

Client: S.W. Cole Engineering, Inc.

Report: 001

Project: UNE Portland Campus - Stevens Ave. Armory Renovation

SWCE Project #: 16-0953

Date: October 4, 2016

Subject: Structural Steel Site Inspection

We visited the site on this date as requested to initiate structural steel inspections on the UNE Portland Campus Stevens Ave Armory Renovation project. Upon arrival we met with the project superintendent for Ledgewood Construction who provided us with structural and erection drawings which were used to perform our inspections. Inspected at this time was the 2nd Floor framing from line N to V between lines 3 and 9. Our actions and observations were as follows:

- Framing was inspected for overall conformance to drawings and details.
- Columns were inspected for plumb, proper bearing and properly tightened anchor rod nuts. Column base plates at P/7 and R/7 were removed in the field and welded back on in accordance to the LMC Light Iron shop details for those pieces. We performed visual inspections on these welds.
- Bolted connections were inspected. Some connections were field welded in lieu of bolting due to misalignment. Visual inspections were performed on these welds.
- Several shear plates were installed at the incorrect locations or missing altogether. New plates were field welded in the correct locations in accordance to the LMC Light Iron shop details. Visual inspections were performed on the welds.
- Welding of the HSS brace frames was visually inspected.
- Visual inspections were performed on all moment connections.
- Layout, welding and fastening of the composite deck were inspected.
- Layout and welding of the shear studs were inspected.
- Welding of the ½" pour stop around the perimeter was inspected. The pour stops adjacent to the existing CMU walls was not welded on the underside of the plate as access was difficult. The absence of these welds was acceptable per a conversation between the general contractor and the EOR at Oak Point Associates.

All inspections performed above appeared acceptable in accordance to AWS, AISC, RCSC and contract documents.

The project superintendent as well as the erector foreman was notified of our findings.

Inspector; Michael Bump
CWI#07091231



Concrete Construction Observation Report

Project Name/Location:	University of New England, (Armory Renovations)	Project No.:	16-0953
Client/Client's Rep.:	University of New England / Greg Hogan	Date:	9-14-16
Concrete Contractor:	J Mac Custom Concrete	Sheet:	1 of 1
Placement Location:	Drill Room Pier Footings	S.W.COLE Rep.:	N. McArthur
Weather:	Overcast, 70's	On Site:	10:30a – 12:00p

Pre Placement Observations	In Compliance		N/O	Comments
Bar size and location (diameter, length, bend and coverage)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	#5 Verts, #4 stirrups
Splicing (type, overlap)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	
Stability (wiring, chairs, and spacers)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	2" steel chairs
Reinforcement conditions (cleanliness, temperature etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Clean, Clear
Embedments and anchor bolts installed	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	
Soil subgrade prepared in accordance with project specifications	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	¾"crushed rock

Referenced Drawings	Date	Page(s)	Rev.	ASTM	GRADE
UNE Armory Renovations	8-9-16	R100	1	A 615 <input checked="" type="checkbox"/>	40 <input type="checkbox"/> 50 <input type="checkbox"/> 60 <input checked="" type="checkbox"/>
				A 616 <input type="checkbox"/>	75 <input type="checkbox"/>
				A 617 <input type="checkbox"/>	
				A 706 <input type="checkbox"/>	A 775 Epoxy <input type="checkbox"/>

Concrete Placement Observations	In Compliance		N/O	Comments
Required mix used	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	3,000psi
Concrete properly conveyed to all areas of placement	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Chute
Internal vibration / consolidation of concrete	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Mechanical
Even layering around openings and embedments	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Post placement observations (finishing, curing, etc.)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	

Field Testing of Concrete Performed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Loads:	2	Yards:	14.0
*Cylinder Set Number: 838 - 2	←*refer to associated concrete test report					

Non-Conformance Items Observed (person notified)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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Notes:

S.W.COLE was requested onsite by Ledgewood Construction for the inspection of reinforcing steel and the field testing of concrete. All reinforcements were correct according to the provided plans. Some clearance issues were made known to J Macs Custom Concrete and they corrected them prior to the pour. Concrete was a 3000psi mix containing Master Glenium mid-range water reducer, Master Set R100 retarder and air entrainment. Tests performed indicated the mix properties to be within design specification. All results were reported verbally to Ledgewood Construction, and to J Macs Custom Concrete.

N/O=Not Observed

Attachments: Photos

Reviewed By: RED

The S.W.COLE field representative is on-site at the request of our client to provide construction materials testing and to observe and document construction activities. The contractor has sole responsibility for schedule, site safety, methods, completeness and quality control.



Concrete Construction Observation Report

Project Name/Location:	Armory Renovations/Portland	Project No.:	16-0953
Client/Client's Rep.:	University of New England / Greg Hogan	Date:	10-28-16
Concrete Contractor:	Phinney Concrete	Sheet:	1 of 1
Placement Location:	Slab on Deck: Pre-function	S.W.COLE Rep.:	C. Cromwell
Weather:	Rain, 40's	On Site:	6:30-10:30

<i>Pre Placement Observations</i>	In Compliance		N/O	Comments
Bar size and location (diameter, length, bend and coverage)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Wire Mesh
Splicing (type, overlap)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Stability (wiring, chairs, and spacers)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Wire/chairs
Reinforcement conditions (cleanliness, temperature etc.)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Clean
Embedments and anchor bolts installed	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	N/A
Soil subgrade prepared in accordance with project specifications	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	N/A

Referenced Drawings	Date	Page(s)	Rev.	ASTM	GRADE
Rebar and Mesh- rebar	8-9-16	R101	1	A 615 <input type="checkbox"/>	40 <input type="checkbox"/> 50 <input type="checkbox"/> 60 <input type="checkbox"/>
				A 616 <input type="checkbox"/>	75 <input type="checkbox"/>
				A 617 <input type="checkbox"/>	
				A 706 <input type="checkbox"/>	A 775 Epoxy <input type="checkbox"/>

<i>Concrete Placement Observations</i>	In Compliance		N/O	Comments
Required mix used	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	4000psi, w/ air lightweight
Concrete properly conveyed to all areas of placement	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Pump
Internal vibration / consolidation of concrete	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	
Even layering around openings and embedments	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
Post placement observations (finishing, curing, etc.)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

Field Testing of Concrete Performed Yes No Loads: 6 Yards: 60

***Cylinder Set Number:** 839 -12,13 ←*refer to associated concrete test report

Non-Conformance Items Observed (person notified) Yes No

Notes:
 S.W.COLE was onsite as scheduled by Ledgewood Construction for the field testing of concrete. The concrete supplied by Hissong Ready Mix contained a midrange water reducer (Master Glenium 7500) and 2% of masterset added during the batching process. Testing indicated concrete being placed was within project specifications. All results were reported to the supervisor onsite from Ledgewood Construction. Concrete tests were performed from samples obtained from the point of discharge and point of placement. The wet unit weight for first load tested calculated out to 119.95 lbs/ft3 and second load tested was 120.0 lbs/ft3.

N/O=Not Observed
 Attachments: None

Reviewed By: KBG

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Concrete Construction Observation Report

Project Name/Location:	University of New England, (Armory Renovations)	Project No:	16-0953
Client/Client's Rep.:	University of New England / Greg Hogan	Date:	9-19-16
Concrete Contractor:	CCI	Sheet:	1 of 1
Placement Location:	Slab: bathroom and corridor 117, elevator pit	S.W.COLE Rep.:	J. Moore
Weather:	Clear, 70's	On Site:	9am- 12pm

Pre Placement Observations	In Compliance		N/O	Comments
Bar size and location (diameter, length, bend and coverage)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	To specification
Splicing (type, overlap)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	To specification
Stability (wiring, chairs, and spacers)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Steel chairs
Reinforcement conditions (cleanliness, temperature etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Clean, Clear
Embedments and anchor bolts installed	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	
Soil subgrade prepared in accordance with project specifications	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	

Referenced Drawings	Date	Page(s)	Rev.	ASTM	GRADE
Oak point structural	5-24-16	AE101		A 615 <input checked="" type="checkbox"/>	40 <input type="checkbox"/> 50 <input type="checkbox"/> 60 <input checked="" type="checkbox"/>
				A 616 <input type="checkbox"/>	75 <input type="checkbox"/>
				A 617 <input type="checkbox"/>	
				A 706 <input type="checkbox"/>	A 775 Epoxy <input type="checkbox"/>

Concrete Placement Observations	In Compliance		N/O	Comments
Required mix used	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	4,000psi, no air
Concrete properly conveyed to all areas of placement	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Pump truck
Internal vibration / consolidation of concrete	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Mechanical
Even layering around openings and embedments	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Post placement observations (finishing, curing, etc.)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	

Field Testing of Concrete Performed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Loads:	3	Yards:	25.0
*Cylinder Set Number: 839 -4	←*refer to associated concrete test report					
Non-Conformance Items Observed (person notified)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>				

Notes:

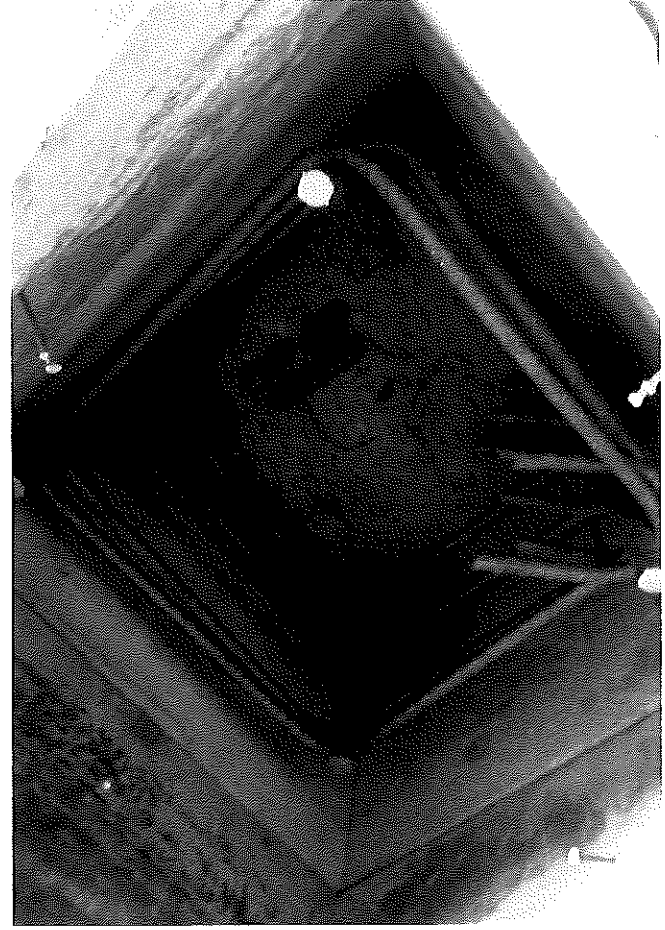
S.W.COLE was requested onsite by Ledgewood Construction for the inspection of reinforcing steel and the field testing of concrete. All reinforcements appeared to be correct according to the provided plans. The concrete supplied by Hissong Ready Mix contained a midrange water reducer (Master Glenium 7500) added during the batching process. One set of four cylinders were cast at 10:50am form load 1 for laboratory compressive strength testing. Mid load sample for tests and test specimens was taken from concrete being placed in the South East corner section of the floor slab. All concrete placed tested within project specification. All results were reported to the supervisor onsite from Ledgewood Construction.

N/O=Not Observed

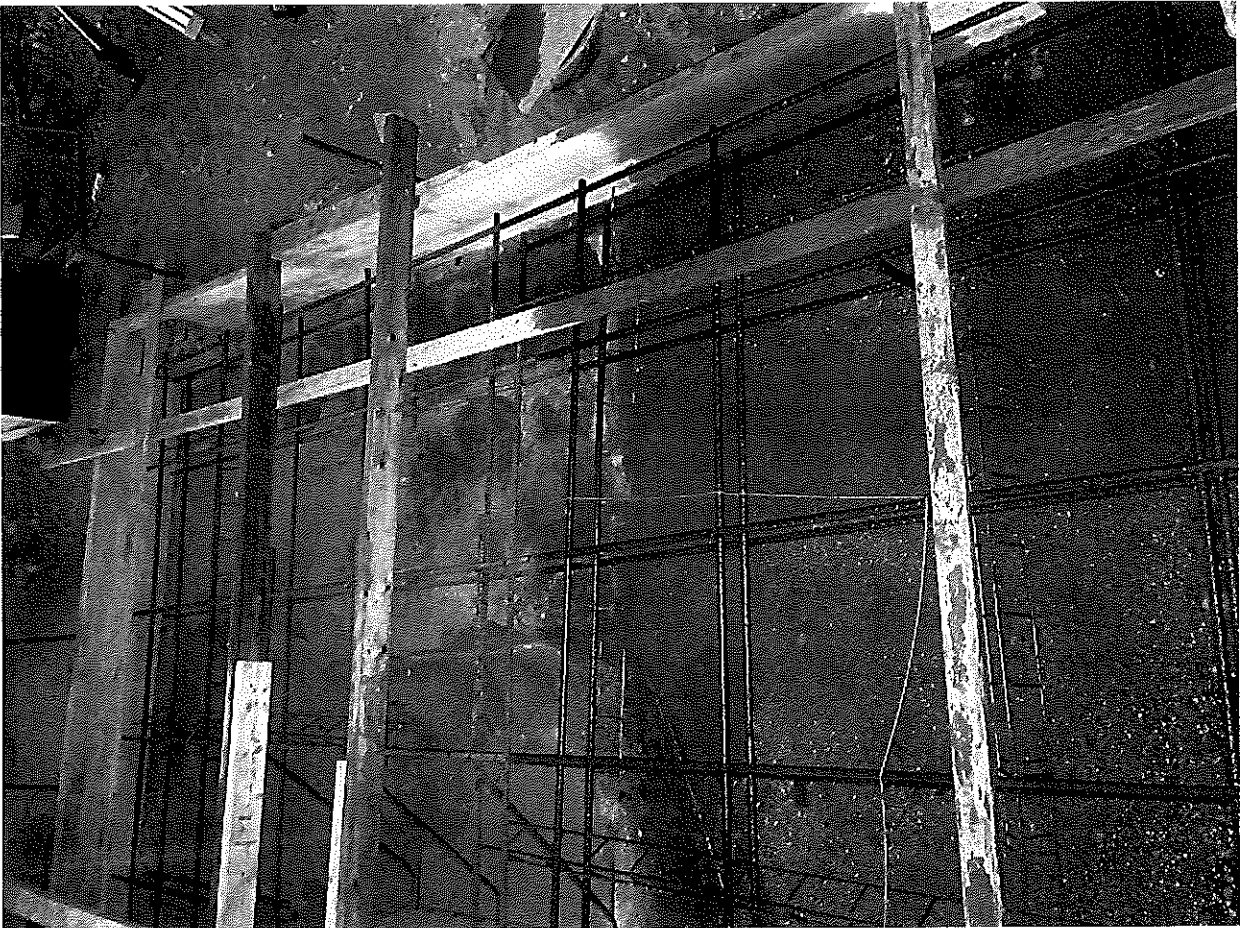
Attachments: Photos

Reviewed By:

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Concrete Construction Observation Report

Project Name/Location:	University of New England, (Armory Renovations)	Project No:	16-0953
Client/Client's Rep.:	University of New England / Greg Hogan	Date:	9-22-16
Concrete Contractor:	J Mac Custom Concrete	Sheet:	1 of 1
Placement Location:	Interior Pier Footings Elevator Pit	S.W.COLE Rep.:	N. McArthur
Weather:	Clear, 70's	On Site:	11:30a – 12:45p

Pre Placement Observations	In Compliance		N/O	Comments
Bar size and location (diameter, length, bend and coverage)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	#5 mat, #5 verts
Splicing (type, overlap)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	
Stability (wiring, chairs, and spacers)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	2" steel chairs / Bricks
Reinforcement conditions (cleanliness, temperature etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Clean, Clear
Embedments and anchor bolts installed	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	
Soil subgrade prepared in accordance with project specifications	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	3/4" crushed rock

Referenced Drawings	Date	Page(s)	Rev.	ASTM	GRADE
UNE Armory Renovations	8-9-16	R100	1	A 615 <input checked="" type="checkbox"/>	40 <input type="checkbox"/> 50 <input type="checkbox"/> 60 <input checked="" type="checkbox"/>
				A 616 <input type="checkbox"/>	75 <input type="checkbox"/>
				A 617 <input type="checkbox"/>	
				A 706 <input type="checkbox"/>	A 775 Epoxy <input type="checkbox"/>

Concrete Placement Observations	In Compliance		N/O	Comments
Required mix used	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	3,000psi
Concrete properly conveyed to all areas of placement	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Chute
Internal vibration / consolidation of concrete	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Mechanical
Even layering around openings and embedments	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Post placement observations (finishing, curing, etc.)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	

Field Testing of Concrete Performed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Loads:	3	Yards:	25.0
*Cylinder Set Number: 839 -4	←*refer to associated concrete test report					
Non-Conformance Items Observed (person notified)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>				

Notes:

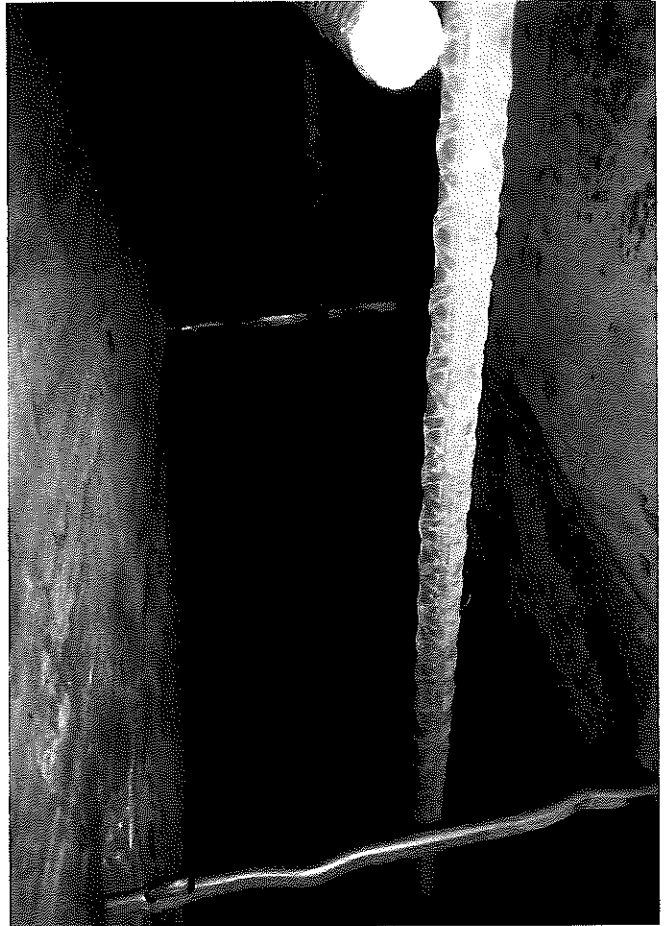
S.W.COLE was requested onsite by Ledgewood Construction for the inspection of reinforcing steel and field testing of concrete. All reinforcements were correct according to the provided plans. Some clearance issues were made known to J Macs Custom Concrete and they corrected them prior to the pour. Concrete was a 3000psi mix containing Master Glenium mid-range water reducer, Master Set R100 retarder and air entrainment. Tests performed indicated the mix properties to be within design specification. All results were reported verbally to Ledgewood Construction, and to J Macs Custom Concrete.

N/O=Not Observed

Attachments: Photos

Reviewed By: RED

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Concrete Construction Observation Report

Project Name/Location:	University of New England, (Armory Renovations)	Project No:	16-0953
Client/Client's Rep.:	University of New England / Greg Hogan	Date:	9-27-16
Concrete Contractor:	J Mac Custom Concrete	Sheet:	1 of 1
Placement Location:	Interior pre-function Piers	S.W.COLE Rep.:	N, McArthur
Weather:	Clear, 70's	On Site:	12:15a – 4:15p

Pre Placement Observations	In Compliance		N/O	Comments
Bar size and location (diameter, length, bend and coverage)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	#5 horiz, #5 verts
Splicing (type, overlap)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	
Stability (wiring, chairs, and spacers)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	N/A
Reinforcement conditions (cleanliness, temperature etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Clean, Clear
Embedments and anchor bolts installed	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	
Soil subgrade prepared in accordance with project specifications	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	N/A

Referenced Drawings	Date	Page(s)	Rev.	ASTM	GRADE
UNE Armory Renovations	8-9-16	R100	1	A 615 <input checked="" type="checkbox"/>	40 <input type="checkbox"/> 50 <input type="checkbox"/> 60 <input checked="" type="checkbox"/>
				A 616 <input type="checkbox"/>	75 <input type="checkbox"/>
				A 617 <input type="checkbox"/>	
				A 706 <input type="checkbox"/>	A 775 Epoxy <input type="checkbox"/>

Concrete Placement Observations	In Compliance		N/O	Comments
Required mix used	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	3,000psi
Concrete properly conveyed to all areas of placement	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Pump
Internal vibration / consolidation of concrete	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Mechanical
Even layering around openings and embedments	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Post placement observations (finishing, curing, etc.)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	

Field Testing of Concrete Performed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Loads:	3	Yards:	30.0
*Cylinder Set Number: 839 -5	←*refer to associated concrete test report					

Non-Conformance Items Observed (person notified)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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Notes:

S.W.COLE was requested onsite by Ledgewood Construction for the inspection of reinforcing steel and field testing of concrete. All reinforcements were correct according to the provided plans. Concrete was a 3000psi mix containing Master Glenium mid-range water reducer, and air entrainment. Tests performed indicated the mix properties to be within design specification. All results were reported verbally to Ledgewood Construction, and to J Macs Custom Concrete.

N/O=Not Observed

Attachments: Photos

Reviewed By:

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Masonry Construction Observation Report

Project Name/Location:	University of New England, (Armory Renovations)	Project No:	16-0953
Client/Client's Rep.:	University of New England / Greg Hogan	Date:	11-3-16
Masonry Contractor:	Bellafleur Masonry	Sheet:	1 of 1
Placement Location:	8"CMU Stair S02 at Elevation 140'-0"	S.W.COLE Rep.:	C. Cromwell
Weather:	Rain 50's	On Site:	8:30-10:00

Referenced Drawings	Date	Page	Revision	Comments
Oak Point Associates- Structural Notes	5-24-16	S-001		
Oak Point Associates- Stair S02 Masonry Wall	5-24-16	SF203		

Masonry Construction	Observed	
Proportioning of site-mixed mortar	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Type S mortar
Placement of units and construction of mortar joints	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Full Joint Construction
Joint reinforcing (type, spacing, laps)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Joint reinforcing at 16" O.C.
Vertical reinforcing (size, spacing, positioners, laps)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	#5 every 2'-8" O.C.
Horizontal reinforcing (size, spacing, positioners, laps)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	(2) #5 bond beam at floor levels
Cold-weather / Hot-weather construction (temperature, practices)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	50's Outside Temp
Embedments and anchor bolts	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Installation of flashing and weeps – material and placement	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A

Grout Placement	Observed	
Grout space (cleanliness, mortar fins, size/alignment, etc.)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Clear & unobstructed
Lift height (cleanouts if needed)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Low Lift
Proportions of site-mixed grout or vendor mix used	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Pro Masonry Bags
Placement of grout (consolidation, reconsolidation)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Rodded by hand

Field Testing Performed <i>refer to associated specimen test report</i>	Mortar <input checked="" type="checkbox"/>	Grout <input checked="" type="checkbox"/>	Prism <input type="checkbox"/>
SET NO:	839-14	839-15	

NON-CONFORMANCE ITEMS OBSERVED (person notified) Yes No

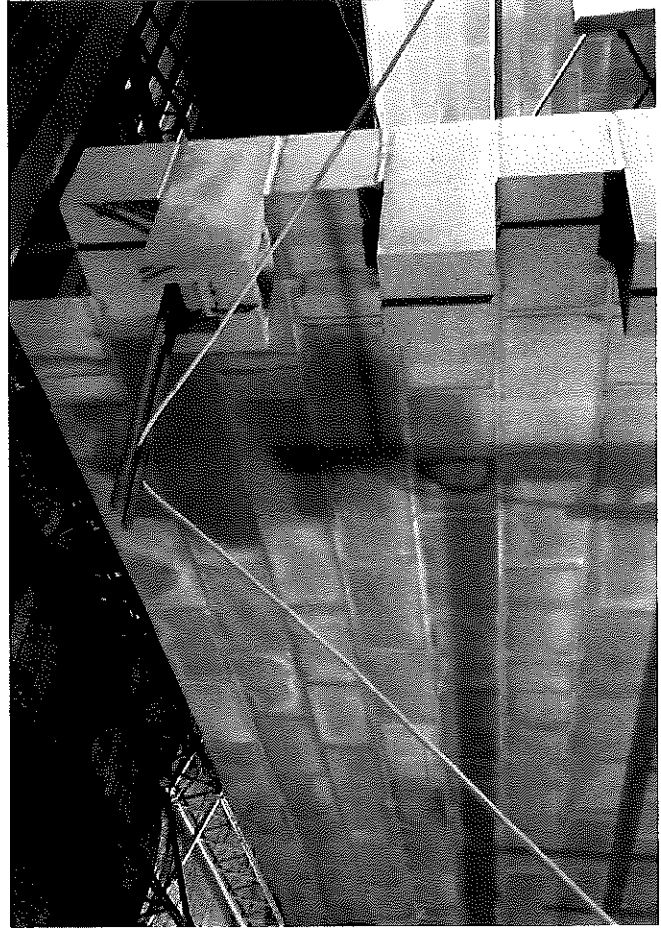
Notes:

S.W.COLE was onsite as scheduled to perform pregrout inspection of cells and reinforcing steel and to form test specimens in accordance with special inspections. At time of arrival Bellafleur Masonry had three sides of stairway up to roof elevations and were working on bring up last side to elevation 140'-07". Reinforcing consisted of #5 verticals at 32" O.C. and (2) #5 horizontals for bond beam at elevation 140'-0". Reinforcing observed appeared to have been installed with required clearances and splice lengths. General masonry construction observed while onsite appeared to be in accordance with project requirements.

Attachments: Photos

Reviewed By: RED

The S.W.COLE field representative is on-site at the request of our client to provide construction materials testing and to observe and document construction activities. The contractor has sole responsibility for schedule, site safety, methods, completeness and quality control.



Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: Portland ME - Stevens Avenue Armory Renovation -
 Construction Materials Testing Services

Project Number: 16-0953

Client: University of New England

Client Contract Number:
General Contractor:
Concrete Supplier: HISSONG CONCRETE

PLACEMENT INFORMATION

Date Cast: 9/7/2016 **Time Cast:** 3:15

Date Received:
Placement Location: DRILL RM FOOTINGS

Placement Method: POWER BUGGY CHUTE

Placement Vol. (yd³): 21

Cylinders Made By: NATHANIEL MCARTHUR

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

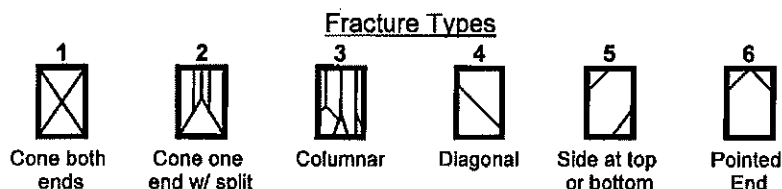
DELIVERY INFORMATION

Admixtures: MRWR
 SET

TEST RESULTS

Slump (in) (C-143):	Slump WR:	6.25	Load Number:	2	Batch
Air Content (%) (C-231)	Air WR:	5.8	Mixer Number:	317	2:02
Air Temp (°F):	68		Ticket Number	3448	Arrive
Conc. Temp (°F) (C-1084):	75		Cubic Yards:	10.5	2:15
			Design (psi):	3000	Depart
					3:30

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area (In) ²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
839-1A	8.20	4.01	12.61	9/14/2016	Lab	7	5	39.8	3160
839-1B	8.20	4.01	12.63	10/5/2016	Lab	28	2	50.8	4020
839-1C	8.20	4.01	12.64	10/5/2016	Lab	28	4	49.4	3910
839-1D	8.20			Hold	Lab				


Remarks:



Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: Portland ME - Stevens Avenue Armory Renovation -
Construction Materials Testing Services

Project Number: 16-0953

Client: University of New England

Client Contract Number:

General Contractor:

Concrete Supplier: HISSONG CONCRETE

PLACEMENT INFORMATION

Date Cast: 9/14/2016 **Time Cast:** 11:50

Date Received:

Placement Location: INTERIOR PIER FOOTINGS

Placement Method: PUMP

Placement Vol. (yd³): 14

Cylinders Made By: NATHANIEL MCARTHUR

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

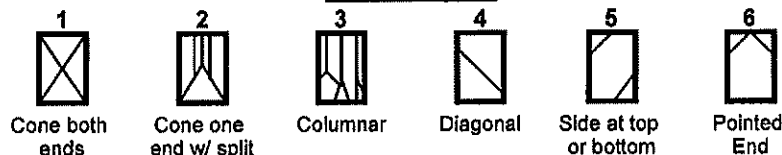
Admixtures: MRWR
MASTER SET

TEST RESULTS

Slump (in) (C-143):	Slump WR: 6	Load Number: 2	Batch
Air Content (%) (C-231)	Air WR: 5.5	Mixer Number: 324	11:02
Air Temp (°F): 72		Ticket Number 3515	Arrive
Conc. Temp (°F) (C-1064): 81		Cubic Yards: 7	11:35
		Design (psi): 3000	Depart
			12:15

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In) ²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
839-2A	8.25	4.01	12.66	9/21/2016	Lab	7	3	47.0	3710
839-2B	8.25	4.01	12.64	10/12/2016	Lab	28	5	58.4	4620
839-2C	8.25	4.01	12.66	10/12/2016	Lab	28	5	62.0	4900
839-2D	8.25			Hold	Lab				

Fracture Types



Remarks:



Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: Portland ME - Stevens Avenue Armory Renovation - Construction Materials Testing Services

Project Number: 16-0953

Client: University of New England

Client Contract Number:

General Contractor:

Concrete Supplier: HISSONG CONCRETE

PLACEMENT INFORMATION

Date Cast: 9/19/2016 **Time Cast:** 10:50 **Date Received:**

Placement Location: FLOOR SLAB: BEDROOM AND CORRIDOR 117, ELEVATOR PIT

Placement Method: PUMP

Placement Vol. (yd³): 44

Cylinders Made By: JOSHUA MOORE

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

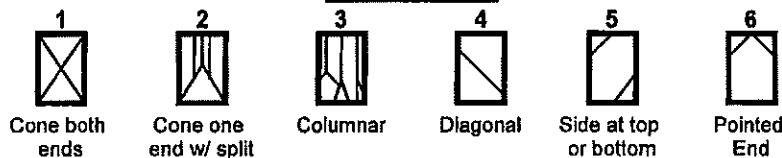
Admixtures: MRWR

TEST RESULTS

Slump (in) (C-143):	Slump WR: 6	Load Number: 1	Batch
Air Content (%) (C-231)	Air WR: 1.7	Mixer Number: 324	10:00
Air Temp (°F): 75		Ticket Number 3553	Arrive
Conc. Temp (°F) (C-1064): 77		Cubic Yards: 11	10:27
		Design (psi): 4000	Depart
			11:03

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In) ²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
839-3A	8.45	4.00	12.59	9/26/2016	Lab	7	5	54.2	4310
839-3B	8.50	4.01	12.61	10/17/2016	Lab	28	4	72.4	5740
839-3C	8.45	4.01	12.63	10/17/2016	Lab	28	4	71.4	5650
839-3D	8.40			11/14/2016	Lab	56			

Fracture Types



Remarks:



Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: Portland ME - Stevens Avenue Armory Renovation - Construction Materials Testing Services

Project Number: 16-0953

Client: University of New England

Client Contract Number:

General Contractor:

Concrete Supplier: HISSONG CONCRETE

PLACEMENT INFORMATION

Date Cast: 9/22/2016 **Time Cast:** 12:40 **Date Received:**

Placement Location: INTERIOR PIER FOOTINGS ELEVATOR PIT

Placement Method: PUMP

Placement Vol. (yd³): 26

Cylinders Made By: NATHANIEL MCARTHUR

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

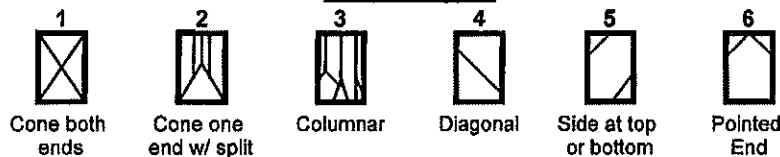
Admixtures: MRWR
MASTER SET

TEST RESULTS

Slump (in) (C-143):	Slump WR: 5.0	Load Number: 1	Batch
Air Content (%) (C-231)	Air WR: 5.8	Mixer Number: 327	11:56
Air Temp (°F): 70		Ticket Number 3599	Arrive
Conc. Temp (°F) (C-1064): 75		Cubic Yards: 8	12:15
		Design (psi): 3000	Depart

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In) ²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
839-4A	8.20	4.01	12.61	9/29/2016	Lab	7	4	38.2	3030
839-4B	8.10	4.01	12.65	10/20/2016	Lab	28	5	59.2	4680
839-4C	8.15	4.01	12.65	10/20/2016	Lab	28	4	59.0	4670
839-4D	8.05			Hold	Lab				

Fracture Types



Remarks:



Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: Portland ME - Stevens Avenue Armory Renovation -
Construction Materials Testing Services

Project Number: 16-0953

Client: University of New England

Client Contract Number:

General Contractor:

Concrete Supplier: HISSONG CONCRETE

PLACEMENT INFORMATION

Date Cast: 9/27/2016 **Time Cast:** 2:50

Date Received:

Placement Location: PRE FUNCTION PIERS

Placement Method: PUMP

Placement Vol. (yd³): 30

Cylinders Made By: NATHANIEL MCARTHUR

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: MRWR
AIR

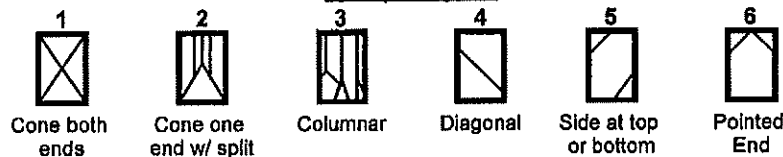
TEST RESULTS

Slump (in) (C-143): **Slump WR:** 5
Air Content (%) (C-231) **Air WR:** 5.0
Air Temp (°F): 60
Conc. Temp (°F) (C-1064): 74

Load Number: 2 **Batch**
Mixer Number: 327 12:58
Ticket Number: 3650 **Arrive**
1:25
Cubic Yards: 10 **Depart**
3:10
Design (psi): 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area (in) ²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
839-5A	8.15	4.01	12.62	10/4/2016	Lab	7	5	37.2	2950
839-5B	8.15			10/25/2016	Lab	28			
839-5C	8.15			10/25/2016	Lab	28			
839-5D	8.15			Hold	Lab				

Fracture Types



Remarks:



Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: Portland ME - Stevens Avenue Armory Renovation -
Construction Materials Testing Services

Project Number: 16-0953

Client: University of New England

Client Contract Number:

General Contractor:

Concrete Supplier: HISSONG CONCRETE

PLACEMENT INFORMATION

Date Cast: 10/7/2016 **Time Cast:** 7:35

Date Received:

Placement Location: SLAB ON DECK CLASSROOMS

Placement Method: PUMP

Placement Vol. (yd³): 100

Cylinders Made By: CHARLES CROMWELL

Aggregate Size (in): 3/8

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: LIGHT WEIGHT
MIDRANGE

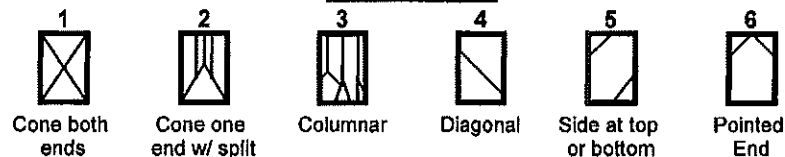
TEST RESULTS

Slump (in) (C-143): **Slump WR:** 6.5
Air Content (%) (C-231) **Air WR:** 7.5
Air Temp (°F): 55
Conc. Temp (°F) (C-1064): 66

Load Number: 7 **Batch** 6:24
Mixer Number: 312
Ticket Number 3763 **Arrive** 7:00
Cubic Yards: 10 **Depart** 7:20
Design (psi): 4000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In) ²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
839-6A	7.10	4.01	12.64	10/14/2016	Lab	7	4	33.2	2630
839-6B	7.00	4.01	12.63	11/4/2016	Lab	28	5	55.0	4350
839-6C	7.00	4.00	12.58	11/4/2016	Lab	28	5	59.4	4720
839-6D	7.05			Hold	Lab				
839-6E				Hold	Lab				
839-6F				Hold	Lab				

Fracture Types



Remarks: 6E & 6F = Dry Unit Weight 106.8pcf



Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: Portland ME - Stevens Avenue Armory Renovation - Construction Materials Testing Services

Project Number: 16-0953

Client: University of New England

Client Contract Number:

General Contractor:

Concrete Supplier: HISSONG READY MIX

PLACEMENT INFORMATION

Date Cast: 10/12/2016 **Time Cast:** 7:15 **Date Received:**

Placement Location: SLAB ON GRADE PRE FUNCTION HALL

Placement Method: PUMP TRUCK

Placement Vol. (yd³): 100

Cylinders Made By: NORRIS NADEAU

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

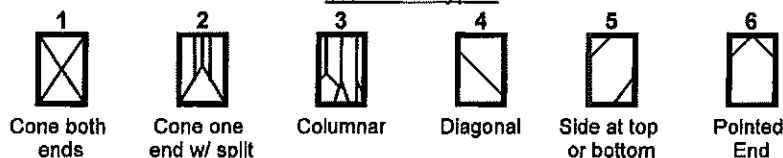
Admixtures: 2% MASTERSET FP GLENIUM

TEST RESULTS

Slump (in) (C-143):	Slump WR: 6 1/4	Load Number: 1	Batch
Air Content (%) (C-231)	Air WR: 2.0	Mixer Number: 329	6:40
Air Temp (°F): 43		Ticket Number 3823	Arrive
Conc. Temp (°F) (C-1064): 64		Cubic Yards: 10	7:00
		Design (psi): 4000	Depart
			7:15

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In) ²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
839-8A	8.60	4.01	12.60	10/19/2016	Lab	7	4	54.0	4290
839-8B	8.60			11/9/2016	Lab	28			
839-8C	8.60			11/9/2016	Lab	28			
839-8D	8.60			Hold	Lab				

Fracture Types



Remarks:



Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: Portland ME - Stevens Avenue Armory Renovation -
Construction Materials Testing Services

Project Number: 16-0953

Client: University of New England

Client Contract Number:

General Contractor:

Concrete Supplier: HISSONG CONCRETE

PLACEMENT INFORMATION

Date Cast: 10/17/2016 **Time Cast:** 1:15 **Date Received:** 10/18/2016

Placement Location: ENTRY WAY FOUNDATION AT S ELEVATION

Placement Method: TRUCK CHUTE
Cylinders Made By: JOSHUA MOORE

Placement Vol. (yd³): 9
Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) 60 **Maximum (°F)** 63

DELIVERY INFORMATION

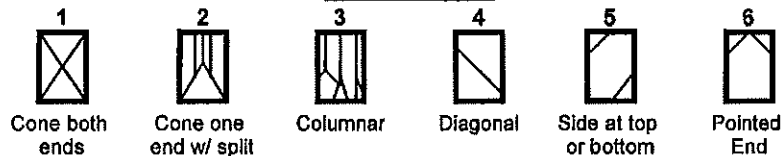
Admixtures: MRWR
AE

TEST RESULTS

Slump (in) (C-143):	Slump WR: 6	Load Number: 1	Batch 12:40
Air Content (%) (C-231)	Air WR: 6.2	Mixer Number: 329	Arrive 12:54
Air Temp (°F): 70		Ticket Number 3906	Depart 1:36
Conc. Temp (°F) (C-1064): 70		Cubic Yards: 9	
		Design (psi): 3000	

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In) ²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
839-10A	8.10	4.01	12.62	10/24/2016	Lab	7	4	35.0	2780
839-10B	8.10	4.01	12.63	11/14/2016	Lab	28	5	52.0	4120
839-10C	8.10	4.01	12.64	11/14/2016	Lab	28	4	53.6	4240
839-10D	8.10			Hold	Lab				

Fracture Types



Remarks:



Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: Portland ME - Stevens Avenue Armory Renovation -
Construction Materials Testing Services

Project Number: 16-0953

Client: University of New England

Client Contract Number:

General Contractor:

Concrete Supplier: HISSONG CONCRETE

PLACEMENT INFORMATION

Date Cast: 10/21/2016 **Time Cast:** 7:20

Date Received:

Placement Location: SLAB ON GRADE DRILL HALL

Placement Method: PUMP

Placement Vol. (yd³): 57

Cylinders Made By: CHARLES CROMWELL

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: MIDRANGE
2% MASTER SET

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 7.0

Load Number: 1 **Batch**

Air Content (%) (C-231) **Air WR:** 2.0

Mixer Number: 317 **6:44**

Air Temp (°F): 50

Ticket Number 3975 **Arrive**

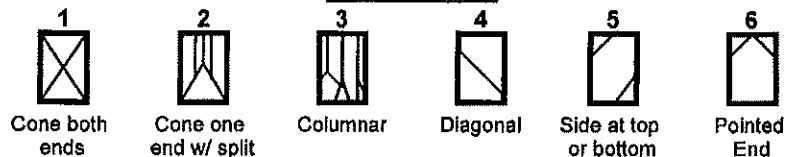
Conc. Temp (°F) (C-1064): 68

Cubic Yards: 10 **6:55**

Design (psi): 4000 **Depart**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area (in)²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
839-11A	8.50	4.00	12.56	10/28/2016	Lab	7	4	47.0	3740
839-11B	8.50	4.02	12.68	11/18/2016	Lab	28	4	71.4	5630
839-11C	8.50	4.00	12.57	11/18/2016	Lab	28	5	69.0	5490
839-11D	8.45			Hold	Lab				

Fracture Types



Remarks:



Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: Portland ME - Stevens Avenue Armory Renovation - Construction Materials Testing Services

Project Number: 16-0953

Client: University of New England

Client Contract Number:

General Contractor:

Concrete Supplier: HISSONG CONCRETE

PLACEMENT INFORMATION

Date Cast: 10/28/2016 **Time Cast:** 8:00

Date Received:

Placement Location: SLAB ON DECK PRE FUNCTION

Placement Method: PUMP

Placement Vol. (yd³): 60

Cylinders Made By: CHARLES CROMWELL

Aggregate Size (in): 3/8

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: 2% MASTER SET MIDRANGE

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 6

Load Number: 2 **Batch**

Air Content (%) (C-231) **Air WR:** 7.0

Mixer Number: 317 **7:12**

Air Temp (°F): 48

Ticket Number 40.59 **Arrive**

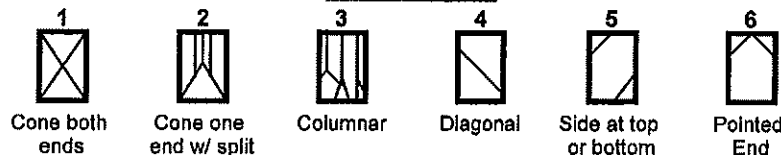
Conc. Temp (°F) (C-1064): 58

Cubic Yards: 11 **7:35**

Design (psi): 4000 **Depart**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In) ²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
839-12A	7.00	3.99	12.52	11/4/2016	Lab	7	6	38.2	3050
839-12B	7.05	3.99	12.53	11/28/2016	Lab	31	5	69.0	5510
839-12C	7.00	3.99	12.52	11/28/2016	Lab	31	5	70.2	5610
839-12D				Hold	Lab				
839-12E				Hold	Lab				
839-12F				Hold	Lab				

Fracture Types



Remarks: DRY UNIT WEIGHT: 839-12E= 106.7pcf 839-12f= 107.8 pcf