

Final Report of Special Inspections

Project: *Vehicle Lift Replacement Project*
Location: *114 Valley St./91 St. John St., Portland, ME*
Owner: *Greater Portland Transit District*
Owner's Address: *114 Valley St.*
Portland, ME
Architect of Record: *N/A*
Structural Engineer of Record: *David K. Pinkham, P.E.*
Pinkham & Greer Consulting Engineers

To the best of my information, knowledge and belief, the Special Inspections required for this project, and itemized in the *Statement of Special Inspections* submitted for permit, have been performed and all discovered discrepancies have been reported and resolved.

Comments:

Attached are field reports and test results for the period Mar. 1, 2013 to Mar. 27, 2013. These are related to subgrade compaction, reinforcing steel placement, and concrete slump, air, and compressive strength. All structural work for this project was completed on Mar. 27, 2013.

Interim reports submitted prior to this final report form a basis for and are to be considered an integral part of this final report.

Respectfully submitted,
Special Inspector

David K. Pinkham, P.E.

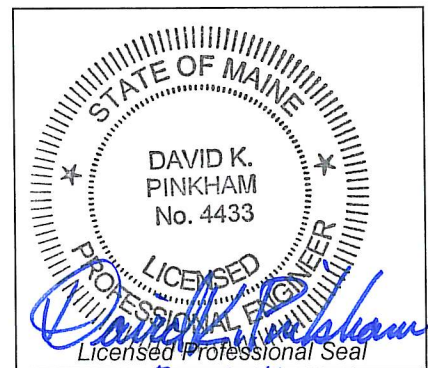
(Type or print name)

David K. Pinkham

Signature

3-28-13

Date





28 Vannah Avenue
Portland, Maine 04103
Tel: (207)781-5242
Fax: (207)781-4245

Date: 3-13-2013	Job No: 12330L
Project: METRO Lifts	
Location: Portland	
Contractor: LaMountain Bros.	Owner: METRO
Weather:	Temp:
Present at Site: E.J. Briggs (LaMountain Bros.), R. Boudreau (JTC) DKP	

To: Special Inspections File

THE FOLLOWING WAS NOTED:

Excavating to new subgrade for Lift #3. There was no over excavation that occurred and trench sidewall remained straight. No backfill was required, all excavated areas will be filled with flowable fill. Discussed this with Rodney Boudreau from JTC. We agreed that if subgrade shows no yielding after several passes of a large plate compactor and no organic or otherwise unsuitable material is found, compaction tests are not necessary. Subgrade appeared to be suitable to both Rodney and me.

Contractor set lift cassettes without requiring backfill, did not disturb trench sidewalls.

COPIES TO:

FIELD REPORT
Signed: *David K. Pinkham*



28 Vannah Avenue
Portland, Maine 04103
Tel: (207)781-5242
Fax: (207)781-4245

Date: 3-14-2013	Job No: 12330L
Project: METRO Lifts	
Location: Portland	
Contractor: LaMountain Bros.	Owner: METRO
Weather:	Temp:
Present at Site: E.J. Briggs (LaMountain Bros.), DKP	

To: Special Inspections File

THE FOLLOWING WAS NOTED:

Cassettes were set in final position. Excavated area was filled with flowable fill. No backfilling with gravel was required.

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FIELD REPORT
Signed: David K. Pinkham



28 Vannah Avenue
Portland, Maine 04103
Tel: (207)781-5242
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Date: 3-18-2013	Job No: 12330L
Project: METRO Lifts	
Location: Portland	
Contractor: LaMountain Bros.	Owner: METRO
Weather:	Temp:
Present at Site: E.J. Briggs (LaMountain Bros.), DKP	

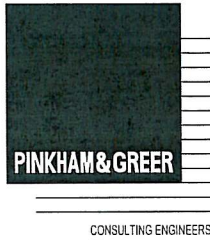
To: Special Inspections File

THE FOLLOWING WAS NOTED:

Reviewed grade beam and slab reinforcing and found it to generally meet project requirements. The #5 and #8 longitudinal bars in the grade beams had adequate lap lengths. The decision was made with the Owner to eliminate the utility trench and use conduit buried in the slab for electrical and compressed air lines. Reinforcing near the OHD was modified accordingly.

COPIES TO:

FIELD REPORT
Signed: David K. Pinkham



28 Vannah Avenue
Portland, Maine 04103
Tel: (207)781-5242
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Date: 3-19-2013	Job No: 12330L
Project: METRO Lifts	
Location: Portland	
Contractor: LaMountain Bros.	Owner: METRO
Weather:	Temp:
Present at Site: E.J. Briggs (LaMountain Bros.), S. Watson, (JTC), Auburn Concrete Tech Rep, slab sub., DKP	

To: Special Inspections File

THE FOLLOWING WAS NOTED:

Concrete placement for Lift #3:

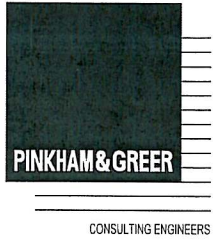
Placement included 6 trucks totaling approximately 55+ cu. yards from Auburn Concrete. Spencer Watson from JTC was on-site for concrete testing and sampling. Field rep from Auburn Concrete assisted with delivery.

Slump and air testing was reduced as all previous batches have been acceptable. In this case, slump and air tests were performed on a random sample and were found to be acceptable. Concrete was placed by direct chute.

Joints were cut with a soft-cut saw immediately following finishing and curing compound was applied. Indoor building temperature was adequate for curing when overhead door was closed.

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FIELD REPORT
Signed: David K. Pinkham



28 Vannah Avenue
Portland, Maine 04103
Tel: (207)781-5242
Fax: (207)781-4245

Date: 3-26-2013	Job No: 12330L
Project: METRO Lifts	
Location: Portland	
Contractor: LaMountain Bros.	Owner: METRO
Weather:	Temp:
Present at Site: Ed (LaMountain Bros.), DKP	

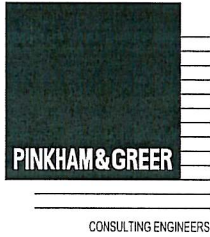
To: Special Inspections File

THE FOLLOWING WAS NOTED:

Reviewed slab reinforcing for trench areas at Lifts #1 and #2 and in area between Lifts #2 and #3. Reinforcing in these locations was also modified as a result of deleting the utility trench. Reinforcing was found to be acceptable.

COPIES TO:

FIELD REPORT
Signed: David K. Pinskiham



28 Vannah Avenue
Portland, Maine 04103
Tel: (207)781-5242
Fax: (207)781-4245

Date: 3-27-2013	Job No: 12330L
Project: METRO Lifts	
Location: Portland	
Contractor: LaMountain Bros.	Owner: METRO
Weather:	Temp:
Present at Site: Ed (LaMountain Bros.), slab subcontractor, DKP	

To: Special Inspections File

THE FOLLOWING WAS NOTED:

Concrete was placed in the "trench" areas near the OHDs at Lifts #1, #2, and the in the bay between Lifts #2 and #3. Placement included about 12 cu. yards in two trucks from Auburn Concrete. Concrete was placed by direct chute.

Due to the nature of the placement (concrete is largely infill in the old trench areas and is not required to stabilize in-ground lifts), and the acceptable test results from previous placements, no testing was done by JTC. By observation, slump was well within the acceptable range.

Plastic inserts were used to form control joints. Curing compound was applied following finishing. Indoor building temperature was adequate for curing when the OHDs were closed.

COPIES TO:

FIELD REPORT
Signed: David K. Pinkham



DAILY REPORT OF FIELD OBSERVATIONS

CLIENT:	Greater Portland Transit District 114 Valley St. Portland, ME 04102 Attn: Steve Kirby	PROJECT:	Vehicle Lift Replacement Portland, ME
	March 13, 2013	REPORT#:	13-55-000001-008
Page 1 of 2			
REPRESENTATIVE:	Rodney Boudreau		
GENERAL CONTRACTOR:	LaMountain Bros.		
SUBCONTRACTORS:	-		
TYPE OF WORKERS ONSITE	# OF WORKERS	COMPANY	
SUPERINTENDANT	1	LaMountain	
LABOR FOREMAN			
EQUIPMENT OPERATORS	2	LaMountain	
LABORERS	1	LaMountain	
MASONS			
IRONWORKERS			
CONCRETE FINISHERS			
OTHER:			
OTHER:			
EQUIPMENT ONSITE	TYPE/SIZE	QUANTITY	
CRANE			
BULLDOZER			
BACKHOE/EXCAVATOR	Deere 200 LC	1	
LOADER	Deere 310 SC	1	
GRADER			
DUMP TRUCK			
CONCRETE TRUCK			
CONCRETE PUMP TRUCK			
VIBRATORY ROLLER			
PLATE COMPACTOR	400 lb	1	
OTHER:			
OTHER:			
MATERIALS RECEIVED ONSITE:	N/A		
MATERIALS REMOVED FROM SITE:	Existing soils under slab, Bay A		
VISITORS ONSITE:	N/A		

NH MA ME VT

JOHN TURNER CONSULTING

CONSULTJTC.COM

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6 CLINTON AVENUE
WESTFIELD MA 01085
T 413.642.0138

73 RAINMAKER DRIVE
PORTLAND ME 04103-1291
T 207.883.7878



REPORT OF CONCRETE FIELD & LABORATORY TESTING

CLIENT: Greater Portland Transit District
 114 Valley St.
 Portland, ME 04102
 Attn: Steve Kirby

PROJECT: Vehicle Lift Replacement
 Portland, ME

DATE: March 5, 2013 **REPORT#:** 13-55-000001-007

General Location: Bay C
Date Cast: 03/01/13
Field Rep: Spencer Weston
Contractor: Lamountain Bros.
Supplier: Auburn Concrete
Admixtures: None
Air Temp: 35°F
Weather: Cloudy
Nominal size of Aggr: ¾ ”

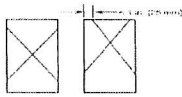
FIELD TEST RESULTS

Ticket #/ #CYL*	ASTM C143 SLUMP TEST	ASTM C231 AIR CONTENT	ASTM C1064 TEMPERATURE °F	ELAPSED TIME Batch : Final Discharge
213090	5.0	-	67 °F	6:42-7:14/36 Mins
213091/5 Cyls	5.0	2.5	67 °F	6:50-7:21/31 Mins
213093	-	-	-	7:11-7:46/35 Mins
213094	-	-	-	7:17-8:09/51 Mins
213096	-	-	-	7:27-8:27/60 Mins

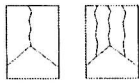
*Specimens molded in accordance with ASTM C31

LABORATORY COMPRESSIVE STRENGTH TESTING ASTM C39

Date of Test	Age	Specimen Area (in ²)	PSI	Break Type
03/05/13	4	12.56 in ²	4920	2
03/05/13	4	12.56 in ²	4770	2
03/08/13	7	12.56 in ²		
03/29/13	28	12.56 in ²		
03/29/13	28	12.56 in ²		
03/29/13	28	12.56 in ²		
-	Hold	12.56 in ²		



Type 1
Reasonably well-formed cones on both ends, less than 1 in. (25 mm) of cracking through caps.



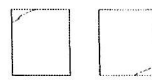
Type 2
Well formed cone on one end, vertical cracks running through caps, no well-defined cone on other end.



Type 3
Columnar vertical cracking through both ends, no well-formed cones.



Type 4
Diagonal fracture with no cracking through caps; top with horizontal displacement from Type 1.



Type 5
Shear fractures at top of bottom cap; cone completely with unrestrained caps.



Type 6
Similar to Type 5 but end of cylinder is pointed.

Specific Sample Location: 2 ft right of power lift, 20 ft from bay door
Yards placed: 50.0 Yards
Design Strength: 4000 PSI
Remarks:

NH MA ME VT

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6 CLINTON AVENUE
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 T 413.642.0138

73 RAINMAKER DRIVE
 PORTLAND ME 04103-1291
 T 207.883.7878

REPORT OF CONCRETE FIELD & LABORATORY TESTING

CLIENT: Greater Portland Transit District **PROJECT:** Vehicle Lift Replacement
 114 Valley St. Portland, ME
 Portland, ME 04102
 Attn: Steve Kirby

DATE: March 22, 2013 **REPORT#:** 13-55-000001-009

General Location: Bay A, slab on grade
Date Cast: 03/19/13
Field Rep: Spencer Weston
Contractor: LaMountain Bros.
Supplier: SFF Concrete
Admixtures: 1% Pozzutec
Air Temp: 30°F
Weather: Snow
Nominal size of Aggr: ¾"

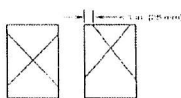
FIELD TEST RESULTS

Ticket #/ #CYL*	ASTM C143 SLUMP TEST	ASTM C231 AIR CONTENT	ASTM C1064 TEMPERATURE °F	ELAPSED TIME Batch : Final Discharge
210770	-	-	-	6:29-7:14/45 Mins
210771/5 Cyls	6.0	2.0	66 °F	6:35-7:18/48 Mins
210772	-	-	-	6:55-7:39/44 Mins
210776	-	-	-	7:09-7:58/48 Mins
210777	-	-	-	7:21-8:16/50 Mins
210779	-	-	-	7:16-8:44/58 Mins

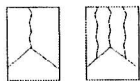
*Specimens molded in accordance with ASTM C31

LABORATORY COMPRESSIVE STRENGTH TESTING ASTM C39

Date of Test	Age	Specimen Area (in ²)	PSI	Break Type
03/22/13	3	12.56 in ²	5010	3
03/22/13	3	12.56 in ²	5140	2
03/26/13	7	12.56 in ²		
04/16/13	28	12.56 in ²		
04/16/13	28	12.56 in ²		
04/16/13	28	12.56 in ²		
-	Hold	12.56 in ²		



Type 1
Reasonably well-formed cones on both ends, less than 1 in. (25 mm) of cracking through caps



Type 2
Well formed cone on one end, vertical cracks running through caps, no well-defined cone on other end



Type 3
Columnar vertical cracking through both ends, on well-formed cones



Type 4
Diagonal fracture with no cracking through caps, top with hammer to distinguish from Type 1



Type 5
Chips fractured at top or bottom faces or externally with substantial chips



Type 6
Similar to Type 5 but end of cylinder is pointed

Specific Sample Location: 4ft left of center, 25ft from overhead door
Yards placed: 60.0 Yards
Design Strength: 4000 PSI
Remarks: