Eastern Excavation, Inc. excavated for and prepared foundation subgrades.

Project documents call for foundations on building lines C.9, 1 and 8 to bear on glacial till deposits or bedrock, and foundations on lines A, 2, 2.3, and 7 to be supported on crushed stone on bedrock or on a minimum of 2 feet of compacted crushed stone if glacial till deposits are present. In general bedrock was encountered at or above design bottom of footing level at all locations with the following exceptions:

- Exposed subgrade at design bottom of footing level consisted of glacial till deposits on lines 7 and 8 from line E.5 to line F. On line 7 glacial till was removed down to bedrock which was within 2 feet of design bottom of footing from line E.5 to F.
- Subgrade consisted of trench backfill in the area of the access ramp were a new storm drain passes below the foundation on line 2.3, and near the intersection of lines C.2 and 1. See Sketch 1 for location. PC Construction indicated that the foundations in this area will only support the ramp and ground floor slab in this area.

Bedrock and glacial till deposits were removed to about ½-foot below bottom of footing level and replaced with crushed stone. Crushed stone was compacted using a hand-guided vibratory plate compactor. The foundation subgrades in the observed areas were prepared in accordance with project requirements.

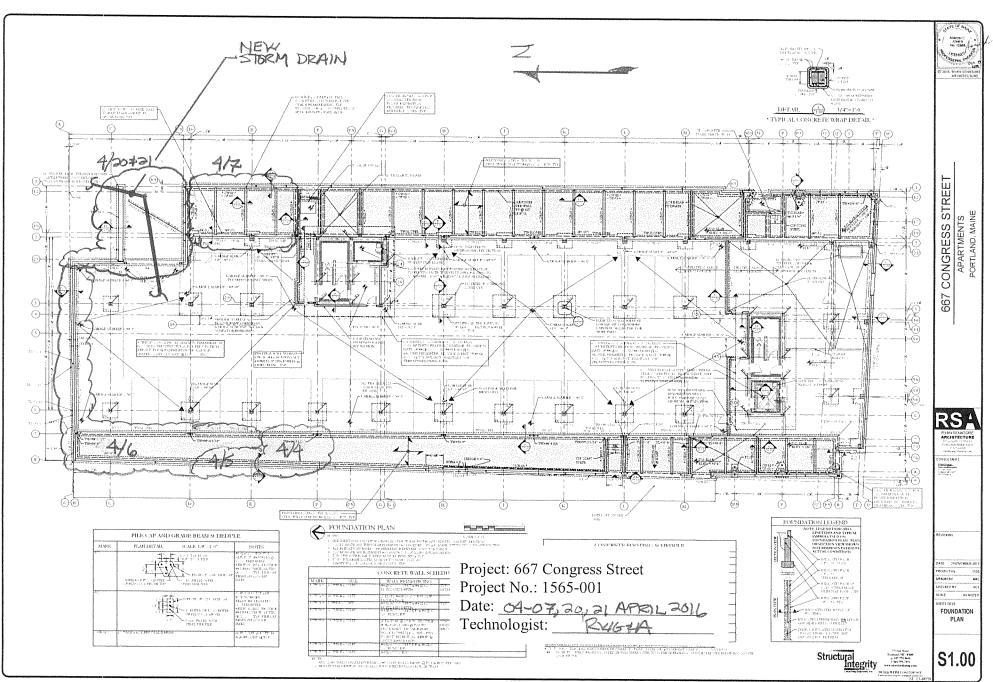
## Closure

We trust the above information meets the project's needs. Please contact us if you have any questions.

EJW:md

## Attachments

Sketch 1, *Subgrade Observation Areas*, 04-07, 20 and 21 April 2016 Photographs 1 through 6 (3 pages).



SKETCH 1-SUBGRADE OFSERVATION AREAS



Photograph 1 – Exposed subgrade on building lines 7 and 8 from line E to F prior to placing crushed stone. Date: 05 April 2016



Photograph 2 – Crushed stone subgrade on building line 7 south of line F; Date 05 April 2016



Photograph 3 – Crushed stone over bedrock on west part of building line A. Date: 06 April 2016



Photograph 4 – Exposed bedrock in east part of the building line A prior to placing crushed stone. Date: 06 April 2016



Photograph 5 – Storm drain trench backfill at foundation subgrade level on building line 2.3 between lines C.2 and C.9. Date: 20 April 2016.



Photograph 6 - Crushed stone over bedrock on building line C.2 between lines 1.2 and 2.3. Date: 21 April 2016

## 6

## R. W. Gillespie & Associates, Inc.

86 Industrial Park Road, Suite 4, Saco, ME 04072 207-286-8008 200 Int'l Drive, Suite 170, Portsmouth, NH 03801 603-427-0244 44 Wood Avenue, Suite I, Mansfield, MA 508-623-0101

## LETTER OF TRANSMITTAL

	Date:		Project No.:	
	June	6, 2016	1565-001	
	Attention:			
	Blaine	Buck (bbuck@core	djiacpg.com)	
Cordjia Capital Projects Group	Re:			
		In-Place Density	Testing	
PO Box 1367		667 Congress St	reet Apartments Project	
		Portland, ME 04	101	
Camden, Maine 04843				

Camden, Maine 04843	
We are sending you attache	ed In-Place Density Test Results.
Date(s) Performed:	Test (s) Performed
May 03 through 05, 2016	In-Place Density Testing - Nuclear Method ASTM D6938
	Meets Specification
	O Selected Tests Do Not Meet Specification - Noted with an *
Note: Materials descriptions and maximum laboratory dry density values values of referenced in the attached summaries by the material number.	were transmitted under separate cover and are
Remarks:	

Copy to:

Kate Gerrish (kgerrish@cordjiacpg.com)

Aaron Jones (aaron@structuralinteg.com)
Matt Legere (matt@structuralinteg.com)

Christopher Rodenhizer (crodenhizer@pcconstruction.com)

Bill Lawrence (blawrence@pcconstruction.com)

Marieke Sparrow-Pepin (msparrow-pepin@pcconstruction.com)

William Savage (wsavage@acorn-engineering.com) Ryan Senatore (ryan@sentorearchitecture.com) Cam Mullen (cmullen@pcconstruction.com)

If enclosures are not noted, kindly notify us at once.

## R.W. Gillespie & Associates, Inc.

## 667 CONGRESS STREET APARTMENTS PROJECT PORTLAND, MAINE CORDJIA CAPITAL PROJECTS GROUP RWG&A PROJECT NO. 1565-001

Report Issue Date: Monday, June 06, 2016

NWU&A

Checked By: Joshua Fancy, Project Manage, 06/06/2016

Test No.         Test Location         Elevation (pcf)         ASTM D6938 (Pcf)	and and index										,	)
110.7 8.0 13995 114.8 10.6 96 05/03/2016 Mary Sanders 112.3 3.5 13995 114.8 10.6 98 05/03/2016 Mary Sanders 112.7 6.3 13995 114.8 10.6 98 05/03/2016 Mary Sanders	Test No.	Test Location	Elevation	ASTM D6938 Dry Density (pcf)	ASTM D6938 Water Content (%)		Max Dry Density (pcf)	Opt Moisture (%)	Percent of Max (%)	Date	Technician	Gauge#
112.3 3.5 13995 114.8 10.6 98 05/03/2016 Mary Sanders 112.7 6.3 13995 114.8 10.6 98 05/03/2016 Mary Sanders	01	4' south/ 2'west - D/8, -8.5' TOW;		110.7	8.0	13995	114.8	10.6	96	05/03/2016	Mary Sanders	30060
112.7 6.3 13995 114.8 10.6 98 05/03/2016 Mary Sanders	02	3' south/ 2' west - A/8, -7.5' TOW;		112.3	3.5		114.8	9.01	86	05/03/2016	Mary Sanders	30060
	03	3' south/-C - D/8, -6.5' TOW;		112.7	6.3		114.8	10.6	86	05/03/2016	Mary Sanders	30060

Remarks:

01: Tests were of sample 13995 foundation backfill and require 95% of ASTM D1557 Maximum Density

FG = Finish Grade FF = Finish Floor FGB = Finish Grada of Page

FG = Finish Grade of Base FGSB = Finish Grade of Subbase FGSG = Finish Grade of Subbase

TOW=Top of Foundation Wall BOF=Bottom of Footing TOC = Top Curb

Filter Criteria: Project ID = 1565-001;Start Date = 5/3/2016;End Date = 5/3/2016 11:59:59 PM;

S1.00 ACOUNTY ACOUNT STNEMTRAGA PORTLAND MAINE 667 CONGRESS STREET Structural megrity services 18.32.68 のであるからできて 05.03.2016 The state of the s

1565-001

## 667 CONGRESS STREET APARTMENTS PROJECT CORDJIA CAPITAL PROJECTS GROUP RWG&A PROJECT NO. 1565-001 PORTLAND, MAINE

Monday, June 06, 2016

Report Issue Date:

R.W. Gillespie & Associates, Inc.

Checked By: Joshua Fancy, Project Manage, 06/06/2016

	West and the second sec										
Test No.	Test Location	Elevation	ASTM D6938 Dry Density (pcf)	ASTM B6938 Water Content (%)	Sample Lab No.	Max Dry Density (pcf)	Opt Moisture (%)	Percent of Max (%)	Date	Technician	Gauge#
01	West of P-Q/8, 4th lift;		111.2	6.1	13995	114.8	10.6	62	05/04/2016	Mary Sanders	30060
02	North of S/8, 4th Lift;		6'011	7.2	13995	114.8	9.01	62	05/04/2016	Mary Sanders	30060
03	East of F.5-G/1, 1st Lift;		9:111	6'8	13995	114.8	10.6	26	05/04/2016	Mary Sanders	30060
04	North of C/2-2.3, 1st Lift;		112.1	7.4	13995	114.8	9.01	86	05/04/2016	Mary Sanders	30060
05	East of D-E/1, 2nd Lift;		112.4	8:9	13995	114.8	9.01	86	05/04/2016	Mary Sanders	30060
90	North of C/1.2-1.9, 2nd Lift;		112.1	1.6	13995	114.8	9.01	86	05/04/2016	Mary Sanders	30060
07	Entrance, 1st Lift;		8.111	8.2	13995	114.8	9.01	76	05/04/2016	Mary Sanders	30060
80	Entrance, 1st Lift;		111.5	6.0	13995	114.8	9.01	76	05/04/2016	Mary Sanders	30060

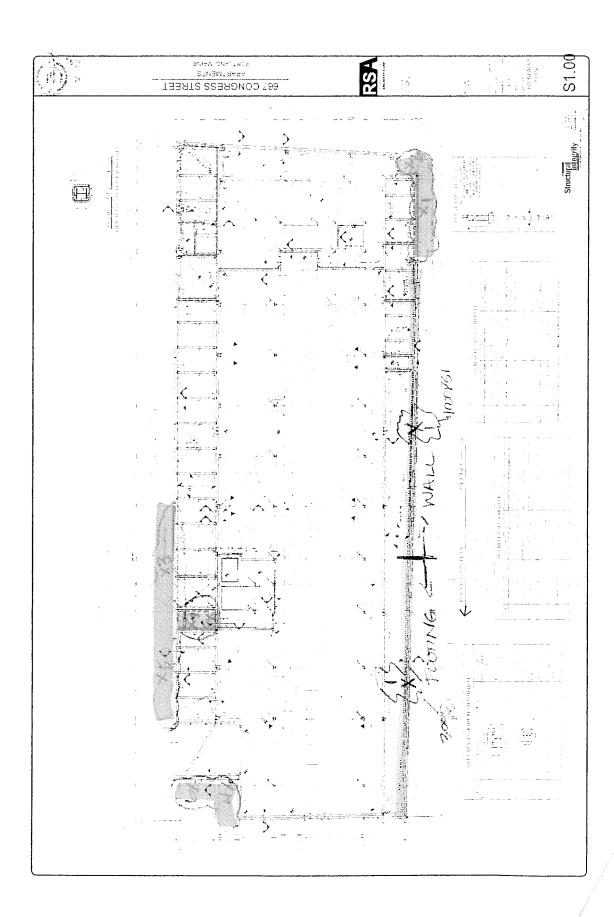
Remarks:

01: Tests were on sample 13995 foundation backfill and require 95% of ASTM D1557 maximum density.

FG = Finish Grade
FF = Finish Floor
FGB = Finish Grade of Base
FGSB = Finish Grade of Subbase
FGSG = Finish Grade of Subbase

TOW=Top of Foundation Wall BOF=Bottom of Footing TOC = Top Curb

Filter Criteria: Project ID = 1565-001;Start Date = 5/4/2016;End Date = 5/4/2016 11:59:59 PM;



Vane ha

## 667 CONGRESS STREET APARTMENTS PROJECT PORTLAND, MAINE CORDJIA CAPITAL PROJECTS GROUP

RWG&A PROJECT NO. 1565-001

Monday, June 06, 2016 Report Issue Date:

R.W. Gillespie & Associates, Inc.

Checked By: Joshua Fancy, Project Manage, 06/06/2016

Test No.	Test Location	Elevation	ASTM D6938 Dry Density (pcf)	ASTM D6938 ASTM D6938 Dry Water Density Content (pcf) (%)	Sample Lab No.	Max Dry Density (pcf)	Opt Percent Moisture of Max (%) (%)	Percent of Max (%)	Date	Technician	Gauge #
01	P.3-Q/1.7-1.9, 3rd Lift ;		110.4	3.9	13995	114.8	10.6	96	05/05/2016	96 05/05/2016 Mary Sanders	30060
02	L-M/ 1.2-1.7, 2nd Lift;		113.7	6.9	13995	114.8	9'01	66	05/05/2016	99 05/05/2016 Mary Sanders	30060
03	K-L/ 1.7, 1st Lift;		110.6	2.6	13995	114.8	9.01	96	05/05/2016	96 05/05/2016 Mary Sanders	30060

Remarks:

01: Tests were on sample 13995 foundation backfill and require 95% of ASTM D1557 maximum density.

FG = Finish Grade
FF = Finish Floor
FGB = Finish Grade of Base
FGSB = Finish Grade of Subbase
FGSG = Finish Grade of Subbase

TOW=Top of Foundation Wall BOF=Bottom of Footing TOC = Top Curb

Project ID = 1565-001;Start Date = 5/5/2016;End Date = 5/5/2016 11:59:59 PM; Filter Critería:

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APARTMENTS
PORTLAND MAINE 

E SACAS SAN

## 6

## R. W. Gillespie & Associates, Inc.

86 Industrial Park Road, Suite 4, Saco, ME 04072 207-286-8008 200 Int'l Drive, Suite 170, Portsmouth, NH 03801 603-427-0244 44 Wood Avenue, Suite I, Mansfield, MA 508-623-0101

## LETTER OF TRANSMITTAL

	Date:	Project No.:
	June 6, 2016	1565-001
	Attention:	
	Blaine Buck (bbuck@core	djiacpg.com)
Cordjia Capital Projects Group	Re:	
	In-Place Density	Testing
PO Box 1367	667 Congress Str	reet Apartments Project
	Portland, ME 04	101
Camden, Maine 04843		

aine 04843	
We are sending you attached In-Place	Density Test Results.
formed:	Test (s) Performed
Thursday, May 12, 2016 In-I	Place Density Testing - Nuclear Method ASTM D6938
×	Meets Specification
0	Selected Tests Do Not Meet Specification - Noted with an *
als descriptions and maximum laboratory dry density values were transmoded in the attached summaries by the material number.	nitted under separate cover and are
Thursday, May 12, 2016 In-I  O  als descriptions and maximum laboratory dry density values were transm	Place Density Testing - Nuclear Method ASTM D6938  Meets Specification  Selected Tests Do Not Meet Specification - Noted with an *

Copy to:

Kate Gerrish (kgerrish@cordjiacpg.com) Aaron Jones (aaron@structuralinteg.com)

Matt Legere (matt@structuralinteg.com)

Christopher Rodenhizer (crodenhizer@pcconstruction.com)

Bill Lawrence (blawrence@pcconstruction.com)

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William Savage (wsavage@acorn-engineering.com) Ryan Senatore (ryan@sentorearchitecture.com) Cam Mullen (cmullen@pcconstruction.com)

If enclosures are not noted, kindly notify us at once.

## R.W. Gillespie & Associates, Inc.

## 667 CONGRESS STREET APARTMENTS PROJECT PORTLAND, MAINE CORDJIA CAPITAL PROJECTS GROUP RWG&A PROJECT NO. 1565-001

Monday, June 06, 2016 Report Issue Date:

Checked By: Joshua Fancy, Project Manage, 06/06/2016

Test No.	Test Location	Elevation	ASTM D6938 Dry Density (pcf)	ASTM D6938 Water Content (%)	Sample Lab No.	Max Dry Density (pcf)	Opt Percent Moisture of Max (%)	Percent of Max (%)	Date	Technician	Gauge #
01	West G.1-H/8, 2nd Lift;		111.6	2.8	13995	114.8	10.6	76	05/12/2016	97 05/12/2016 Mary Sanders	21059
02	West F-F.5/8, 2nd Lift;		110.4	2.9	13995	114.8	10.6	96	05/12/2016	96 05/12/2016 Mary Sanders	21059
03	West D-E/8, 2nd Lift;		6.011	3.2	13995	114.8	10.6	76	97 05/12/2016	Mary Sanders	21059
90	West C-D/8, 2nd Lift;		111.4	3.8	13995	114.8	10.6	76	05/12/2016	97 05/12/2016 Mary Sanders	21059

Remarks:

01: Tests were on sample 13995 foundation backfill and require 95% of ASTM D1557 maximum density.

FG = Finish Grade
FF = Finish Floor
FGB = Finish Grade of Base
FGSB = Finish Grade of Subbase
FGSG = Finish Grade of Subbase

TOW=Top of Foundation Wall BOF=Bottom of Footing TOC = Top Curb

Project ID = 1565-001;Start Date = 5/12/2016;End Date = 5/12/2016 11:59:59 PM; Filter Criteria:

S1.00 PORTLAND, MAINE **STNEMTAAAA** 667 CONGRESS STREET 9 Structural megnity management ① ② 8-12-1012 (2)H MACANA PARTIES な PICE CAP AND GRADE BEAM SCHEDULE

UZI CONSIMES JI

### R. W. Gillespie & Associates, Inc.

86 Industrial Park Road, Suite 4, Saco, ME 04072 207-286-8008 200 Int'l Drive, Suite 170, Portsmouth, NH 03801 603-427-0244 44 Wood Avenue, Suite I, Mansfield, MA 508-623-0101

### LETTER OF TRANSMITTAL

**On Marine Park	Date:	Project No.:	
	June 29, 2016	1565-001	
	Attention:		
	Blaine Buck (bbu	ick@cordjiacpg.com)	
Cordjia Capital Projects Group	Re:		
	In-Place	Density Testing	
O Box 1367	667 Cor	igress Street Apartments Project	
	Portland	I, ME 04101	
Samden, Maine 04843			

Wea	are sending you attached In-Place	e Density Test Results.
Date(s) Performed:		Test (s) Performed
Friday, June 17	7, 2016 In-	Place Density Testing - Nuclear Method ASTM D6938
	0	Meets Specification
	0	Selected Tests Do Not Meet Specification - Noted with an *
Note: Materials descriptions and maximum laborator referenced in the attached summaries by the n		nitted under separate cover and are
Remarks:		

Copy to:

Kate Gerrish (kgerrish@cordjiacpg.com)

Aaron Jones (aaron@structuralinteg.com)
Matt Legere (matt@structuralinteg.com)

Christopher Rodenhizer (crodenhizer@pcconstruction.com)

Bill Lawrence (blawrence@pcconstruction.com)

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William Savage (wsavage@acorn-engineering.com) Ryan Senatore (ryan@sentorearchitecture.com) Cam Mullen (cmullen@pcconstruction.com)

### 667 CONGRESS STREET APARTMENTS PROJECT PORTLAND, MAINE

CORDJIA CAPITAL PROJECTS GROUP RWG&A PROJECT NO. 1565-001

> Tuesday, June 28, 2016 Report Issue Date:

R.W. Gillespie & Associates, Inc.

Checked By: Joshua Fancy, Project Manage, 06/28/2016

Test No.	Test Location	Elevation	ASTM D6938 Dry Density (pcf)	ASTM D6938 ASTM D6938  Dry Water Density Content (pcf) (%)	Sample Lab No.	Max Dry Density (pcf)	Opt Moisture (%)	Percent of Max (%)	Date	Technician	Gauge #
01	Final lift;		144.8	3.1	14042	147.4	3.9	86	06/17/2016	Pat Roma	30060
02	Final lift;		143.7	3.6	14042	147.4	3.9	76	06/17/2016	Pat Roma	30060
03	Final lift;		140.4	3.2	14042	147.4	3.9	95	06/17/2016	Pat Roma	30060
04	Between line 7 & 8, 1st lift;		141.3	3.4	14042	147.4	3.9	96	06/17/2016	Pat Roma	30060
05	Between line 7 & 8, 1st Lift;		140.7	4.9	14042	147.4	3.9	95	06/17/2016	Pat Roma	30060
90	Between line 7 & 8, 2nd lift;		140.2	4.7	14042	147.4	3.9	98	06/17/2016	Pat Roma	30060
07	Between line 7 & 8, 2nd Lift;		141.3	5.0	14042	147.4	3.9	96	06/17/2016	Pat Roma	30060
80	Between line 7 & 8, 3rd lift;		140.5	4.7	14042	147.4	3.9	56	06/17/2016	Pat Roma	30060
60	Between line 7 & 8, 3rd lift;		141.0	4.0	14042	147.4	3.9	96	06/17/2016	Pat Roma	30060
10	Between line 7 & 8, Final lift;		141.2	4.1	14042	147.4	3.9	96	06/17/2016	Pat Roma	30060
							-				

### Remarks:

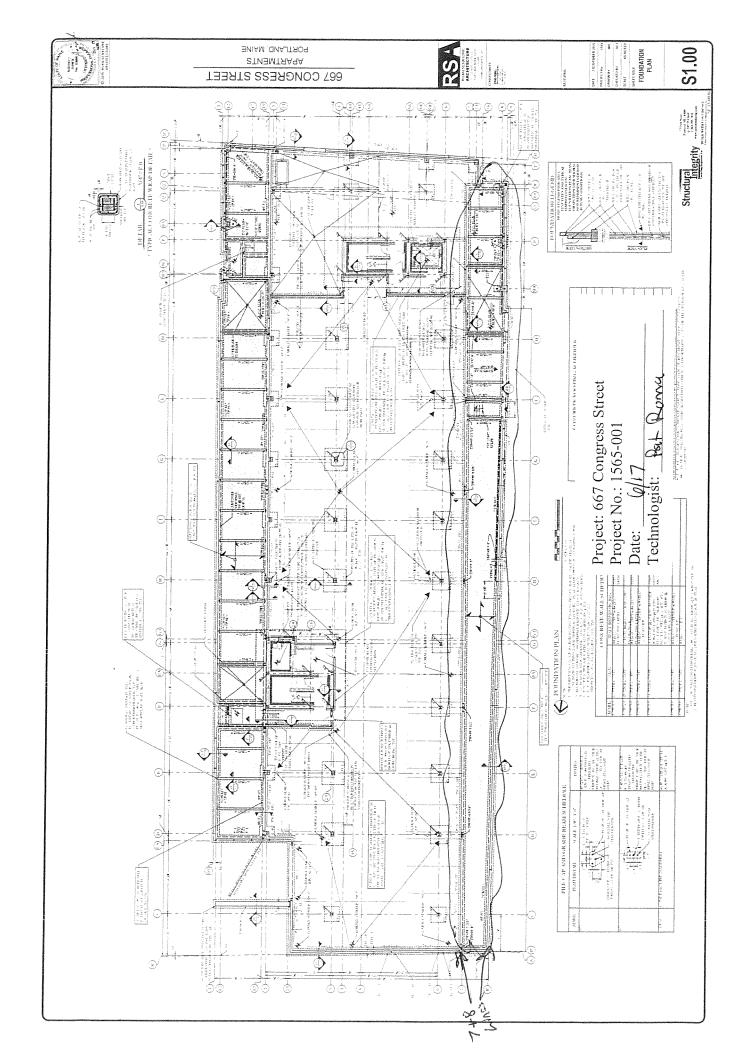
01: Tests were on sample 14042 structural fill and require 95% of ASTM D1557 Maximum density

FG = Finish Grade
FF = Finish Floor
FGB = Finish Grade of Base
FGSB = Finish Grade of Subbase
FGSG = Finish Grade of Subbase

TOW=Top of Foundation Wall BOF=Bottom of Footing TOC = Top Curb

Project ID = 1565-001;Start Date = 6/17/2016;End Date = 6/17/2016 I1:59:59 PM;

Filter Criteria:



### R. W. Gillespie & Associates, Inc.

86 Industrial Park Road, Suite 4, Saco, ME 04072 207-286-8008 200 Int'l Drive, Suite 170, Portsmouth, NH 03801 603-427-0244 44 Wood Avenue, Suite I, Mansfield, MA 508-623-0101

### LETTER OF TRANSMITTAL

	Date:	Project No.:
	July 8, 201	1565-001
	Attention:	
	Blaine Buck (	(bbuck@cordjiacpg.com)
Cordjia Capital Projects Group	Re:	
	In-P	Place Density Testing
PO Box 1367	667	Congress Street Apartments Project
	Port	land, ME 04101
Camden, Maine 04843		

Camden, Maine 04843		
	We are sending you attac	hed In-Place Density Test Results.
Date(s) Performed:		Test (s) Performed
	June 20, 21, 23, & 24, 2016	In-Place Density Testing - Nuclear Method ASTM D6938
		Meets Specification
		O Selected Tests Do Not Meet Specification - Noted with an *
	nd maximum laboratory dry density values ed summaries by the material number.	were transmitted under separate cover and are
Remarks:		

Copy to:

Kate Gerrish (kgerrish@cordjiacpg.com)

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Matt Legere (matt@structuralinteg.com)
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Marieke Sparrow-Pepin (msparrow-pepin@pcconstruction.com)

William Savage (wsavage@acorn-engineering.com) Ryan Senatore (ryan@sentorearchitecture.com) Cam Mullen (cmullen@pcconstruction.com)

### 667 CONGRESS STREET APARTMENTS PROJECT CORDJIA CAPITAL PROJECTS GROUP RWG&A PROJECT NO. 1565-001 PORTLAND, MAINE

Checked By: Joshua Fancy, Project Manage, 07/07/2016

Report Issue Date:

R.W. Gillespie & Associates, Inc.

Thursday, July 07, 2016

Test Location	Elevation	ASTM D6938 Dry Density (pcf)	ASTM D6938 ASTM D6938 Dry Water Density Content (pcf) (%)	Sample Lab No.	Max Dry Density (pcf)	Opt Moisture (%)	Percent of Max (%)	Date	Technician	Gauge #
M.6, 1.7, 1st Lift;	96	110.9	3.9	13995	114.8	10.6	76	06/20/2016	Tony Stohlberg	L-497
L.5, 1.8, 1st lift;	96	112.1	3.4	13995	114.8	9.01	86	06/20/2016	Tony Stohlberg	L-497
K.9, 1.3, 1st Lift;	96	119.4	3.1	13995	114.8	10.6	104	06/20/2016	Tony Stohlberg	L-497
I.7, 1.7, 1st Lift;	96	111.5	2.3	13995	114.8	9:01	97	06/20/2016	Tony Stohlberg	L-497
L.5, 1.4, FG;	66	110.1	2.0	13995	114.8	10.6	96	06/20/2016	Tony Stohlberg	L-497
L.2, 1.7, FG;	66	109.4	2.2	13995	114.8	10.6	95	06/20/2016	Tony Stohlberg	L-497
K.2, 1.2, FG;	66	113.1	2.7	13995	114.8	10.6	66	06/20/2016	Tony Stohlberg	L-497

Remarks:

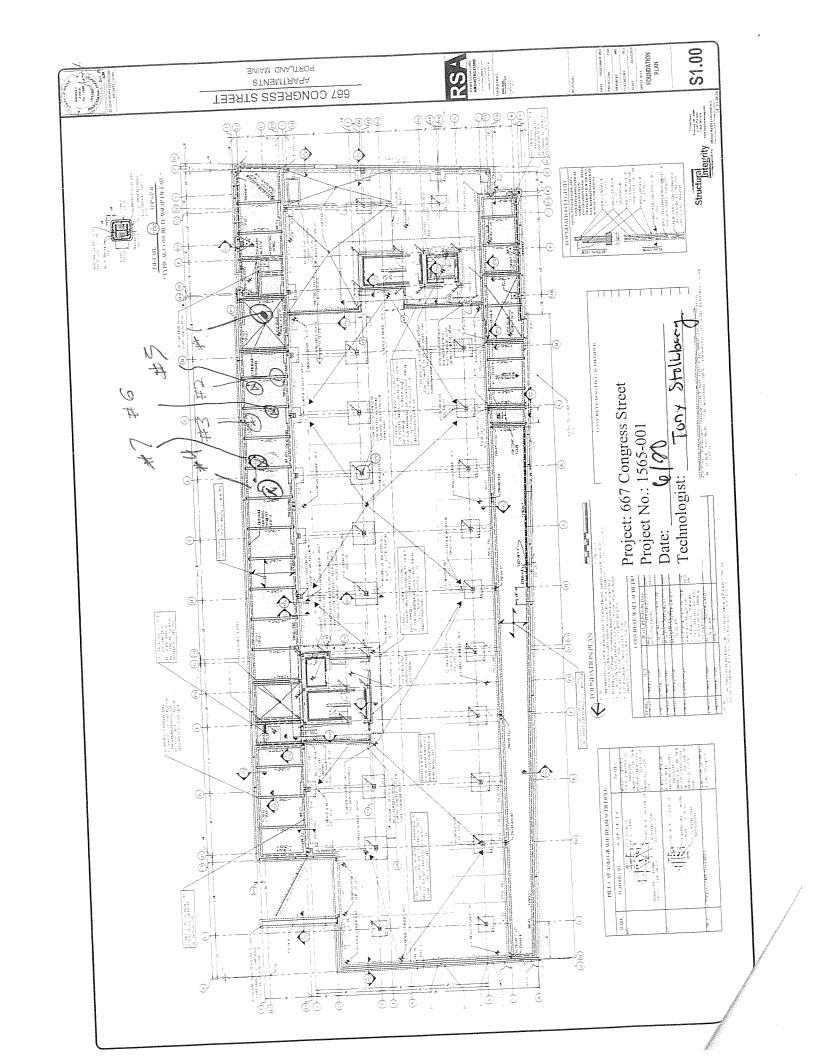
01: Tests were on sample 13995 Foundation Back-fill and require 95% of ASTM D1557 Maximum Density.

FG = Finish Grade
FF = Finish Floor
FGB = Finish Grade of Base
FGSB = Finish Grade of Subbase
FGSG = Finish Grade of Subbase

TOW=Top of Foundation Wall BOF=Bottom of Footing TOC = Top Curb

Filter Criteria:

Project ID = 1565-001;Start Date = 6/20/2016;End Date = 6/20/2016 11:59:59 PM;



### 667 CONGRESS STREET APARTMENTS PROJECT CORDJIA CAPITAL PROJECTS GROUP RWG&A PROJECT NO. 1565-001 PORTLAND, MAINE

Checked By: Joshua Fancy, Project Manage, 07/07/2016

Thursday, July 07, 2016 Report Issue Date:

R.W. Gillespie & Associates, Inc.

Gauge# L-497 Tony Stohlberg 06/21/2016 Tony Stohlberg Tony Stohlberg Tony Stohlberg Tony Stohlberg Tony Stohlberg Tony Stohlberg 06/21/2016 Tony Stohlberg 06/21/2016 Tony Stohlberg 06/21/2016 Tony Stohlberg **Technician** 06/21/2016 06/21/2016 06/21/2016 06/21/2016 06/21/2016 06/21/2016 06/21/2016 06/21/2016 06/21/2016 06/21/2016 06/21/2016 06/21/2016 06/21/2016 06/21/2016 06/21/2016 06/21/2016 Date Percent of Max (%) 95 95 96 95 95 95 96 95 96 95 95 96 95 95 95 95 95 95 95 95 Opt Maisture (%) 9.01 9.01 9.01 9.01 10.6 10.6 9.01 10.6 10.6 9.01 10.6 10.6 9.01 10.6 10.6 10.6 9.01 10.6 10.6 9.01 Max Dry Density (pcf) 114.8 Sample Lab No. 13995 ASTM D6938 Water Content (%) 4.2 4.6 4. 3.9 3.5 3.5 3.3 3.1 3.0 2.9 2.4 2.4 4.1 3.8 3.1 3.4 3.9 4.2 3.2 3.7 **STM D6938** Dry Density (pcf) 109.0 110.0 109.9 109.7 9.601 110.0 109.0 109.1 108.9 109.0 109.0 109.2 108.9 109.3 109.2 109.3 109.1 109.1 109.3 109.1 Elevation 96 96 96 66 66 66 96 96 96 66 66 66 89 68 89 92 92 92 96 96 Box from F to F.5 and 1 to 2, 2nd lift; Box from F to F.5 and 1 to 2, 2nd lift; Box from F to F.5 and 1 to 2, 2nd lift; Box from F to F.5 and 1 to 2, 1st lift; Box from F to F.5 and 1 to 2, 3rd lift; Box from F to F.5 and 1 to 2, 3rd lift; Box from F to F.5 and 1 to 2, 1st lift; Box from F to F.5 and 1 to 2, 1st lift; H.8, 1.4, 1st lift; F.9, 1.3, 1st lift; H.5, 1.5, 1st lift J.5, 1.6, 1st lift H, 1.8, 1st lift; G.8, 1.2, 1st lift Fest Location K.8, 1.7, FG; G.3, 1.2, FG; G.5, 1.8, FG; F.8, 1.8, FG; K.6, 1.2, FG; K, 1.8, FG; Test No. 05 90 60 10 = 7 13 15 16 17 18 19 20 02 03 9 07 80 7 0

FF = Finish Floor FGB = Finish Grade of Base FGSB = Finish Grade of Subbase FGSG = Finish Grade of Subgrade FG = Finish Grade

TOW=Top of Foundation Wall BOF=Bottom of Footing TOC = Top Curb

Project ID = 1565-001;Start Date = 6/21/2016;End Date = 6/21/2016 11:59:59 PM; Filter Criteria:

Corporate Office 86 Industrial Park Road, Ste 4, Saco, ME 04072 Branch Office 200 International Drive, Ste 170, Portsmouth, NH 03801 R. W. Gillespie Associates, Inc.

### 667 CONGRESS STREET APARTMENTS PROJECT R.W. Gillespie & Associates, Inc.

CORDJIA CAPITAL PROJECTS GROUP RWG&A PROJECT NO. 1565-001 PORTLAND, MAINE

Report Issue Date:

Thursday, July 07, 2016

Checked By: Joshua Fancy, Project Manage, 07/07/2016

			<u> </u>								
Test Location	Elevation	ASTM D6938 Dry Density (pcf)	ASTM D6938 Water Content (%)	Sample Lab No.	Max Dry Density (pcf)	Opt Moisture (%)	Percent of Max (%)	Date	Technician	Gauge#	
Box from F to F.5 and 1 to 2, 3rd lift;	96	113.6	4.5	13995	114.8	10.6	66	06/21/2016	06/21/2016 Tony Stohlberg	L-497	

Remarks:

01: Tests were on sample 13995 Foundation backfill and require 95% of ASTM D1557 maximum density

13: Shots 13-21 were taken in the Box from F to F.5 and 1 to 2. Exact location is splitting hairs because they were all basically in the same three areas due to the plumbing inside the box.

FG = Finish Grade
FF = Finish Floor
FGB = Finish Grade of Base
FGSB = Finish Grade of Subbase
FGSG = Finish Grade of Subbase

TOW=Top of Foundation Wall BOF=Bottom of Footing TOC = Top Curb

Filter Criteria: Project ID = 1565-001;Start Date = 6/21/2016;End Date = 6/21/2016 11:59:59 PM;

## 667 CONGRESS STREET APARTMENTS PROJECT PORTLAND, MAINE CORDJIA CAPITAL PROJECTS GROUP RWG&A PROJECT NO. 1565-001

Checked By: Joshua Fancy, Project Manage, 07/07/2016

Thursday, July 07, 2016 Report Issue Date:

R.W. Gillespie & Associates, Inc.

Test No.	Test Location	Elevation	ASTM D6938 Dry Density (pcf)	ASTM D6938 Water Content (%)	Sample Lab No.	Max Dry Density (pcf)	Opt Moisture (%)	Percent of Max (%)	Date	Technician	Gauge #
01	E.5, 1.4, 1st lift;	06	109.1	2.9	13995	114.8	10.6	95	06/23/2016	Tony Stohlberg	L-497
02	E, 1.8, 1st lift;	06	11111	2.2	13995	114.8	10.6	62	06/23/2016	Tony Stohlberg	L-497
03	D.2, 1.3, 1st lift ;	06	111.3	2.3	13995	114.8	10.6	6	06/23/2016	Tony Stohlberg	L-497
04	E.4, 1.7, 2nd lift;	63	9'601	2.6	13995	114.8	10.6	98	06/23/2016	Tony Stohlberg	L-497
05	D.8, 1.3, 2nd lift;	63	109.5	2.3	13995	114.8	9'01	95	06/23/2016	Tony Stohlberg	L-497
90	D.5, 1.7, 2nd lift;	93	109.2	2.2	13995	114.8	10.6	56	06/23/2016	Tony Stohlberg	L-497
07	E.2, 1.4, 3rd lift;	96	110.3	2.3	13995	114.8	10.6	96	06/23/2016	Tony Stohlberg	L-497
80	D.8, 1.6, 3rd lift;	96	1.601	2.6	13995	114.8	9.01	56	06/23/2016	Tony Stohlberg	L-497
60	E.6, 1.8, 3rd lift;	96	109.2	2.1	13995	114.8	10.6	56	06/23/2016	Tony Stohlberg	L-497
10	E.4, 1.5, 3rd lift;	66	109.1	1.9	13995	114.8	10.6	56	06/23/2016	Tony Stohlberg	L-497
11	D.6, 1.2, 3rd lift;	66	6.601	1.7	13995	114.8	10.6	96	06/23/2016	Tony Stohlberg	L-497
12	D.9, 1.5, 3rd lift;	66	110.3	1.6	13995	114.8	10.6	96	06/23/2016	Tony Stohlberg	L-497
13	F.4, 1.7, 3rd lift;	66	109.3	1.8	13995	114.8	10.6	56	06/23/2016	Tony Stohlberg	L-497
14	F.3, 1.3, 3rd lift;	66	0.601	2.0	13995	114.8	9.01	56	06/23/2016	Tony Stohlberg	L-497
15	F.2, 1.7, 3rd lift;	66	111.3	2.3	13995	114.8	10.6	26	06/23/2016	Tony Stohlberg	L-497

Remarks:

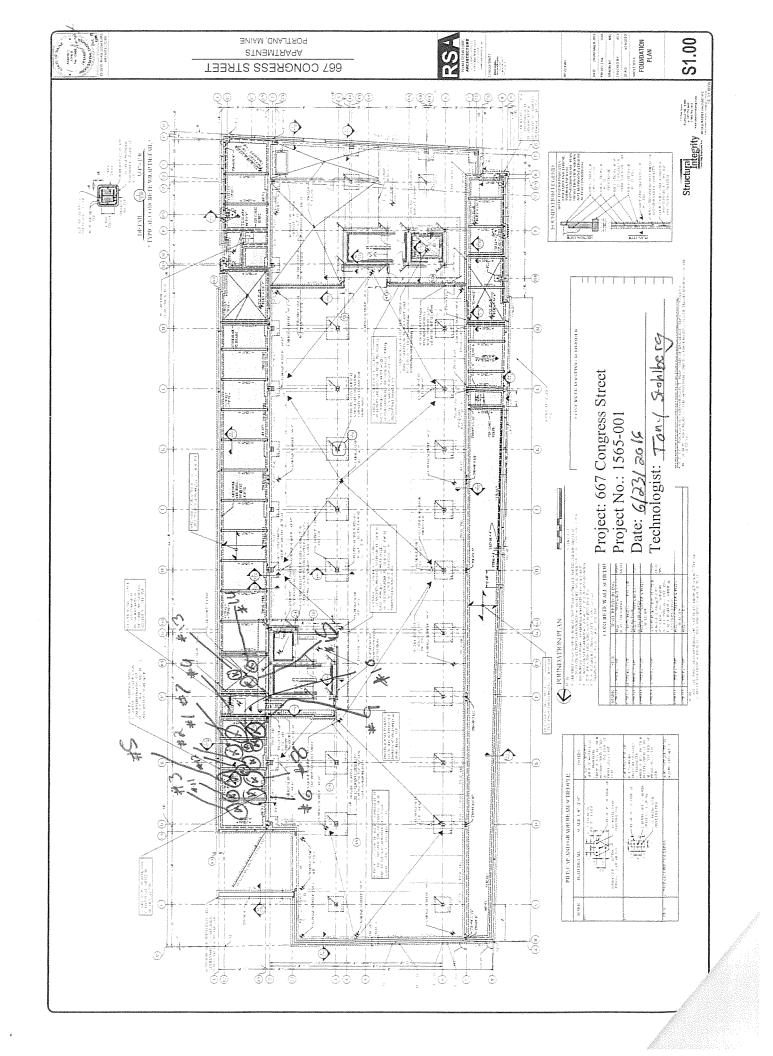
01: Tests were on sample 13995 Foundation Backfill and require 95% of ASTM D1557 maximum density

FGB = Finish Grade of Base FGSB = Finish Grade of Subbase FGSG = Finish Grade of Subgrade FG = Finish Grade FF = Finish Floor

TOW=Top of Foundation Wall BOF=Bottom of Footing TOC = Top Curb

Project ID = 1565-001;Start Date = 6/23/2016;End Date = 6/23/2016 11:59:59 PM;

Filter Criteria:



# 667 CONGRESS STREET APARTMENTS PROJECT PORTLAND, MAINE CORDIA CAPITAL PROJECTS GROUP

RWG&A PROJECT NO. 1565-001

Report Issue Date: Thursday, July 07, 2016

R.W. Gillespie & Associates, Inc.

Checked By: Joshua Fancy, Project Manage, 07/07/2016

Test No.	Test Location	Elevation	ASTM D6938 ASTM D6938 Dry Water Density Content (pcf) (%)	ASTM D6938 Water Content (%)	Sample Lab No.	Max Dry Density (pcf)	Opt Percent Moisture of Max (%)	Percent of Max (%)	Date	Technician	Gauge #
01	M.7, 1.5, 3rd lift;	66	110.1	2.9	13995	114.8	10.6	96	06/24/2016	96 06/24/2016 Tony Stohlberg	L-497
02	M.6, 1.3, 3rd lift;	66	1.09.7	2.6	13995	114.8	10.6	96	06/24/2016	96 06/24/2016 Tony Stohlberg	L-497
03	M.3, 1.8, 3rd lift;	66	0.601	1.6	13995	114.8 10.6	10.6	95	06/24/2016	95 06/24/2016 Tony Stohlberg	L-497

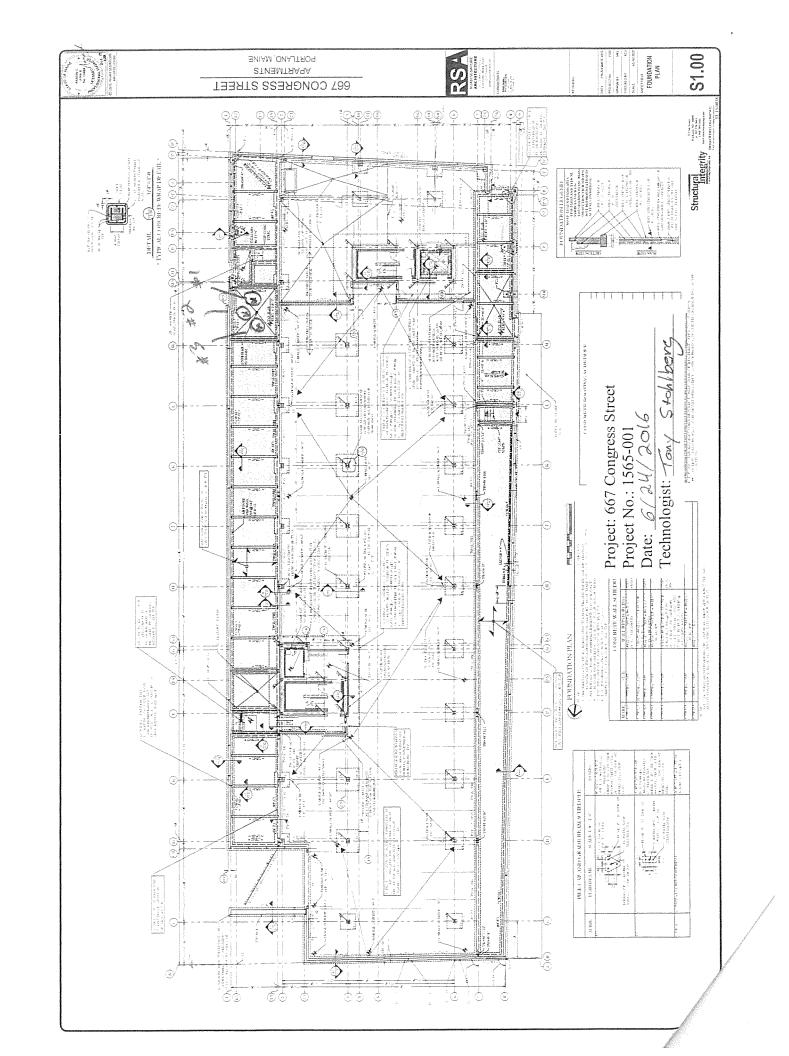
Remarks:

01: Tests were on sample 13995 Foundation backfill and require 95% of ASTM D1557 Maximum Density

FG = Finish Grade
FF = Finish Floor
FGB = Finish Grade of Base
FGSB = Finish Grade of Subbase
FGSG = Finish Grade of Subbase

TOW=Top of Foundation Wall BOF=Bottom of Footing TOC = Top Curb

Filter Criteria: Project ID = 1565-001;Start Date = 6/24/2016;End Date = 6/24/2016 11:59:59 PM;



### R. W. Gillespie & Associates, Inc.

86 Industrial Park Road, Suite 4, Saco, ME 04072 207-286-8008 200 Int'l Drive, Suite 170, Portsmouth, NH 03801 603-427-0244 44 Wood Avenue, Suite I, Mansfield, MA 508-623-0101

### LETTER OF TRANSMITTAL

	Date:	Project No.:	
	August 15, 20	16 1565-001	
	Attention:		
	Blaine Buck (b	buck@cordjiacpg.com)	
Cordjia Capital Projects Group	Re:		
	In-Pla	ce Density Testing	
PO Box 1367	667 C	ongress Street Apartments Project	
	Portla	nd, ME 04101	
Camden, Maine 04843			

	We are sending you att	ached In-Place Density Test Results.
Date(s) Performed:		Test (s) Performed
	Friday, August 12, 2016	In-Place Density Testing - Nuclear Method ASTM D6938
		O Meets Specification
		Selected Tests Do Not Meet Specification - Noted with an *
	maximum laboratory dry density valu summaries by the material number.	nes were transmitted under separate cover and are
Remarks:		
<del></del>		
<del>_</del>		

Copy to:

Kate Gerrish (kgerrish@cordjiacpg.com) Aaron Jones (aaron@structuralinteg.com)

Matt Legere (matt@structuralinteg.com)

Christopher Rodenhizer (crodenhizer@pcconstruction.com)

Bill Lawrence (blawrence@pcconstruction.com)

Marieke Sparrow-Pepin (msparrow-pepin@pcconstruction.com)

William Savage (wsavage@acom-engineering.com)
Ryan Senatore (ryan@sentorearchitecture.com)
Cam Mullen (cmullen@pcconstruction.com)

## 667 CONGRESS STREET APARTMENTS PROJECT PORTLAND, MAINE CORDJIA CAPITAL PROJECTS GROUP RWG&A PROJECT NO. 1565-001

R.W. Gillespie & Associates, Inc.

Monday, August 15, 2016

Report Issue Date:

Checked By: Joshua Fancy, Project Manage, 08/15/2016

Test No.	Test Location	Elevation	ASTM D6938 ASTM D6938 Bry Water Density Content (pcf) (%)	ASTM D6938 Water Content (%)	Sample Lab No.	Max Dry Density (pcf)	Opt Percent Moisture of Max (%) (%)	Percent of Max (%)	Date	Technician	Gauge#
	Slab-on-Grade, 5' from E wall, 18' from North Wall, Elev. = FG-4",		116.1	5.8	14237	137.9	7.2	₩. 178	08/12/2016	84 4 08/12/2016 Tony Stohlberg	21019
7	Slab-on-Grade, 12' from E wall, 22' from North Wall, Elev. = FG-4";		117.7	6.5	14237	137.9	7.2	<b>*</b> 58	08/12/2016	85 * 08/12/2016 Tony Stohiberg	21019
3	3 Slab-on-Grade, 8' from W wall, 17' from North Wall, Elev. = FG-4";		115.2	3.0	14237	137.9	7.2	æ. 78	08/12/2016	84 * 08/12/2016 Tony Stohlberg	21019
7	Slab-on-Grade,18' from E wall, 12' from North Wall, Elev. = FG-		6'611	4.5	14237	137.9	7.2	87.	08/12/2016	87 36 08/12/2016 Tony Stohlberg	21019
							-	***************************************	Management Anna Schoolschille	MANAGEMENT STATES OF THE PROPERTY OF THE PROPE	-HHACACAAAAAAAAA

Remarks:

1: Test were on sample 14327 Structural fill and require 95% of ASTM D1557 maximum density.

FG = Finish Grade
FF = Finish Floor
FGB = Finish Grade of Base
FGSB = Finish Grade of Subbase
FGSG = Finish Grade of Subbase

TOW=Top of Foundation Wall BOF=Bottom of Footing TOC = Top Cmb

Filter Criteria: Project ID = 1565-001;Start Date = 8/12/2016;End Date = 8/12/2016 11:59:59 PM;

### R. W. Gillespie & Associates, Inc.

86 Industrial Park Road, Suite 4, Saco, ME 04072 207-286-8008 200 Int'l Drive, Suite 170, Portsmouth, NH 03801 603-427-0244 44 Wood Avenue, Suite I, Mansfield, MA 508-623-0101

### LETTER OF TRANSMITTAL

Matter J. Sy

"An area, particular."	Date:	Project No.:	
	August 17, 2016	1565-001	
	Attention:		
	Blaine Buck (bbuch	k@cordjiacpg.com)	
Cordjia Capital Projects Group	Re:		
	In-Place D	Density Testing	
PO Box 1367	667 Cong	ress Street Apartments Project	
	Portland,	ME 04101	
Camden, Maine 04843			

	We are sending you atta	ched In-Place Density Test Results.
Date(s) Performed:		Test (s) Performed
	Tuesday, August 16, 2016	In-Place Density Testing - Nuclear Method ASTM D6938
		Meets Specification
		O Selected Tests Do Not Meet Specification - Noted with an *
	and maximum laboratory dry density value thed summaries by the material number.	s were transmitted under separate cover and are
Remarks:		

Copy to:

Kate Gerrish (kgerrish@cordjiacpg.com) Aaron Jones (aaron@structuralinteg.com)

Matt Legere (matt@structuralinteg.com)

Christopher Rodenhizer (crodenhizer@pcconstruction.com)

Bill Lawrence (blawrence@pcconstruction.com)

Marieke Sparrow-Pepin (msparrow-pepin@pcconstruction.com)

William Savage (wsavage@acorn-engineering.com)
Ryan Senatore (ryan@sentorearchitecture.com)
Cam Mullen (cmullen@pcconstruction.com)

### R.W. Gillespie & Associates, Inc.

### 667 CONGRESS STREET APARTMENTS PROJECT PORTLAND, MAINE CORDJIA CAPITAL PROJECTS GROUP RWG&A PROJECT NO. 1565-001

Wednesday, August 17, 2016 Report Issue Date:

Checked By: Matthew T. Grady, 08/17/2016

Test No.	Test Location	Elevation	ASTM D6938 Dry Density (pcf)	ASTM D6938 Water Confent (%)	Sample Lab No.	Max Dry Opt Density Moisture (pcf) (%)	Opt Moisture (%)	Percent of Max (%)	Dafe	Technician	Gauge #
10	M/2.3, Ground Floor FG;	6.68	132.1	6.2	14241	138.2	7.6	96	08/16/2016	96 08/16/2016 Tony Stohlberg	L-497
0.2	L.5.16, Ground Floor FG;	6'68	131.1	5.7	14241	138.2	7.6	95	08/16/2016	95 08/16/2016 Tony Stohlberg	L-497
03	K/4, Ground Flour FG;	6.08	131.8	07	14241	138.2	7.6	95	08/16/2016	95 08/16/2016 Tony Stohlberg	L-497

Remarks:

01: Tests were on sample 14241 Structural Fill Resample and require 95% of ASTM D1557 maximum density,

FG = Finish Grade
FF = Finish Floor
FGB = Finish Grade of Base
FGSB = Finish Grade of Subbase
FGSG = Finish Grade of Subbase

TOW=Top of Foundation Wall BOF=Bottom of Footing TOC = Top Curb

Filter Criteria: Project ID = 1565-001;Start Date = 8/16/2016;End Date = 8/16/2016 11:59:59 PM;