



Structural Special Inspections Report

**Portland Fire Department
Munjoy Hill Fire Station Monopole Replacement**

City of Portland Maine
July 24, 2012

Report Prepared by:

Structural Engineer of Record
Becker Structural Engineers, Inc.
75 York Street
Portland, ME 04101
207. 879. 1838

Portland Fire Department Munjoy Hill Fire Station Monopole Replacement

City of Portland Maine
July 24, 2012

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Statement of Responsibility

Special Inspections – Exhibit A

Statement of Special Inspections

List of Agents

Final Report of Special Inspections

Special Inspector/Agent Report

Structural Statement of Special Inspections

Project: *P.F.D. Munjoy Hill Fire Station Mono-pole Installation*

Location: *Portland, Maine*

Owner: *City of Portland*

This *Statement of Special Inspections* encompass the following discipline: **Structural**

This *Statement of Special Inspections* is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the Building Code. It includes a schedule of Special Inspection services applicable to this project as well as the name of the Structural Special Inspection Coordinator (SSIC) and the identity of other approved agencies to be retained for conducting these inspections and tests.

The Structural Special Inspection Coordinator shall keep records of all Structural inspections and shall furnish inspection reports to the Building Code Official (BCO) and the Structural Registered Design Professional in Responsible Charge (SRDP). Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the Structural Registered Design Professional in Responsible Charge. The Special Inspection program does not relieve the Contractor of his or her responsibilities.

Interim reports shall be submitted to the Building Official and the Structural Registered Design Professional in Responsible Charge at an interval determined by the SSIC and the BCO.

A *Final Report of Special Inspections* documenting completion of all required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted to the BCO prior to issuance of a Certificate of Use and Occupancy.

Job site safety and means and methods of construction are solely the responsibility of the Contractor.

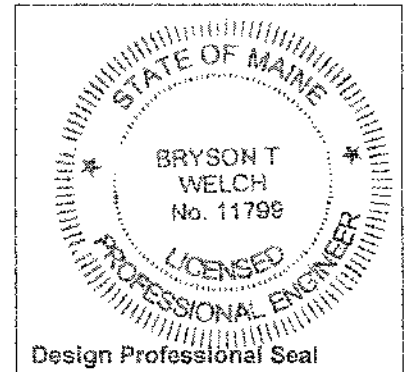
Interim Report Frequency: Upon request of Building Official _____ or per attached schedule.

Prepared by:

Bryson T. Welch, P.E.

(type or print name of the Structural Registered Design Professional in Responsible Charge)

Bryson T. Welch *3/19/12*
Signature Date



Owner's Authorization:

Building Code Official's Acceptance:

Signature Date

Signature Date

Structural Statement of Special Inspections (Continued)

List of Agents

Project: P.F.D. Munjoy Hill Fire Station Mono-pole Installation
 Location: Portland, Maine
 Owner: City of Portland
 This Statement of Special Inspections encompass the following discipline: **Structural**

(Note: Statement of Special Inspections for other disciplines may be included under a separate cover)

This Statement of Special Inspections / Quality Assurance Plan includes the following building systems:

- Soils and Foundations
- Cast-in-Place Concrete
- Precast Concrete System
- Structural Masonry Systems
- Structural Steel
- Wood Construction
- Special Cases

Special Inspection Agencies	Firm	Address, Telephone, e-mail
1. STRUCTURAL Special Inspections Coordinator (SSIC)	Becker Structural Engineers (BSE)	75 York Street Portland, Maine 04101 207-879-1838 bryson@beckerstructural.com
2. Special Inspector (SI 1)	Becker Structural Engineers (BSE)	75 York Street Portland, Maine 04101 207-879-1838 bryson@beckerstructural.com
3. Special Inspector (SI 2)	N/A	N/A
4. Testing Agency (TA 1)	R.W. Gillespie & Associates Inc.	86 Industrial Park Road, Suite 4 Saco, Maine 04072 207-286-8008 mgrady@rwg-a.com
5. Testing Agency (TA 2)	N/A	N/A
6. Other (O1)	N/A	N/A

Note: The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

Project: P.F.D. Munjoy Hill Fire Station Mono-pole Installation
Date Prepared: March 19, 2012

Structural Statement of Special Inspections (Continued)
Special Inspector's/Agent's Final Report

Project: *P.F.D. Munjoy Hill Fire Station Mono-pole Installation*
Special Inspector or Agent: MATTHEW T. GRADY, P.E. *R.W. Gillespie & Associates Inc.*
(name) (firm)
Designation: TA I

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

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 or Agent:

MATTHEW T. GRADY, P.E.
(Type or print name)

Matthew T. Grady 7/24/12
Signature Date

SEAL NOT
REQUIRED FOR
TA 1

*Licensed Professional Seal or
Certification Number*

Special Inspections – Exhibit B

Qualifications of Inspectors and Test Agency

List of Minimum Qualifications

Schedule of Structural Inspections

01000.5 Disclaimers and Qualifications

The program of Structural/Special Tests and Inspections does not relieve the Contractor or its Subcontractors of their responsibilities and obligations for quality control of the work, for any design work which is included in the scope of services, and for full compliance with the requirements of the Construction Documents. Furthermore, the detection of, or the failure to detect, deficiencies or defects in work during testing and inspection conducted pursuant to the Program does not relieve the Contractor or its subcontractors of their responsibility to correct all deficiencies or defects, whether detected or undetected, in all parts of work, and to otherwise comply with all requirements of the Construction Documents. No warrantee is expressed or implied by the issuance of this document. Additional disclaimers and/or qualifications may be included in the Owner-Special Inspection agreement.

Structural Schedule of Special Inspections

Qualifications of Inspectors and Testing Technicians

The qualifications of all personnel performing Special Inspection and testing activities are subject to the approval of the Building Official. The credentials of all Inspectors and testing technicians shall be provided to the Special Inspector for their records. *NOTE VERIFICATION THAT QUALIFIED INDIVIDUALS ARE AVAILABLE TO PERFORM STIPULATED TESTING AND/OR INSPECTION SHOULD BE PROVIDED PRIOR TO SUBMITTING STATEMENT. AGENT QUALIFICATIONS IN SCHEDULE ARE SUGGESTIONS ONLY; FINAL QUALIFICATIONS ARE SUBJECT TO THE DISCRETION OF THE REGISTERED DESIGN PROFESSIONAL PREPARING THE SCHEDULE.*

Key for Minimum Qualifications of Inspection Agents:

When the Registered Design Professional in Responsible Charge or Special Inspector of Record deems it appropriate that the individual performing a stipulated test or inspection have a specific certification, license or experience as indicated below, such requirement shall be listed below and shall be clearly identified within the schedule under the Agent Qualification Designation.

PE/SE	Structural Engineer – a licensed SE or PE specializing in the design of building structures
PE/GE	Geotechnical Engineer – a licensed PE specializing in soil mechanics and foundations
EIT	Engineer-In-Training – a graduate engineer who has passed the Fundamentals of Engineering examination

Experienced Testing Technician

ETT	Experienced Testing Technician – An Experienced Testing Technician with a minimum 5 years experience with the stipulated test or inspection
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American Concrete Institute (ACI) Certification

ACI-CFTT	Concrete Field Testing Technician – Grade 1
ACI-CCI	Concrete Construction Inspector
ACI-LTT	Laboratory Testing Technician – Grade 1&2
ACI-STT	Strength Testing Technician

American Welding Society (AWS) Certification

AWS-CWI	Certified Welding Inspector
AWS/AISC-SSI	Certified Structural Steel Inspector

American Society of Non-Destructive Testing (ASNT) Certification

ASNT	Non-Destructive Testing Technician – Level II or III.
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International Code Council (ICC) Certification

ICC-SMSI	Structural Masonry Special Inspector
ICC-SWSI	Structural Steel and Welding Special Inspector
ICC-SFSI	Spray-Applied Fireproofing Special Inspector
ICC-PCSI	Prestressed Concrete Special Inspector
ICC-RCSI	Reinforced Concrete Special Inspector

National Institute for Certification in Engineering Technologies (NICET)

NICET-CT	Concrete Technician – Levels I, II, III & IV
NICET-ST	Soils Technician - Levels I, II, III & IV
NICET-GET	Geotechnical Engineering Technician - Levels I, II, III & IV

Other

Special Inspections – Exhibit B

03300 Cast-in-Place Concrete

Structural Schedule of Special Inspections
CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION	REQD Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
IBC Section 1704.4						
1. Inspection of reinforcing steel, including prestressing tendons, and placement	SI 1	P	ACI 318: 3.5, 7.1-7.7	SII	PE/SE or EIT	6/6 - 7/6
2. Inspection of reinforcing steel welding in accordance with Table 1704.3, Item 5B	N	-	Not applicable. Welding of Reinf Not Allowed	-	-	
3. Inspect bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased or where strength design is used.	SI 1	C	IBC 1911.5	SII	PE/SE or EIT	6/6 - 7/6
4. Inspection of anchors installed in hardened concrete.	SI 1	P	IBC 1212.1	SII	PE/SE or EIT	6/6 - 7/6
5. Verifying use of required design mix	TA 1	P	ACI 318: Ch 4, 5.2-5.4	TA 1	ACI-CFTT or ACI-STT	6/6 - 7/6
6. At time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests and determine the temperature of the concrete.	N/A	C	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	TA 1	ACI-CFTT or ACI-STT	
7. Inspection of concrete and shotcrete placement for proper application techniques	TA 1	C	ACI 318: 5.9, 5.10	TA 1	ACI-CFTT or ACI-STT	6/6 - 7/6
8. Inspection for maintenance of specified curing temperature and techniques	SA 1	P	ACI 318: 5.11-5.13	SII	PE/SE or EIT	6/6 - 7/6
9. Inspection of Prestressed Concrete						
a. Application of prestressing force.	N/A	C	ACI 318: 18.20	TA 2	PE/SE or EIT	
b. Grouting of bonded prestressing tendons in seismic force resisting system	N/A	C	ACI 318: 18.18.4	TA 1	ACI-CFTT or ACI-STT	
10. Erection of precast concrete members.	N/A	P	ACI 318: Ch 16	SII	PE/SE or EIT	
11. Verification of in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	N/A	P	ACI 318: 6.2	TA 1	ACI-CFTT or ACI-STT	
12. Inspect formwork for shape, location and dimensions of the concrete member being formed.	N/A	P	Limitations apply. See below	SII	PE/SE or EIT	

Limitations of item 12: Special inspection includes periodic review of formwork shape, general location, and formwork dimensions that can be readily measured with conventional tape measure. Verification of building layout, building location, foundation extents, column grids, and foundation elevations is excluded.



Project:	P.F.D. Munjoy Hill Fire Station
Location:	Portland, ME
Becker Job No:	2612

OBSERVATION REPORT
Cast in Place Concrete

Date:	06/06/12
Time:	3:30
Temp:	
Weather:	

Observation Location: Shotcrete Wall No. 2 and No. 3 (First Floor)

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Note 1 Below
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Note 2 Below
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

1. Some of the bent bars for Shotcrete Wall No. 2 that wrap around the existing joist in section 5 on S3 were being constructed with #7 and the contractor was having issues placing them. We confirmed that those bars can be #5.
2. The Top cord of the existing joists for Shotcrete Wall No. 3 were not bonded out as shown on Section 6 on S3. The contractor was notified confirmed that the bond outs will be added.

Signed: Bryson T. Welch, P.E.



Project:	P.F.D. Munjoy Hill Fire Station
Location:	Portland, ME
Becker Job No:	2612

OBSERVATION REPORT
Cast in Place Concrete

Date:	06/11/12
Time:	12:00
Temp:	
Weather:	

Observation Location: Shotcrete Wall No. 2 and 3 (First Floor)

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Note 1 and 2 Below
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

1. The top of both walls above the ceiling were not completed in the placements the previous week. The wall has been wet cured since the last placement. Additional steel mesh has been added to help reinforce the walls where they cantilever out and an accelerator has been approved to aid placement in these areas.
2. The smooth gun finish was not placed on Shotcrete Wall No. 2 and No. 3.

Signed: Bryson T. Welch, P.E.



Project:	P.F.D. Munjoy Hill Fire Station
Location:	Portland, ME
Becker Job No:	2612

OBSERVATION REPORT
Cast in Place Concrete

Date:	06/14/12
Time:	7:00am
Temp:	70
Weather:	Partly Cloudy

Observation Location: Shotcrete Wall No. 1 (First and Second Floor)

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Note 1 Below
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

1. The contractor was in the process of installing the anchor bolts for Shotcrete Wall No. 2.

Signed: Bryson T. Welch, P.E.



Project:	P.F.D. Munjoy Hill Fire Station
Location:	Portland, ME
Becker Job No:	2612

OBSERVATION REPORT
Cast in Place Concrete

Date:	06/20/12
Time:	11:30
Temp:	80
Weather:	Sunny

Observation Location: Shotcrete Wall No. 2 and 3 (Second Floor) and wall cap Detail 3 on S3

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Note 1 Below
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

1. The contractor was placing shotcrete for Wall No. 2 while we're on site. We noticed the top cord of the existing joists for Shotcrete Wall No. 3 were not bonded out. We notified the contractor and the bondouts were added.

Signed: Bryson T. Welch, P.E.



Project:	P.F.D. Munjoy Hill Fire Station
Location:	Portland, ME
Becker Job No:	2612

OBSERVATION REPORT
Cast in Place Concrete

Date:	06/28/12
Time:	1:30
Temp:	
Weather:	

Observation Location: Shotcrete Wall No. 2 and 3

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Note 1
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

Representatives of Woodard and Curran, Knowles, Scott Construction, BSE and the PFD meet on site to review the condition of the shotcrete walls. The structural integrity of the walls are not in question, however the finish of the walls do not meet the specification for a smooth gun finish. Knowles Industrial proposed completing the repair of the shotcrete walls by grinding down the high spots, filling in the low spots and producing a uniform finish using a Thoroseal product.

Signed: Bryson T. Welch, P.E.



Project:	P.F.D. Munjoy Hill Fire Station
Location:	Portland, ME
Becker Job No:	2612

OBSERVATION REPORT
Cast in Place Concrete

Date:	07/06/12
Time:	8:00
Temp:	
Weather:	

Observation Location: Shotcrete Wall No. 2 and 3

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Note 1
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

1. Per conversations with Chief Smith and as noted by an e-mail this morning, the PFD has reviewed the finish of the shotcrete walls located in the engine by and the finish is acceptable.

Signed: Bryson T. Welch, P.E.



Daily Observation Report

Project: <u>MUNSON HILL FIRE STATION MONOPOLE REPLACEMENT</u>		Time: _____	End Time _____	Mileage: _____	End _____
Project No.: <u>0557-016</u>	Tolls: <u>1.20</u>	_____	Beg. Time _____	_____	Begin _____
Per Diem/Lodging: _____		✓ <u>2</u>	Total Time _____	✓ <u>35</u>	Total _____

Observations:

In-Place Densities Done _____

All IPDs meet Specifications

Reported to _____

Not all IPDs meet Specifications

Reported to _____

Phone Calls:

Visited the site in the afternoon to check the reinforcing steel for shotcrete walls No. 2 and No. 3 on the first floor. There was an area on wall No. 2 where Knowles used 2 # 5 rebar under the decking for the second floor rather than the specified # 7 rebar because the bends on the # 7 rebar caused the 2 pieces of rebar to protrude out too far to get coverage when shotcrete is to be placed. Travis (of Knowles) informed me that Bryson Welch (Becker Structural) had told him to replace the 2 # 7 rebar with 2 # 5 rebar due to clearance issues. The wall is also now 9'6" in width rather than the original specified width of 10', the amount of reinforcing steel in this wall did not change due to the change in width. The remainder of this wall was within project specifications. The reinforcing steel in wall No. 3 was checked and there was a location on the right side of the electrical panel where the spacing of the dowels exceeded the required 2'. I informed Travis (Knowles) and he said that they would correct this. There was also an area below the electrical panel where the spacing of one dowel was relocated due to the electrical lines inside the wall at the dowel location, all other areas of the wall were within project specifications.

Reviewed By: Mr. [Signature]

Signed: [Signature]

MCS-RWG&A

- | | |
|---|---|
| <input type="checkbox"/> HNU _____ day | <input type="checkbox"/> Concrete Equipment |
| <input type="checkbox"/> Survey Level _____ day | <input type="checkbox"/> Nuc Densometer _____ day |
| <input type="checkbox"/> Rebar Meter _____ day | <input type="checkbox"/> Coring Machine _____ Dia |
| _____ Bailers (Disposable) | _____ Inches Cored |
| <input type="checkbox"/> Water Level Ind. _____ day | <input type="checkbox"/> Generator <input type="checkbox"/> Taylor Rental |
| <input type="checkbox"/> Drill Rig _____ day | <input type="checkbox"/> Peristaltic Pump (note tubing used) |
| <input type="checkbox"/> Backhoe _____ day | <input type="checkbox"/> Other _____ |

- | | |
|----------------------------|------------------|
| Monitoring Well Supplies | _____ Locks |
| _____ Bags of Bentonite | _____ Caps |
| _____ 5 ft. Screen 2" PVC | _____ Points |
| _____ 10 ft. Screen 2" PVC | _____ Screw Caps |
| _____ 5 ft. Riser 2" PVC | |
| _____ 10 ft. Riser 2" PVC | |
| _____ Other _____ | |

GENERAL NOTES:

- EXISTING MONOPOLE REMOVAL, COMMUNICATIONS SWITCHOVER, NEW MONOPOLE PROCUREMENT & ERECTION BY OTHERS. REF CITY OF PORTLAND SPECIAL PROVISIONS OF THE SPECIFICATIONS FOR ADOL INFO.
- S.W. No. 2= NEW SHEARWALL LOCATION.
- ALL DIMENSIONS, EXIST CONDITIONS AND AS-BUILT CONDITIONS MUST BE VERIFIED IN THE FIELD. MODIFY NEW STEEL POST LOCATIONS TO AVOID IMPACTING EXIST JOISTS.
- FOR ADDITIONAL INFORMATION ON EXIST BUILDING, SEE MUNJOY HILL NEIGHBORHOOD FACILITY AND FIRE STATION, PORTLAND, MAINE, DATED AUGUST 30, 1976.
- NEW PROTECTIVE RUBBER MATS SHALL BE FIRESTONE QUICKSEAM WALKWAY PADS (BLACK), OR APPROVED EQUAL. SUBMIT SHOP DWG & INSTALLATION PLAN. INSTALL THE WALKWAY PADS PER MANUFACTURER'S RECOMMENDATIONS. CONSULT WITH CITY PRIOR TO INSTALLATION.
- NEW ROOF-TOP HOOD FOR CONDUIT. COORDINATE INSTALLATION WITH CITY OF PORTLAND COMMUNICATIONS CONSULTANT NORA BOUTCHER PHONE # 603-808-8406. FOLLOW MANUFACTURER'S INSTALLATION REQUIREMENTS AND PART SYSTEM REQUIREMENTS. COLOR SHALL MATCH EXISTING ROOF (FLAT BLACK). COLOR SAMPLE SHALL BE SUBMITTED TO OWNER PRIOR TO FABRICATION FOR APPROVAL. PROVIDE ONE OF THE FOLLOWING HOODS OR APPROVED EQUAL:

- CONNECT-II: C1W-365 (1 UNIT)
EP4-44 (1 UNIT)
EP-C4 (16 UNITS)
- SHEPRO-1: SP3656 (1 UNIT)
E1447 (1 UNIT)
E-C7 (18 UNITS)

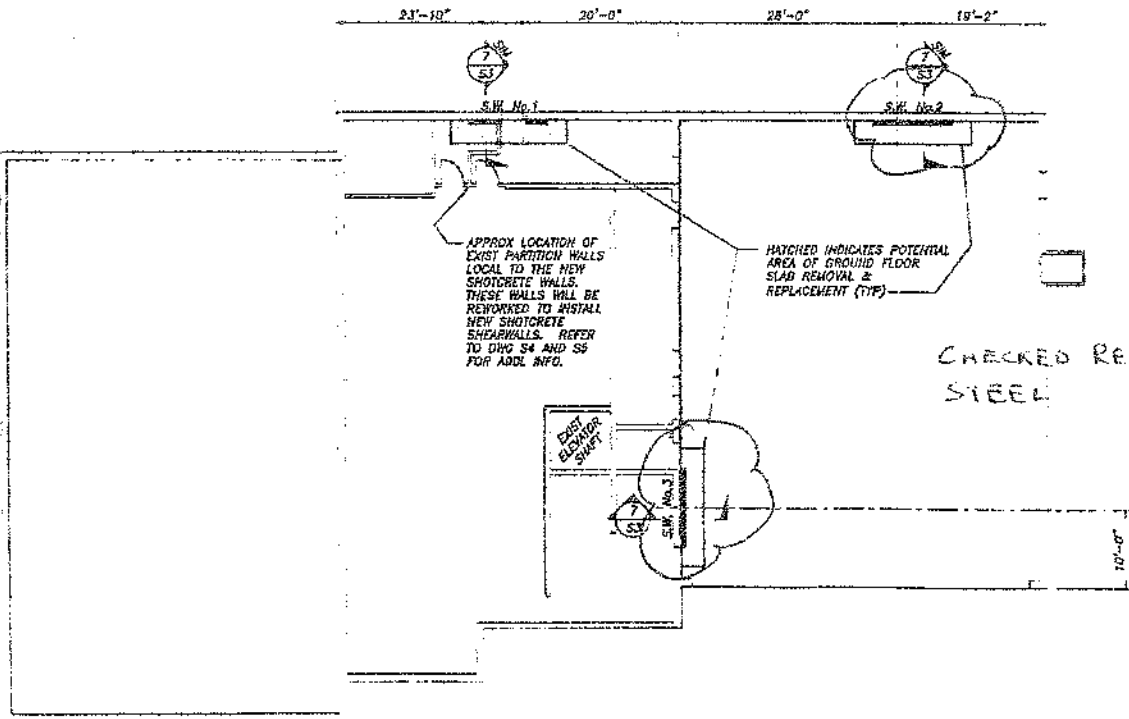


PROJECT: MUNJOY HILL FIRE STATION
 MONOPOLE REPLACEMENT
 PROJECT #: 0557-016
 CLIENT: CITY OF PORTLAND
 DATE: JUNE 6, 2012

STEEL PROCUREMENT:

- FOR SCHEDULE CONSIDERATIONS, THE CITY WILL PROCURE MAJOR STRUCTURAL STEEL ELEMENTS INCLUDING BEAMS, BRACES, AND POSTS. THESE MATERIALS WILL BE DELIVERED TO THE SELECTED CONTRACTOR'S FABRICATOR; COORDINATION OF DELIVERY TRUCKS BY THE SELECTED CONTRACTOR.
- CONTRACTOR'S FABRICATOR WILL PROVIDE SHOP DRAWINGS, ERECTION PLANS, MISC. METAL PLATES AND ANGLE, RESPONSIBLE FOR SHOP PAINTING AND INSTALLATION.
- THE SUPPLIER SHALL PROVIDE A COPY OF THE CERTIFIED MILL TEST REPORTS FOR ALL MATERIAL TO THE STRUCTURAL ENGINEER.
- THE FOLLOWING IS A LIST OF THE STEEL PROCURED BY THE CITY OF PORTLAND:

QTY	QUANTITY	LENGTH (FEET)
W24x162	2	85
W24x182	2	80
HSS10x4x1/4	1	35
HSS10x4x1/4	1	30
HSS10x4x1/4	2	25
HSS10x4x1/4	2	18
WT6x19	1	15
8" EXTRA STRONG PIPE	1	15



EXIST GROUND FLOOR PLAN
 3/32=1'-0"



PFD MUNJOY HILL FIRE STATION
 MONO-POLE INSTALLATION
 PORTLAND, MAINE
 FRAMING PLANS

Designed	Date
BTW	07/27
APP	03/19/12
Checked	By
PBB	2512

R. W. GILLESPIE & ASSOCIATES, INC.
 Geotechnical Engineering • Geohydrology • Materials Testing Services

200 International Dr., Ste 170
 Portsmouth, NH 03801
 603-427-0244 • Fax 603-430-2041

Corporate Office
 86 Industrial Park Rd, Ste 4
 Saco, ME 04072
 207-286-8008 • Fax 207-286-2882

P.O. Box 289
 Augusta, ME 04344
 07-623-4914 • Fax 207-623-3429

CONCRETE REINFORCING STEEL OBSERVATION REPORT

Project Name: MUNSOY HILL FIRE STATION MONOPOLE REPLACEMENT Date: JUNE 6, 2012
 Client/Project #: CITY OF PORTLAND / # 0557-016 Time: 12:30
 General Contractor/ Subcontractor: SCOTT CONSTRUCTION / KNOWLES INDUSTRIAL SERVICES CORPORATION Weather: INSIDE

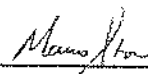
Approved Documents Referenced: Structural Drawings and Rebar Shop Drawings
 Document Sheets/Details Referenced: S1, S3, R01
 Placement Location: GROUND FLOOR: WALL NO. 2 & WALL NO. 3

ITEMS CHECKED

Item	In Accordance With Documents	Not In Accordance With Documents	Not Applicable
Bar Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar Grade	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Number of Bars	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Spacing Before & After Concrete Placement	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
End & Side Clearances	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Top & Bottom Clearances	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assure Bar are Clean and Free of Dirt, Oil, Rust, Paint, Etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Bar Junctions are Adequately Tied	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Placement & Adequacy of supports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vertical Embedment to Assure Proper Lap Length	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Horizontal Bars for Minimum Lap Length	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other: WALL NO. 2
2 - #7 rebar were replaced with 2 - #5 rebar because the bends in the rebar caused the rebar to be located so they would not have coverage, this was done under direction of Bryson (Becker structural). Wall No. 3 had 2 locations where

the epoxyed dowels exceeded the specified 24" spacing. At wall no.3 Knowles also moved the rebar under the electrical Panel where the electrical conduit was located in the wall. the rebar was moved a few inches so that they were outside these electrical conduit.

Observations were verbally reported to: MARK LIBBY - SCOTT CONSTRUCTION TRAVIS WHITEHEAD - KNOWLES INDUSTRIAL
Construction Technologist: 
Print Name/Title MARCO STONE CET

FRAMING PLAN NOTES:

- EXISTING MONOPOLE REMOVAL, COMMUNICATIONS SWITCHOVER, NEW MONOPOLE PROCUREMENT & ERECTION BY OTHERS. REF CITY OF PORTLAND SPECIAL PROVISIONS OF THE SPECIFICATIONS FOR ADDL INFO.
- S.W. No. 1 - NEW SHEARWALL LOCATION.
- ALL DIMENSIONS, EXIST CONDITIONS AND AS-BUILT CONDITIONS MUST BE VERIFIED IN THE FIELD. MODIFY NEW STEEL POST LOCATIONS TO AVOID IMPACTING EXIST JOISTS.
- FOR ADDITIONAL INFORMATION ON EXIST BUILDING, SEE MUNJOY HILL NEIGHBORHOOD FACILITY AND FIRE STATION, PORTLAND, MAINE, DATED AUGUST 30, 1978.
- NEW PROTECTIVE RUBBER MATS SHALL BE FIRESTONE CORK/SEAL WALKWAY PADS (BLACK), OR APPROVED EQUAL. SUBMIT SHOP DWS & INSTALLATION PLAN. INSTALL THE WALKWAY PADS PER MANUFACTURER'S RECOMMENDATIONS. CONSULT WITH CITY PRIOR TO INSTALLATION.
- NEW ROOF-TOP HOOD FOR CONDUIT. COORDINATE INSTALLATION WITH CITY OF PORTLAND COMMUNICATIONS CONSULTANT NORM BOUCHER PHONE # 803-905-9208. FOLLOW MANUFACTURER'S INSTALLATION REQUIREMENTS AND PAINT SYSTEM REQUIREMENTS. COLOR SHALL MATCH EXISTING ROOF (FLAT BLACK). COLOR SAMPLE SHALL BE SUBMITTED TO OWNER PRIOR TO FABRICATION FOR APPROVAL. PROVIDE ONE OF THE FOLLOWING HOODS OR APPROVED EQUAL:

- CONNECT-IT: C1W-360 (1 UNIT)
EP4-44 (1 UNIT)
EP-C4 (16 UNITS)
- SITEPRO-1: SP3650 (1 UNIT)
E1447 (1 UNIT)
E-C7 (16 UNITS)

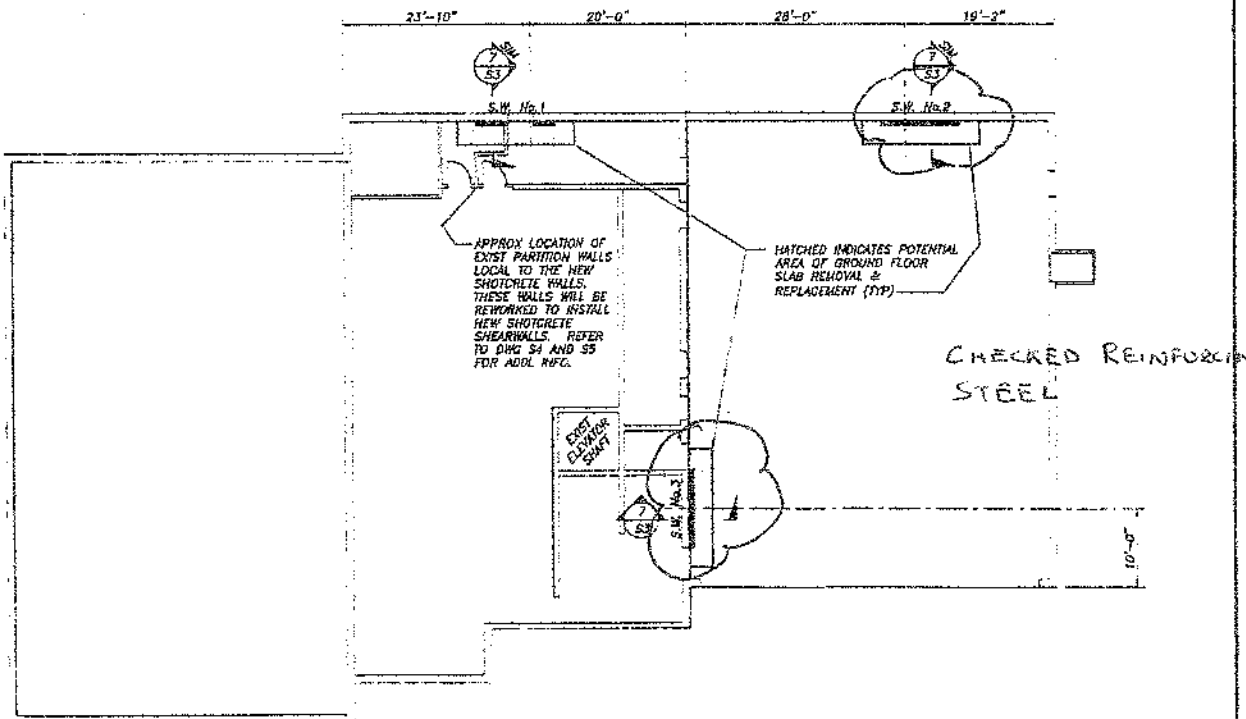


PROJECT: MUNJOY HILL FIRE STATION
 MONOPOLE REPLACEMENT
 PROJECT #: 0557-016
 CLIENT: CITY OF PORTLAND
 DATE: JUNE 6, 2012

STEEL PROCUREMENT:

- FOR SCHEDULE CONSIDERATIONS, THE CITY WILL PROCURE MAJOR STRUCTURAL STEEL ELEMENTS INCLUDING BEAMS, BRACES, AND POSTS. THESE MATERIALS WILL BE DELIVERED TO THE SELECTED CONTRACTOR'S FABRICATOR; COORDINATION OF DELIVERY TIMING BY THE SELECTED CONTRACTOR.
- CONTRACTOR'S FABRICATOR WILL PROVIDE SHOP DRAWINGS, ERECTION PLANS, MISC. METAL PLATES AND ANGLE, RESPONSIBLE FOR SHOP PAINTING AND INSTALLATION.
- THE SUPPLIER SHALL PROVIDE A COPY OF THE CERTIFIED MILL TEST REPORTS FOR ALL MATERIAL TO THE STRUCTURAL ENGINEER.
- THE FOLLOWING IS A LIST OF THE STEEL PROCURED BY THE CITY OF PORTLAND:

DISC.	QUANTITY	LENGTH (FEET)
W6x4x1/2	2	35
W6x4x1/2	2	50
W6x4x1/2	2	35
W6x4x1/2	1	30
W6x4x1/2	2	25
W6x4x1/2	2	18
W6x4x1/2	2	18
W6x4x1/2	1	15
6" EXTRA STRONG PIPE	1	15



EXIST GROUND FLOOR PLAN
 3/22=1'-0"

BECKER
 STRUCTURAL STEEL
 25 Park Street, Portland, Maine 04101
 207.633.8800 • beckersteel.com

PROJECT NORTH

PFD MUNJOY HILL FIRE STATION
 MONO-POLE INSTALLATION
 PORTLAND, MAINE
 FRAMING PLAN

Designed by: BTW
 Checked by: PFB
 Date: 03/19/11
 Station Job No.: 3612

S1



Daily Observation Report

Project: MUNSOM HILL FIRE STATION MONORAIL REPLACEMENT		Time: _____ End Time _____	Mileage: _____ End _____
Project No.: 0567-016	Tolls: 1.20	_____ Beg. Time _____	_____ Begin _____
Per Diem/Lodging: _____		✓ 10 1/2 Total Time	✓ 20 Total

Observations:

In-Place Densities Done _____ All IPDs meet Specifications Reported to _____

Not all IPDs meet Specifications Reported to _____

Phone Calls:

Visited the site in the morning for the placement of shotcrete on the ground floor at locations of wall no. 2 and wall no. 3. When I arrived at the site I checked the area of wall No. 3 where they drilled and epoxied rebar dowel had exceeded the specified 2'. Knowles had resolved this issue by adding dowels in this location. The application of shotcrete began at approximately 8:30 by nozzleman Bruce Curtis of Knowles Industrial Services Corporation (KISC). During the application Bruce used a nozzle pressure of 60-70 psi for the majority of the application process. When the load of gunite arrived at the site the batch weights were verified to be at the specified proportions. During the application of the shotcrete I contacted Bryson with some items that did not correlate with the project specifications. The first item was that there was a area of wall No. 3 where all the paint had not been completely removed on the bottom left corner near the electrical box, Bryson said he was aware of this but it was not a large enough area to be of concern. The second item was that the wall had not been kept moistened for 3 hours, Bruce moistened the wall just prior to spraying the shotcrete. This was not an issue since masonry block absorbs moisture quickly and moistening the wall for 3 hours would cause it to be saturated. The third item was the loads of gunite were

Reviewed By:	Signed: MGS-RWGDA
<input type="checkbox"/> HNU _____ day <input type="checkbox"/> Survey Level _____ day <input type="checkbox"/> Rebar Meter _____ day _____ Bailers (Disposable) <input type="checkbox"/> Water Level Ind. _____ day <input type="checkbox"/> Drill Rig _____ day <input type="checkbox"/> Backhoe _____ day	<input type="checkbox"/> Concrete Equipment <input type="checkbox"/> Nuc Densometer _____ day <input type="checkbox"/> Coring Machine _____ Dia _____ Inches Cored <input type="checkbox"/> Generator <input type="checkbox"/> Taylor Rental <input type="checkbox"/> Peristaltic Pump (note tubing used) <input type="checkbox"/> Other _____
Monitoring Well Supplies	
_____ Bags of Bentonite	_____ Locks
_____ 5 ft. Screen 2" PVC	_____ Caps
_____ 10 ft. Screen 2" PVC	_____ Points
_____ 5 ft. Riser 2" PVC	_____ Screw Caps
_____ 10 ft. Riser 2" PVC	
_____ Other _____	



Daily Observation Report

Project: <u>Munday Hill FIRE STATION MONOPOLE REPLACEMENT</u>	Time: _____	End Time _____	Mileage: _____	End _____
Project No.: <u>0557-016</u>	Tolls: <u>-</u>	_____	_____	Begin _____
Per Diem/Lodging: _____	_____	Total Time _____	_____	Total _____

Observations:

In-Place Densities Done _____	All IPDs meet Specifications	Reported to _____
	Not all IPDs meet Specifications	Reported to _____

Phone Calls:

exceeding 90 minutes, Bryson did not take exception to this as long as the consistency of the material did not change and the material could be applied correctly. Bruce decided when to have a fresh load of gunite delivered based on the consistency of the material as it was applied, Bruce could tell when the consistency changed during the spraying operation. There was an area at the top of both of these walls that did not get completed due to accessibility and the fresh shotcrete being wet and the pressure from the application would cause the in-place material to be dislodged. Mark contacted Travis and Travis said that in this situation they would let the in-place material cure and then apply the remainder of the shotcrete on Monday. Bryson will be contacted tomorrow during business hours to be informed of the situation. At the top of the walls Knowles would need to add approximately 1 1/2" plus of material. Wall No. 3 did not get the final gun finish because when Bruce attempted to flash the surface the material began sag and slough from the pressure of the gun, so he decided to stop rather than damage the freshly placed shotcrete.

Reviewed By: MTC

Signed: [Signature] MTC-RWG/DA

<input type="checkbox"/> HNU _____ day	<input type="checkbox"/> Concrete Equipment	Monitoring Well Supplies	
<input type="checkbox"/> Survey Level _____ day	<input type="checkbox"/> Nuc Densometer _____ day	_____ Bags of Bentonite	_____ Locks
<input type="checkbox"/> Rebar Meter _____ day	<input type="checkbox"/> Coring Machine _____ Dia.	_____ 5 ft. Screen 2" PVC	_____ Caps
_____ Bailers (Disposable)	_____ Inches Cored	_____ 10 ft. Screen 2" PVC	_____ Points
<input type="checkbox"/> Water Level Ind. _____ day	<input type="checkbox"/> Generator <input type="checkbox"/> Taylor Rental	_____ 5 ft. Riser 2" PVC	_____ Screw Caps
<input type="checkbox"/> Drill Rig _____ day	<input type="checkbox"/> Peristaltic Pump (note tubing used)	_____ 10 ft. Riser 2" PVC	
<input type="checkbox"/> Backhoe _____ day	<input type="checkbox"/> Other _____	_____ Other _____	

FRAMING PLAN NOTES:

- EXISTING MONOPOLE REMOVAL, COMMUNICATIONS SWITCHOVER, NEW MONOPOLE PROCUREMENT & ERECTION BY OTHERS. REF CITY OF PORTLAND SPECIAL PROVISIONS OF THE SPECIFICATIONS FOR ADDL INFO.
- S.W. No. 2 - NEW SHEARWALL LOCATION.
- ALL DIMENSIONS, EXIST CONDITIONS AND AS-BUILT CONDITIONS MUST BE VERIFIED IN THE FIELD. MODIFY NEW STEEL POST LOCATIONS TO AVOID IMPACTING EXIST JOISTS.
- FOR ADDITIONAL INFORMATION ON EXIST BUILDING, SEE MUNSJOY HILL NEIGHBORHOOD FACILITY AND FIRE STATION, PORTLAND, MAINE, DATED AUGUST 30, 1976.
- NEW PROTECTIVE RUBBER MATS SHALL BE FIRESTONE QUICKSEAM WALKWAY PADS (BLACK), OR APPROVED EQUAL. SUBMIT SHOP DWG & INSTALLATION PLAN. INSTALL THE WALKWAY PADS PER MANUFACTURER'S RECOMMENDATIONS. CONSULT WITH CITY PRIOR TO INSTALLATION.
- NEW ROOF-TOP MOOD FOR CONDUIT. COORDINATE INSTALLATION WITH CITY OF PORTLAND COMMUNICATIONS CONSULTANT NORR BOUCHER PHONE # 803-805-3408. FOLLOW MANUFACTURER'S INSTALLATION REQUIREMENTS AND PAINT SYSTEM REQUIREMENTS. COLOR SHALL MATCH EXISTING ROOF (FLY BLACK). COLOR SAMPLE SHALL BE SUBMITTED TO OWNER PRIOR TO FABRICATION FOR APPROVAL. PROVIDE ONE OF THE FOLLOWING HOOKS OR APPROVED EQUAL:

- | | | |
|----------------|---------|------------|
| 1. CONNECT-IT: | C1W-365 | (1 UNIT) |
| | EP4-44 | (1 UNIT) |
| | EP-C6 | (16 UNITS) |
| 2. SITEPRO-1: | SP355G | (1 UNIT) |
| | C147 | (1 UNIT) |
| | E-C7 | (16 UNITS) |

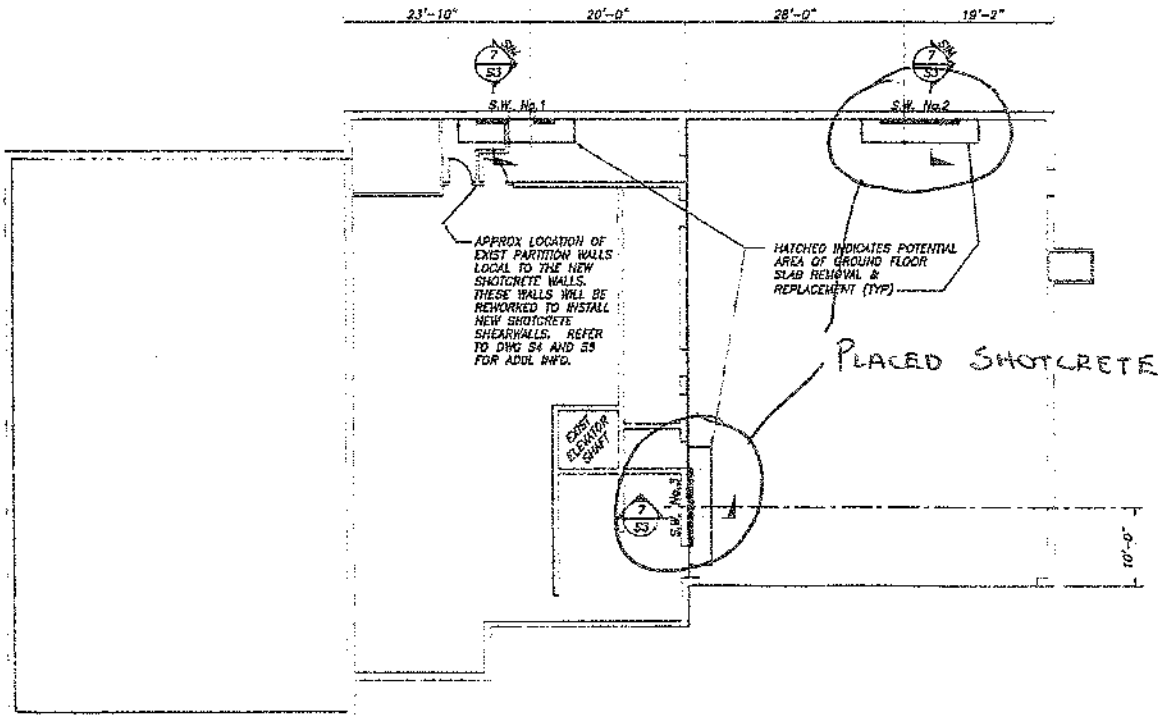


PROJECT: MUNSJOY HILL FIRE STATION
 MONOPOLE REPLACEMENT
 PROJECT #: 0557-016
 CLIENT: CITY OF PORTLAND
 DATE: JUNE 7, 2012

STEEL PROCUREMENT:

- FOR SCHEDULE CONSIDERATIONS, THE CITY WILL PROCURE MAJOR STRUCTURAL STEEL ELEMENTS INCLUDING BEAMS, BRACES, AND POSTS. THESE MATERIALS WILL BE DELIVERED TO THE SELECTED CONTRACTOR'S FABRICATOR; COORDINATION OF DELIVERY TIMING BY THE SELECTED CONTRACTOR.
- CONTRACTOR'S FABRICATOR WILL PROVIDE SHOP DRAWINGS, ERECTION PLANS, MISC. METAL, PLATES AND ANGLE; RESPONSIBLE FOR SHOP PAINTING AND INSTALLATION.
- THE SUPPLIER SHALL PROVIDE A COPY OF THE CERTIFIED MILL TEST REPORTS FOR ALL MATERIAL TO THE STRUCTURAL ENGINEER.
- THE FOLLOWING IS A LIST OF THE STEEL PROCURED BY THE CITY OF PORTLAND:

DESC.	QUANTITY	LENGTH (FEET)
W24x162	2	55
W24x162	2	50
MS10x2x1/4	1	35
MS10x2x1/4	1	30
MS10x2x1/4	2	25
MS10x2x1/4	2	15
W10x19	1	15
6" EXTRA STRONG PIPE	1	15



EXIST GROUND FLOOR PLAN

3/32=1'-0"



PFD MUNSJOY HILL FIRE STATION
 MONO-POLE INSTALLATION
 PORTLAND, MAINE
 EDAMING DI ANIS

Designed	Scale
BTW	NOTED
Drawn	Date
APP	03/19/12
Checked	Drawn Job Name
PBS	2512

S1



Daily Observation Report

Project: <u>MUNSON HILL FIRE STATION MONROUSE REPLACEMENT</u>	Time: _____	End Time _____	Mileage: _____	End _____
Project No.: <u>0557-016</u>	Tolls: <u>1.20</u>	_____	_____	Begin _____
Per Diem/Lodging: _____	_____	Total Time _____	✓	<u>2.0</u> Total

Observations:

In-Place Densities Done _____	All IPDs meet Specifications	Reported to _____
	Not all IPDs meet Specifications	Reported to _____

Phone Calls:

Visited the site to pick up the test panels to return them to our office to core and break strength specimens.

Reviewed By: MTC

Signed: Mario DA MCS-RWGDA

<input type="checkbox"/> HNU _____ day	<input type="checkbox"/> Concrete Equipment	Monitoring Well Supplies
<input type="checkbox"/> Survey Level _____ day	<input type="checkbox"/> Nuc Densometer _____ day	_____ Bags of Bentonite
<input type="checkbox"/> Rebar Meter _____ day	<input type="checkbox"/> Coring Machine _____ Dia.	_____ 5 ft. Screen 2" PVC
_____ Bailers (Disposable)	_____ Inches Cored	_____ 10 ft. Screen 2" PVC
<input type="checkbox"/> Water Level Ind. _____ day	<input type="checkbox"/> Generator <input type="checkbox"/> Taylor Rental	_____ 5 ft. Riser 2" PVC
<input type="checkbox"/> Drill Rig _____ day	<input type="checkbox"/> Peristaltic Pump (note tubing used)	_____ 10 ft. Riser 2" PVC
<input type="checkbox"/> Backhoe _____ day	<input type="checkbox"/> Other _____	_____ Other _____
		_____ Locks
		_____ Caps
		_____ Points
		_____ Screw Caps



Daily Observation Report

Project: <u>MUNSON HILL FIRE STATION MONORAIL REPLACEMENT</u>		Time: _____ End Time _____	Mileage: _____ End _____
Project No.: <u>0557-016</u>	Tolls: <u>1.00</u>	Beg. Time _____	Begin _____
Per Diem/Lodging: _____		✓ <u>2</u> Total Time	✓ <u>40</u> Total

Observations:

In-Place Densities Done _____	All IPDs meet Specifications	Reported to _____
	Not all IPDs meet Specifications	Reported to _____

Phone Calls:

Visited the site in the afternoon when Knowles Industrial was completing the shotcrete application at the top of wall No. 2 and wall No. 3. Knowles Industrial installed wire mesh at the top of the walls where the additional shotcrete was required. They used dowels to hold the mesh in place. They ordered 4 cubic yards of gunite to complete these walls, the batch ticket was checked and the load of gunite had the specified proportions.

Reviewed By: MB

Signed: Martin

MCS-RWGDA

<input type="checkbox"/> HNU _____ day	<input type="checkbox"/> Concrete Equipment	Monitoring Well Supplies	
<input type="checkbox"/> Survey Level _____ day	<input type="checkbox"/> Nuc Densometer _____ day	_____ Bags of Bentonite	_____ Locks
<input type="checkbox"/> Rebar Meter _____ day	<input type="checkbox"/> Coring Machine _____ Dia.	_____ 5 ft. Screen 2" PVC	_____ Caps
_____ Bailers (Disposable)	_____ Inches Cored	_____ 10 ft. Screen 2" PVC	_____ Points
<input type="checkbox"/> Water Level Ind. _____ day	<input type="checkbox"/> Generator <input type="checkbox"/> Taylor Rental	_____ 5 ft. Riser 2" PVC	_____ Screw Caps
<input type="checkbox"/> Drill Rig _____ day	<input type="checkbox"/> Peristaltic Pump (note tubing used)	_____ 10 ft. Riser 2" PVC	
<input type="checkbox"/> Backhoe _____ day	<input type="checkbox"/> Other _____	_____ Other _____	

FRAMING PLAN NOTES:

- EXISTING MONOPOLE REMOVAL, COMMUNICATIONS SWITCHOVER, NEW MONOPOLE PROCUREMENT & ERECTION BY OTHERS. REF CITY OF PORTLAND SPECIAL PROVISIONS OF THE SPECIFICATIONS FOR ADDL INFO.
- S.W. No. 1- NEW SHEARWALL LOCATION.
- ALL DIMENSIONS, EXIST CONDITIONS AND AS-BUILT CONDITIONS MUST BE VERIFIED IN THE FIELD. MODIFY NEW STEEL POST LOCATIONS TO AVOID IMPACTING EXIST JOISTS.
- FOR ADDITIONAL INFORMATION ON EXIST BUILDING, SEE MUNJOY HILL NEIGHBORHOOD FACILITY AND FIRE STATION, PORTLAND, MAINE, DATED AUGUST 30, 1978.
- NEW PROTECTIVE RUBBER MATS SHALL BE FIRESTONE QUICKSEAM WALKWAY PADS (BLACK), OR APPROVED EQUAL. SOBMIT SHOP DWG & INSTALLATION PLAN. INSTALL THE WALKWAY PADS PER MANUFACTURER'S RECOMMENDATIONS. CONSULT WITH CITY PRIOR TO INSTALLATION.
- NEW ROOF-TOP HOOD FOR CONDUIT. COORDINATE INSTALLATION WITH CITY OF PORTLAND COMMUNICATIONS CONSULTANT NORM BOUCHER PHONE # 603-905-8408. FOLLOW MANUFACTURER'S INSTALLATION REQUIREMENTS AND RAINIT SYSTEM REQUIREMENTS. COLOR SHALL MATCH EXISTING ROOF (FLAT BLACK). COLOR SAMPLE SHALL BE SUBMITTED TO OWNER PRIOR TO FABRICATION FOR APPROVAL. PROVIDE ONE OF THE FOLLOWING HOODS OR APPROVED EQUAL:

- CONNECT-II: C1W-385 (1 UNIT)
EP4-44 (1 UNIT)
EP-C4 (18 UNITS)
- STREPRO-1: SP3656 (1 UNIT)
E1447 (1 UNIT)
E-CF (18 UNITS)



PROJECT: MUNJOY HILL FIRE STATION
MONOPOLE REPLACEMENT

PROJECT #: 0557-016

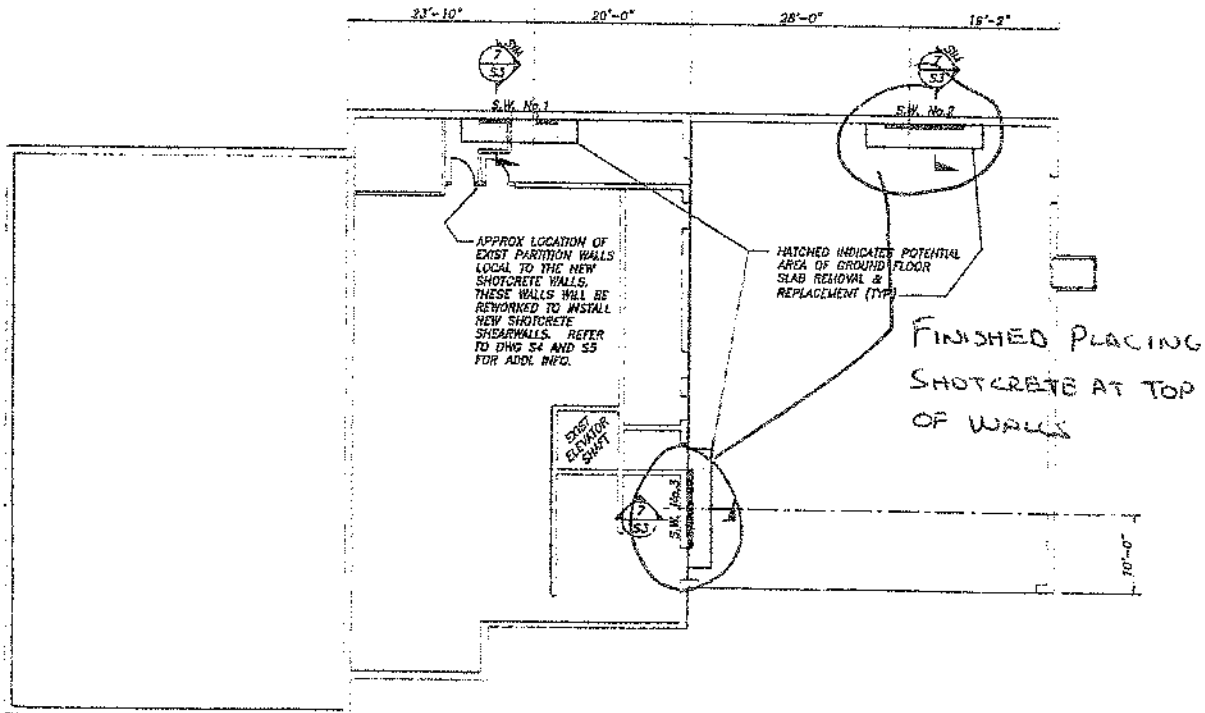
CLIENT: CITY OF PORTLAND

DATE: JUNE 11, 2012

STEEL PROCUREMENT:

- FOR SCHEDULE CONSIDERATIONS, THE CITY WILL PROCURE MAJOR STRUCTURAL STEEL ELEMENTS INCLUDING BEAMS, BRACES, AND POSTS. THESE MATERIALS WILL BE DELIVERED TO THE SELECTED CONTRACTOR'S FABRICATOR; COORDINATION OF DELIVERY YARD BY THE SELECTED CONTRACTOR.
- CONTRACTOR'S FABRICATOR WILL PROVIDE SHOP DRAWINGS, ERECTION PLANS, WISC, METAL PLATES AND ANGLE; RESPONSIBLE FOR SHOP PAINTING AND INSTALLATION.
- THE SUPPLIER SHALL PROVIDE A COPY OF THE CERTIFIED MILL TEST REPORTS FOR ALL MATERIAL TO THE STRUCTURAL ENGINEER.
- THE FOLLOWING IS A LIST OF THE STEEL PROCURED BY THE CITY OF PORTLAND:

DESC.	QUANTITY	LENGTH (FEET)
#24x182	2	45
#24x182	2	50
HSS10x6x1/4	1	35
HSS10x6x1/4	1	30
HSS10x6x1/4	2	25
HSS10x6x1/4	2	15
#10x19	1	15
6" EXTRA STRONG PIPE	1	15



EXIST GROUND FLOOR PLAN
3/32=1'-0"



PFD MUNJOY HILL FIRE STATION
MONO-POLE INSTALLATION
PORTLAND, MAINE
FRAMING PLANS

Designed	BTW	Checked	NOTED
Drawn	APP	Date	05/19/12
Checked	PBS	Checker Job Number	2812

S1



Daily Observation Report

Project: <u>MUNJON HILL FIRE STATION MONOPOLE REPLACEMENT</u>		Time: _____ End Time _____	Mileage: _____ End _____
Project No.: <u>0557-016</u>	Tolls: <u>1.00</u>	_____ Beg. Time _____	_____ Begin _____
Per Diem/Lodging: _____		✓ <u>1 1/2</u> Total Time	✓ <u>25</u> Total

Observations:

In-Place Densities Done _____	All IPDs meet Specifications	Reported to _____
	Not all IPDs meet Specifications	Reported to _____

Phone Calls:

Visited the site in the afternoon to check the reinforcing steel for the Ground Floor and Second Floor for wall No. 1. When I arrived at the site Knowles Industrial Services Corporation were still tying the reinforcing steel for Wall No. 1. Knowles had not finished installing the reinforcing steel, they had not installed the epoxyed the dowels into the masonry wall as of when I was at the site. There was a location on the ground floor of wall No. 1 where the spacing of the drilled holes for the rebar dowels exceeded the specified 24". I informed Bruce of Knowles and he said that he would have the rebar installed in this location where spacing exceeded 24". All the reinforcing steel which has been installed was within project specifications.

Reviewed By: MRB

Signed: Mang Han

MRB - RWG

<input type="checkbox"/> HNU _____ day	<input type="checkbox"/> Concrete Equipment	Monitoring Well Supplies
<input type="checkbox"/> Survey Level _____ day	<input type="checkbox"/> Nuc Densometer _____ day	_____ Bags of Bentonite _____ Locks
<input type="checkbox"/> Rebar Meter _____ day	<input type="checkbox"/> Coring Machine _____ Dia.	_____ 5 ft. Screen 2" PVC _____ Caps
_____ Bailers (Disposable)	_____ Inches Cored	_____ 10 ft. Screen 2" PVC _____ Points
<input type="checkbox"/> Water Level Ind. _____ day	<input type="checkbox"/> Generator <input type="checkbox"/> Taylor Rental	_____ 5 ft. Riser 2" PVC _____ Screw Caps
<input type="checkbox"/> Drill Rig _____ day	<input type="checkbox"/> Peristaltic Pump (note tubing used)	_____ 10 ft. Riser 2" PVC
<input type="checkbox"/> Backhoe _____ day	<input type="checkbox"/> Other _____	_____ Other _____



FRAMING PLAN NOTES:

- EXISTING MONOPOLE REMOVAL, COMMUNICATIONS SWITCHOVER, NEW MONOPOLE PROCUREMENT & ERECTION BY OTHERS. REF CITY OF PORTLAND SPECIAL PROVISIONS OF THE SPECIFICATIONS FOR ADDL INFO.
- S.W. NO. 1 NEW SHEARWALL LOCATION.
- ALL DIMENSIONS, EXIST CONDITIONS AND AS-BUILT CONDITIONS MUST BE VERIFIED IN THE FIELD. MODIFY NEW STEEL POST LOCATIONS TO AVOID IMPACTING EXIST JOISTS.
- FOR ADDITIONAL INFORMATION ON EXIST BUILDING, SEE MUNJOY HILL NEIGHBORHOOD FACILITY AND FIRE STATION, PORTLAND, MAINE, DATED AUGUST 30, 1972.
- NEW PROTECTIVE RUBBER MATS SHALL BE FIRESTONE CUCKSEAM WALKWAY PADS (BLACK), OR APPROVED EQUAL. SUBMIT SHOP DWS & INSTALLATION PLAN. INSTALL THE WALKWAY PADS PER MANUFACTURER'S RECOMMENDATIONS. CONSULT WITH CITY PRIOR TO INSTALLATION.
- NEW ROOF-TOP HOOD FOR CONDUIT. COORDINATE INSTALLATION WITH CITY OF PORTLAND COMMUNICATIONS CONSULTANT NORAL BOLICHER PHONE @ 601-905-9406. FOLLOW MANUFACTURER'S INSTALLATION REQUIREMENTS AND PAINT SYSTEM REQUIREMENTS. COLOR SHALL MATCH EXISTING ROOF (FLAT BLACK). COLOR SAMPLE SHALL BE SUBMITTED TO OWNER PRIOR TO FABRICATION FOR APPROVAL. PROVIDE ONE OF THE FOLLOWING HOODS OR APPROVED EQUAL:

- CONNECT-IT: C1W-369 (1 UNIT)
 EP4-44 (1 UNIT)
 EP-24 (18 UNITS)
- SINERRO-11: SP3850 (1 UNIT)
 E1447 (1 UNIT)
 E-67 (15 UNITS)

PROJECT: MUNJOY HILL FIRE STATION
 MONOPOLE REPLACEMENT

PROJECT #: 0557-016

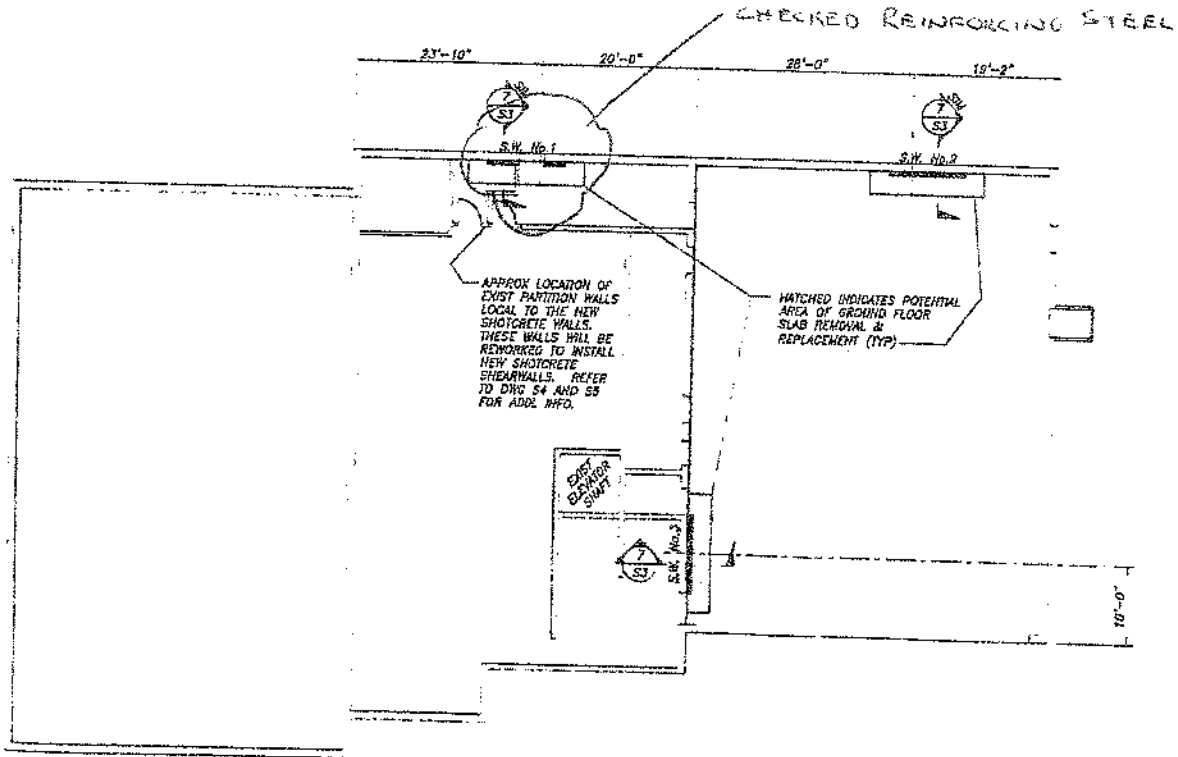
CLIENT: CITY OF PORTLAND

DATE: JUNE 13, 2012

STEEL PROCUREMENT:

- FOR SCHEDULE CONSIDERATIONS, THE CITY WILL PROCURE MAJOR STRUCTURAL STEEL ELEMENTS INCLUDING BEAMS, BRACES, AND POSTS. THESE MATERIALS WILL BE DELIVERED TO THE SELECTED CONTRACTOR'S FABRICATOR; COORDINATION OF DELIVERY TIMING BY THE SELECTED CONTRACTOR.
- CONTRACTOR'S FABRICATOR WILL PROVIDE SHOP DRAWINGS, ERECTION PLANS, MISC. METAL PLATES AND ANGLES RESPONSIBLE FOR SHOP PAINTING AND INSTALLATION.
- THE SUPPLIER SHALL PROVIDE A COPY OF THE CERTIFIED MILL TEST REPORTS FOR ALL MATERIAL TO THE STRUCTURAL ENGINEER.
- THE FOLLOWING IS A LIST OF THE STEEL PROCURED BY THE CITY OF PORTLAND:

DESC.	QUANTITY	LENGTH (FEET)
W24x152	2	65
W24x152	2	80
HSS10x4x1/4	1	35
HSS10x4x1/4	1	30
HSS10x4x1/4	2	25
HSS10x4x1/4	2	15
HSS10x4x1/4	1	15
W10x18	1	15
8" EXTRA STRONG PIPE	1	15

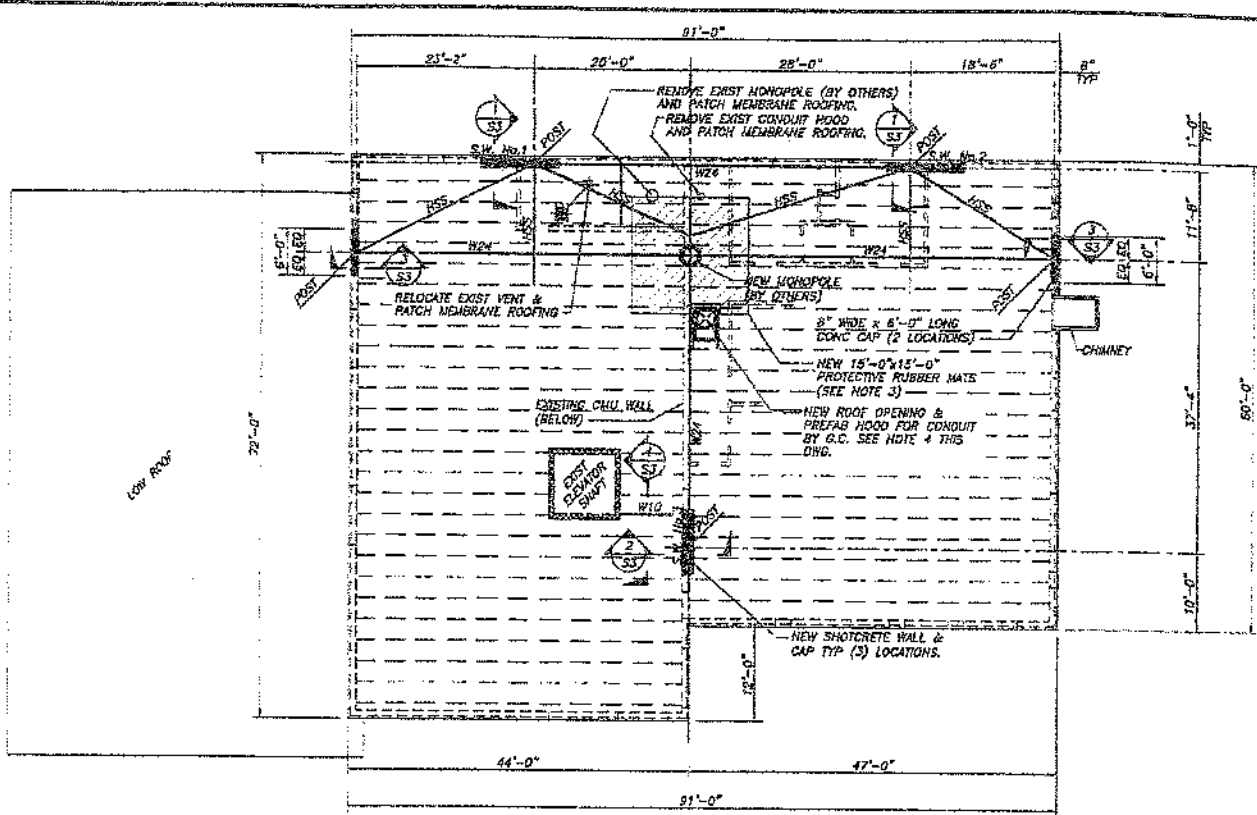


EXIST GROUND FLOOR PLAN
 3/12=1'-0"

PFD MUNJOY HILL FIRE STATION
 MONO-POLE INSTALLATION
 PORTLAND, MAINE
 FRAMING PLANS

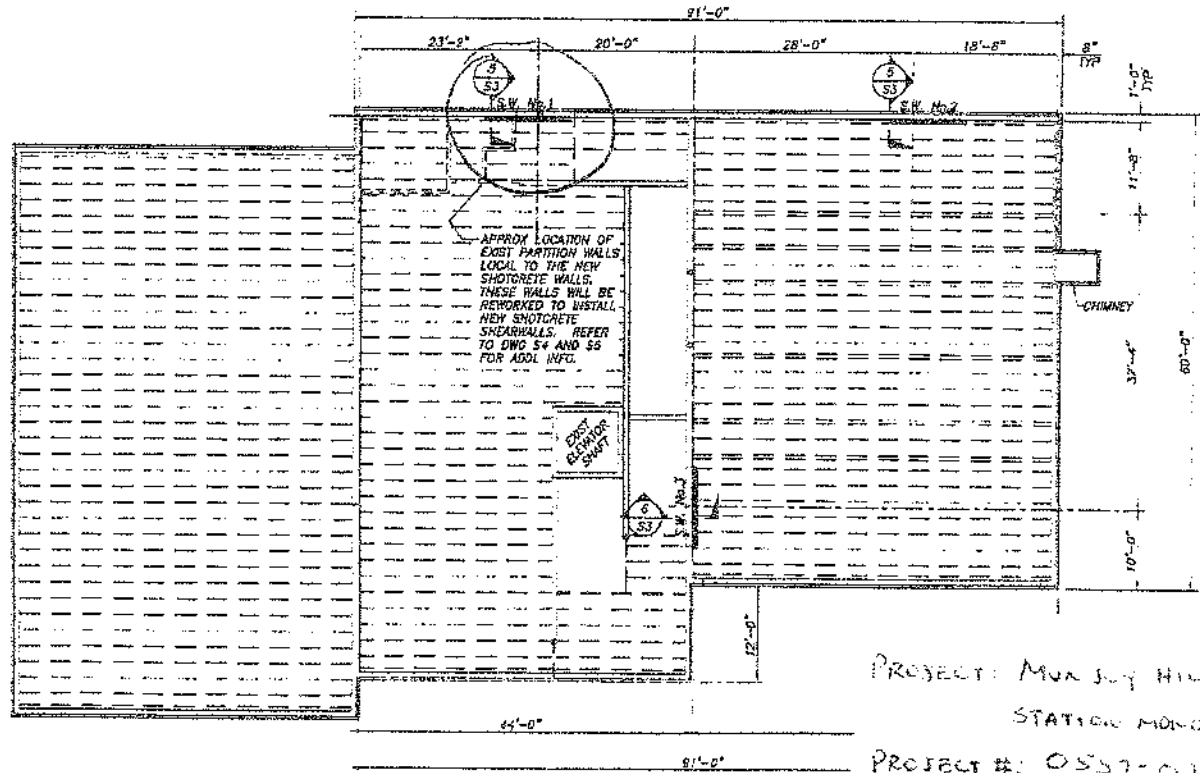
Drawn	Scale
BTW	NOTED
Specs	Date
APP	03/19/12
Checked	Scale
PBB	2512

S1



EXIST ROOF FRAMING PLAN
3/22=1'-0"

CHECKED REINFORCING STEEL



EXIST SECOND FLOOR FRAMING PLAN
3/22=1'-0"

PROJECT: MAX JAY HILL FIRE
STATION MONOPOLE
PROJECT #: 0557-016
CLIENT: CITY OF PORTLAND
DATE: JUNE 13, 2012

THIS DRAWING IS AN APPROXIMATION OF THE WORK AND SHALL BE SUBJECT TO THE NECESSARY CHANGES AND REVISIONS AS THE PROJECT DEVELOPS. THE USER OF THIS DRAWING SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION AND DATA PROVIDED HEREON. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND FOR THE PROTECTION OF THE PUBLIC. THE USER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE PUBLIC AND FOR THE PROTECTION OF THE ENVIRONMENT.

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 207-286-8008 • Fax 207-286-2882

P.O. Box 289
 Augusta, ME 04344
 07-623-4914 • Fax 207-623-3429

CONCRETE REINFORCING STEEL OBSERVATION REPORT

Project Name: MUNSON HILL FIRE STATION MONOPOLE REPLACEMENT

Date: JUNE 13, 2012

Client/Project #: CITY OF PORTLAND # 0557-016

Time: 5:00

General Contractor/ Subcontractor: SCOTT CONSTRUCTION / KNOWLES INDUSTRIAL SERVICES CORPORATION

Weather: INSIDE

Approved Documents Referenced: STRUCTURAL DRAWINGS & REBAR SHOP DRAWINGS

Document Sheets/Details Referenced: S1, S3, R01

Placement Location: GROUND FLOOR & SECOND FLOOR OF WALL NO. 1

ITEMS CHECKED

Item	In Accordance With Documents	Not In Accordance With Documents	Not Applicable
Bar Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar Grade	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Number of Bars	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spacing Before & After Concrete Placement	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
End & Side Clearances	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Top & Bottom Clearances	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assure Bar are Clean and Free of Dirt, Oil, Rust, Paint, Etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Bar Junctions are Adequately Tied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Placement & Adequacy of supports	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vertical Embedment to Assure Proper Lap Length	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Horizontal Bars for Minimum Lap Length	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Other: WHEN I WAS AT THE SITE KNOWLES HAD NOT FINISHED INSTALLING ALL OF THE REINFORCING STEEL, THEY HAVE NOT INSTALLED THE DRILLED AND EPOXYED REBAR DOWELS. THERE WAS A LOCATION ON THE

GROUND FLOOR WHERE THE SPACING OF THE DRILLED HOLES FOR THE REBAR DOWELS EXCEEDED 24", I INFORMED BRUCE AND HE SAID THAT THEY WOULD BE DRILLED AND EPOXYED BEFORE THE LEFT THE SITE AT THE END OF THE DAY.

Observations were verbally reported to:
 MARK LIBBY - SCOTT CONSTRUCTION
 BRUCE CURTIS - KNOWLES

Construction Technologist:

Marco Stone

Print Name/Title

MARCO STONE

CET

FRAMING PLAN NOTES:

- EXISTING MONOPOLE REMOVAL, COMMUNICATIONS SWITCHOVER, NEW MONOPOLE PROCUREMENT & ERECTION BY OTHERS. REF CITY OF PORTLAND SPECIAL PROVISIONS OF THE SPECIFICATIONS FOR ADDL INFO.
- S.W. No. 1 NEW SHEARWALL LOCATION.
- ALL DIMENSIONS, EXIST CONDITIONS AND AS-BUILT CONDITIONS MUST BE VERIFIED IN THE FIELD. MODIFY NEW STEEL POST LOCATIONS TO AVOID IMPACTING EXIST JOISTS.
- FOR ADDITIONAL INFORMATION ON EXIST BUILDING, SEE MUNDY HILL NEIGHBORHOOD FACILITY AND FIRE STATION, PORTLAND, MAINE, DATED AUGUST 30, 1979.
- NEW PROTECTIVE RUBBER MATS SHALL BE FIRESTONE QUORKBAM WALKWAY PADS (BLACK), OR APPROVED EQUAL. SUBMIT SHOP DWG & INSTALLATION PLAN. INSTALL THE WALKWAY PADS PER MANUFACTURERS RECOMMENDATIONS. CONSULT WITH CITY PRIOR TO INSTALLATION.
- NEW ROOF-TOP HOOD FOR CONDUIT. COORDINATE INSTALLATION WITH CITY OF PORTLAND COMMUNICATIONS CONSULTANT NORM BOUCHER PHONE # 603-808-8408. FOLLOW MANUFACTURERS INSTALLATION REQUIREMENTS AND PAINT SYSTEM REQUIREMENTS. COLOR SHALL MATCH EXISTING ROOF (FLAT BLACK). COLOR SAMPLE SHALL BE SUBMITTED TO OWNER PRIOR TO FABRICATION FOR APPROVAL. PROVIDE ONE OF THE FOLLOWING HOODS OR APPROVED EQUAL:

- CONNECT-III: C1W-385 (1 UNIT)
EP4-24 (1 UNIT)
EP-C8 (16 UNITS)
- SITPRAC-11: SP3690 (1 UNIT)
E1447 (1 UNIT)
E-C7 (16 UNITS)



PROJECT: MUNJOY HILL FIRE STATION
MONOPOLE REPLACEMENT

PROJECT #: 0557-016

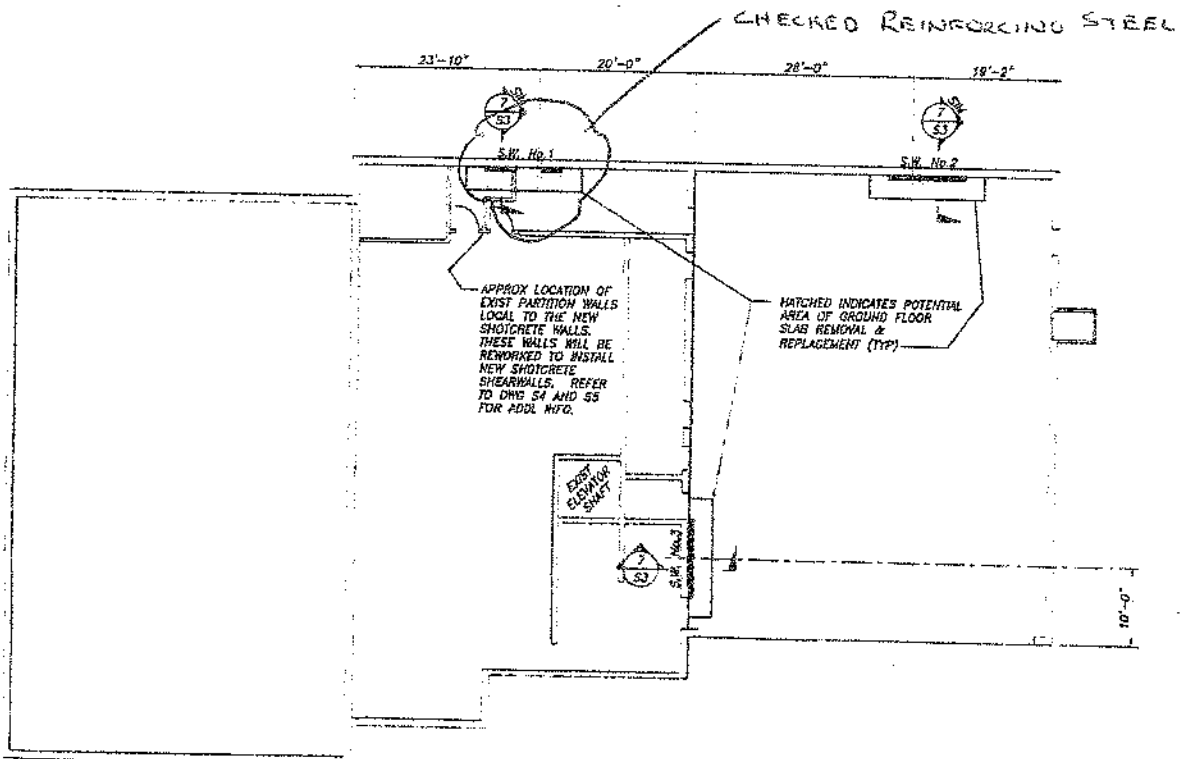
CLIENT: CITY OF PORTLAND

DATE: JUNE 13, 2012

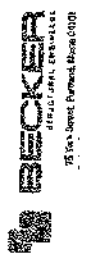
STEEL PROCUREMENT:

- FOR SCHEDULE CONSIDERATIONS, THE CITY WILL PROCURE MAJOR STRUCTURAL STEEL ELEMENTS INCLUDING BEAMS, BRACES, AND POSTS. THESE MATERIALS WILL BE DELIVERED TO THE SELECTED CONTRACTOR'S FABRICATOR; COORDINATION OF DELIVERY TRAFFIC BY THE SELECTED CONTRACTOR.
- CONTRACTOR'S FABRICATOR WILL PROVIDE SHOP DRAWINGS, ERECTION PLANS, BISC, METAL PLATES AND ANGLE, RESPONSIBLE FOR SHOP PAINTING AND INSTALLATION.
- THE SUPPLIER SHALL PROVIDE A COPY OF THE CERTIFIED MILL TEST REPORTS FOR ALL MATERIAL TO THE STRUCTURAL ENGINEER.
- THE FOLLOWING IS A LIST OF THE STEEL PROCURED BY THE CITY OF PORTLAND:

DESC.	QUANTITY	LENGTH (FEET)
W24x182	2	55
W24x182	2	50
HSS10x4x1/4	1	35
HSS10x4x1/4	1	30
HSS10x4x1/4	2	25
HSS10x4x1/4	2	15
WT6x15	1	15
Ø 8" EXTRA STRONG PIPE	1	15



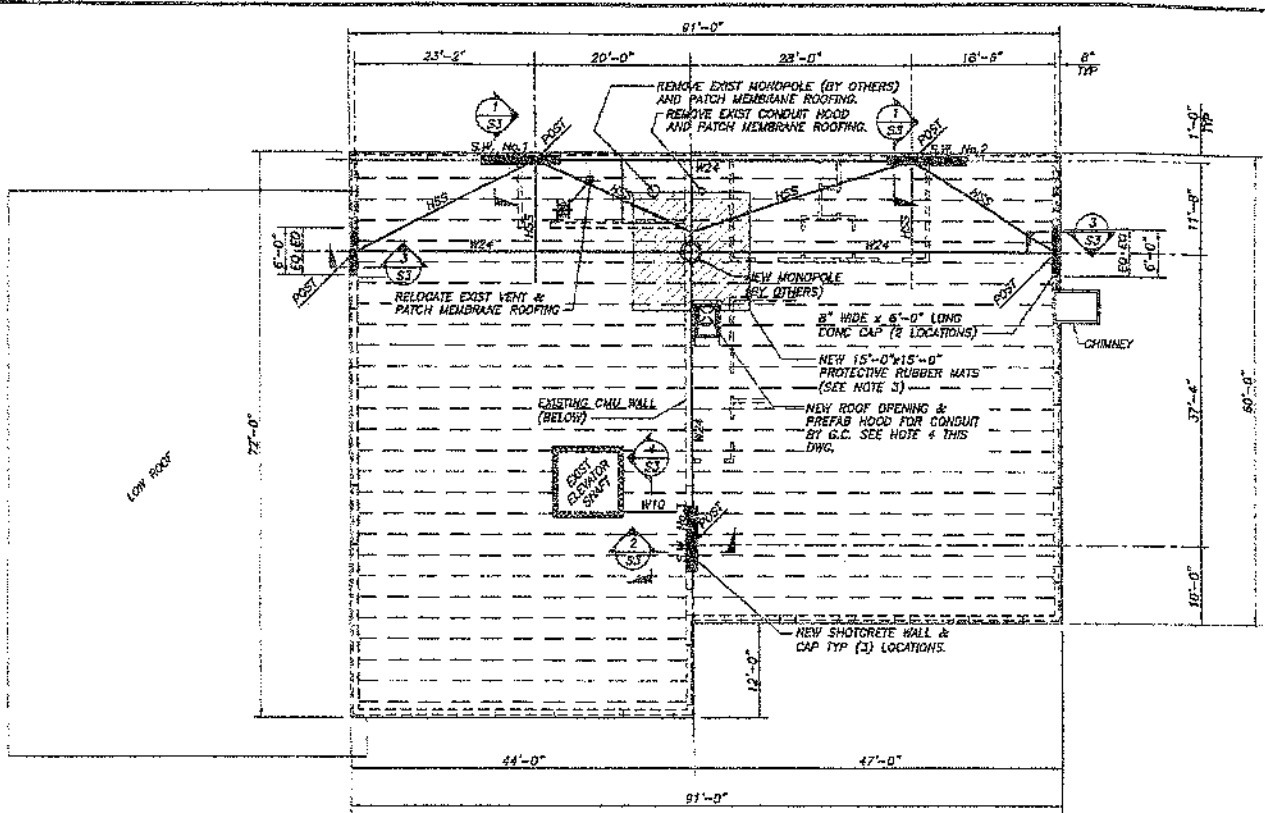
EXIST GROUND FLOOR PLAN
3/32=1'-0"



PFD MUNJOY HILL FIRE STATION
MONO-POLE INSTALLATION
PORTLAND, MAINE
FRAMING PLAN

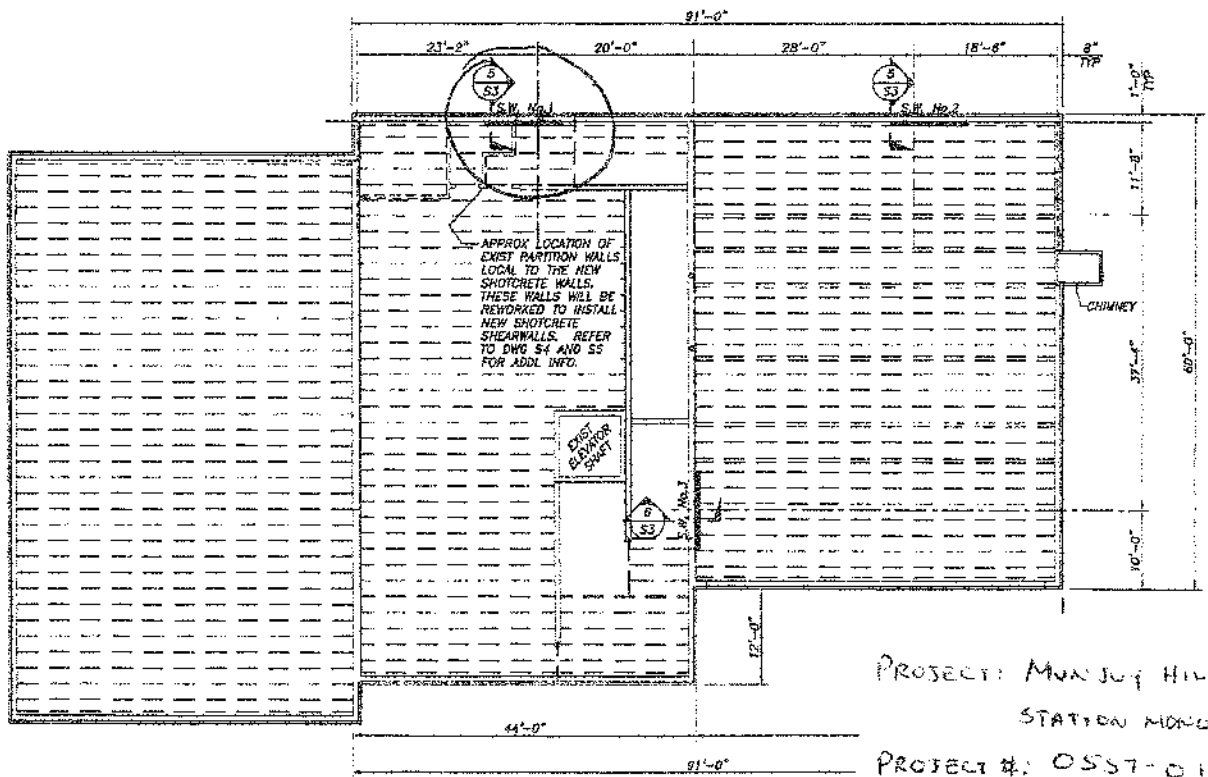
Designed BTW	Drawn NOTED
Checked APP	Date 05/19/12
Checked PBB	Sheet Job Number 2612

S1



EXIST ROOF FRAMING PLAN
3/32=1'-0"

CHECKED REINFORCING STEEL



EXIST SECOND FLOOR FRAMING PLAN
3/32=1'-0"

PROJECT: MUNSIE HILL FIRE
STATION MONOPOLE

PROJECT #: OSST-016

CLIENT: CITY OF PORTLAND

DATE: JUNE 13, 2012

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Daily Observation Report

Project: <u>MUNSON HILL FIRE STATION MOUNDLE REPLACEMENT</u>	Time: _____ End Time _____	Mileage: _____ End _____
Project No.: <u>0557-016</u>	Tolls: <u>1.00</u>	_____ Beg. Time _____ Begin _____
Per Diem/Lodging: _____	✓ <u>2 1/2</u> Total Time	✓ <u>35</u> Total

Observations:

In-Place Densities Done _____	All IPDs meet Specifications	Reported to _____
	Not all IPDs meet Specifications	Reported to _____

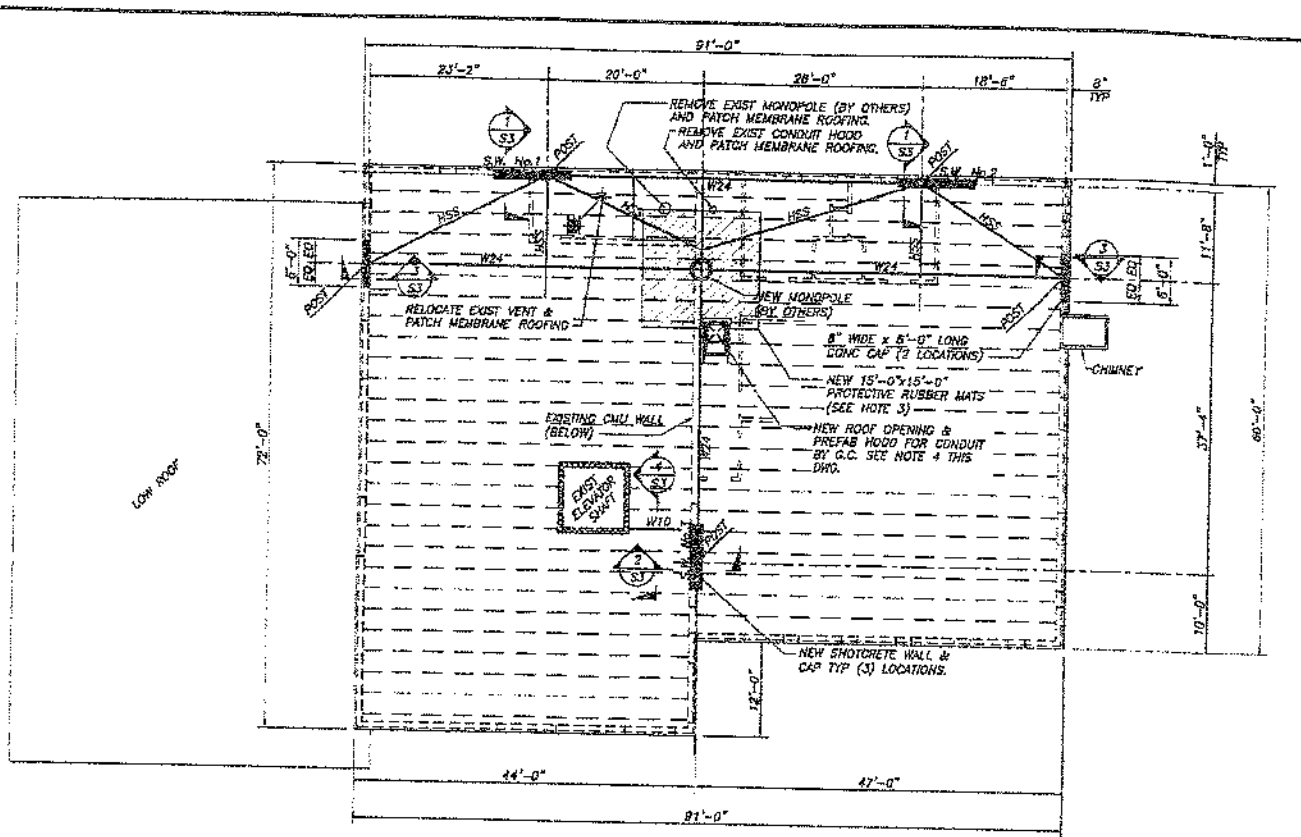
Phone Calls:

Visited the site in the afternoon when Knowles Industrial was completing the application of shotcrete to the top portion of Wall No. 2. Knowles had a load of granite delivered to the site and began the placement to complete the wall. When the truck arrived the batch weights were verified to be the specified proportions. They nozzle pressure during the application was 60-70 psi. They were working near the top of the wall when I left the site. While I was at the site I picked up the test panel Knowles had sprayed on Thursday during the placement.

Reviewed By: MTC

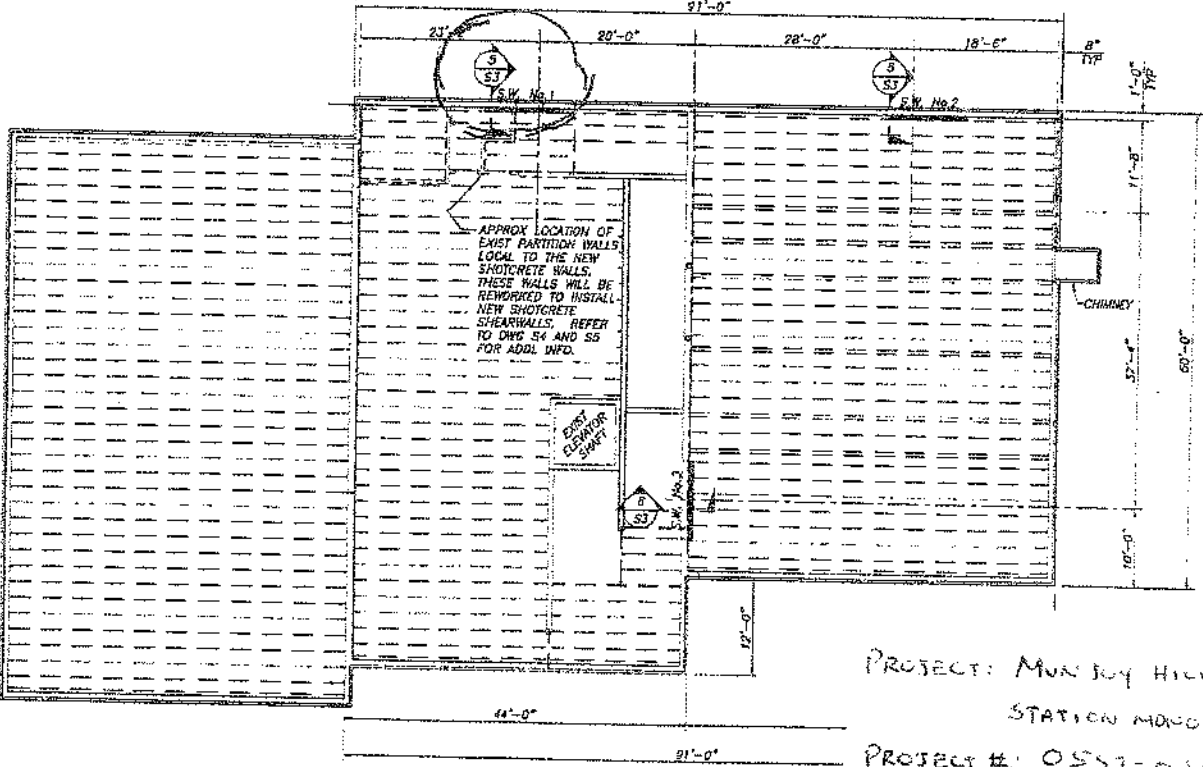
Signed: [Signature] MCS - RWG/DA

<input type="checkbox"/> HNU _____ day	<input type="checkbox"/> Concrete Equipment	Monitoring Well Supplies
<input type="checkbox"/> Survey Level _____ day	<input type="checkbox"/> Nuc Densometer _____ day	_____ Bags of Bentonite _____ Locks
<input type="checkbox"/> Rebar Meter _____ day	<input type="checkbox"/> Coring Machine _____ Dia.	_____ 5 ft. Screen 2" PVC _____ Caps
_____ Bailers (Disposable)	_____ Inches Cored	_____ 10 ft. Screen 2" PVC _____ Points
<input type="checkbox"/> Water Level Ind. _____ day	<input type="checkbox"/> Generator <input type="checkbox"/> Taylor Rental	_____ 5 ft. Riser 2" PVC _____ Screw Caps
<input type="checkbox"/> Drill Rig _____ day	<input type="checkbox"/> Peristaltic Pump (note tubing used)	_____ 10 ft. Riser 2" PVC
<input type="checkbox"/> Backhoe _____ day	<input type="checkbox"/> Other _____	_____ Other _____



EXIST ROOF FRAMING PLAN
3/32-1'-0"

PLACED SHOTCRETE



EXIST SECOND FLOOR FRAMING PLAN
3/32-1'-0"

PROJECT: MUNDY HILL FIRE STATION MONOPOLE

PROJECT #: OSST-016

CLIENT: CITY OF PORTLAND

DATE: JUNE 18, 2012

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Daily Observation Report

Project: MUNSON HILL FIRE STATION MONOPOLE REPLACEMENT Time: _____ End Time _____
 Project No.: 0557-016 Tolls: ✓ 1.00 Mileage: _____ End _____
 Per Diem/Lodging: _____ ✓ 1 1/2 Total Time _____ ✓ 20 Total _____

Observations:
 In-Place Densities Done _____ All IPDs meet Specifications Reported to _____
 Not all IPDs meet Specifications Reported to _____

Phone Calls:

Visited the site in the afternoon to check the reinforcing steel for Wall No. 2 & Wall No. 3 on the second floor. When I arrived at the site Knowles Industrial Services Corporation were still trying the reinforcing steel for Wall No. 3, they had not yet finished installing the dowels in the wall and had not installed all the rebar at the top portion of the wall. Wall No. 2 was finished and was within general conformance with the project plans. Dan will finish checking the reinforcing steel for Wall No. 2 tomorrow morning when he arrives at the project.

Reviewed By: MTG Signed: Manlyton MCS-RWG&A

<input type="checkbox"/> HNU _____ day	<input type="checkbox"/> Concrete Equipment	<input type="checkbox"/> Monitoring Well Supplies
<input type="checkbox"/> Survey Level _____ day	<input type="checkbox"/> Nuc Densometer _____ day	<input type="checkbox"/> Bags of Bentonite
<input type="checkbox"/> Rebar Meter _____ day	<input type="checkbox"/> Coring Machine _____ Dia.	<input type="checkbox"/> 5 ft. Screen 2" PVC
<input type="checkbox"/> _____ Bailers (Disposable)	<input type="checkbox"/> _____ Inches Cored	<input type="checkbox"/> 10 ft. Screen 2" PVC
<input type="checkbox"/> Water Level Ind. _____ day	<input type="checkbox"/> Generator <input type="checkbox"/> Taylor Rental	<input type="checkbox"/> 5 ft. Riser 2" PVC
<input type="checkbox"/> Drill Rig _____ day	<input type="checkbox"/> Peristaltic Pump (note tubing used)	<input type="checkbox"/> 10 ft. Riser 2" PVC
<input type="checkbox"/> Backhoe _____ day	<input type="checkbox"/> Other	<input type="checkbox"/> Other _____
		<input type="checkbox"/> Locks
		<input type="checkbox"/> Caps
		<input type="checkbox"/> Points
		<input type="checkbox"/> Screw Caps

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P.O. Box 289
 Augusta, ME 04344
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CONCRETE REINFORCING STEEL OBSERVATION REPORT

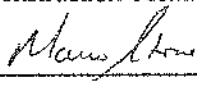
Project Name: MUNSON HILL FIRE STATION MONOPOLE REPLACEMENT Date: JUNE 19, 2017
 Client/Project #: CITY OF PORTLAND # 0557-016 Time: 5:10
 General Contractor/ Subcontractor: SCOTT CONSTRUCTION / KNOWLES INDUSTRIAL SERVICES CORPORATION Weather: INSIDE

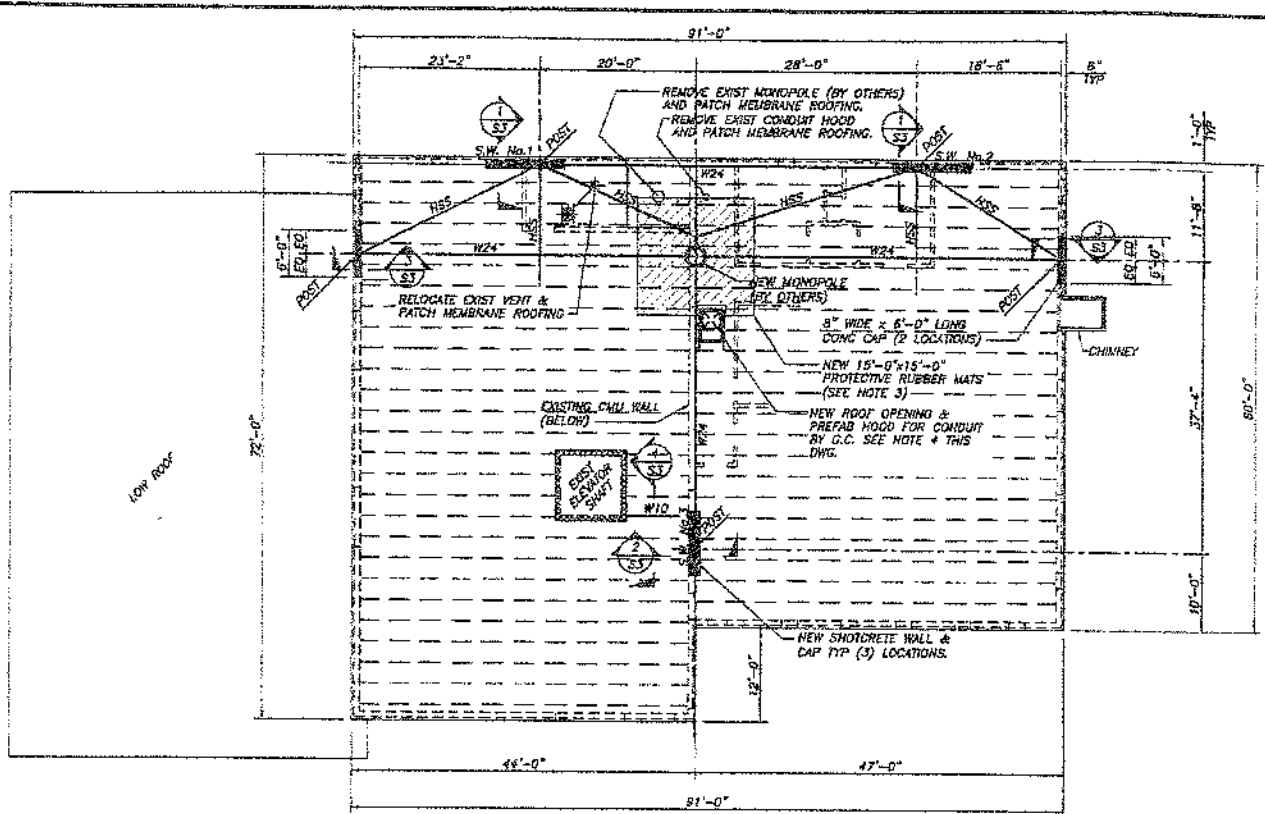
Approved Documents Referenced: STRUCTURAL DRAWINGS & REBAR SHOP DRAWINGS
 Document Sheets/Details Referenced: _____
 Placement Location: WALL NO. 2 & WALL NO 3 - SECOND FLOOR

ITEMS CHECKED

Item	In Accordance With Documents	Not In Accordance With Documents	Not Applicable
Bar Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar Grade	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Number of Bars	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spacing Before & After Concrete Placement	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
End & Side Clearances	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Top & Bottom Clearances	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assure Bar are Clean and Free of Dirt, Oil, Rust, Paint, Etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Bar Junctions are Adequately Tied	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Placement & Adequacy of supports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vertical Embedment to Assure Proper Lap Length	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Horizontal Bars for Minimum Lap Length	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

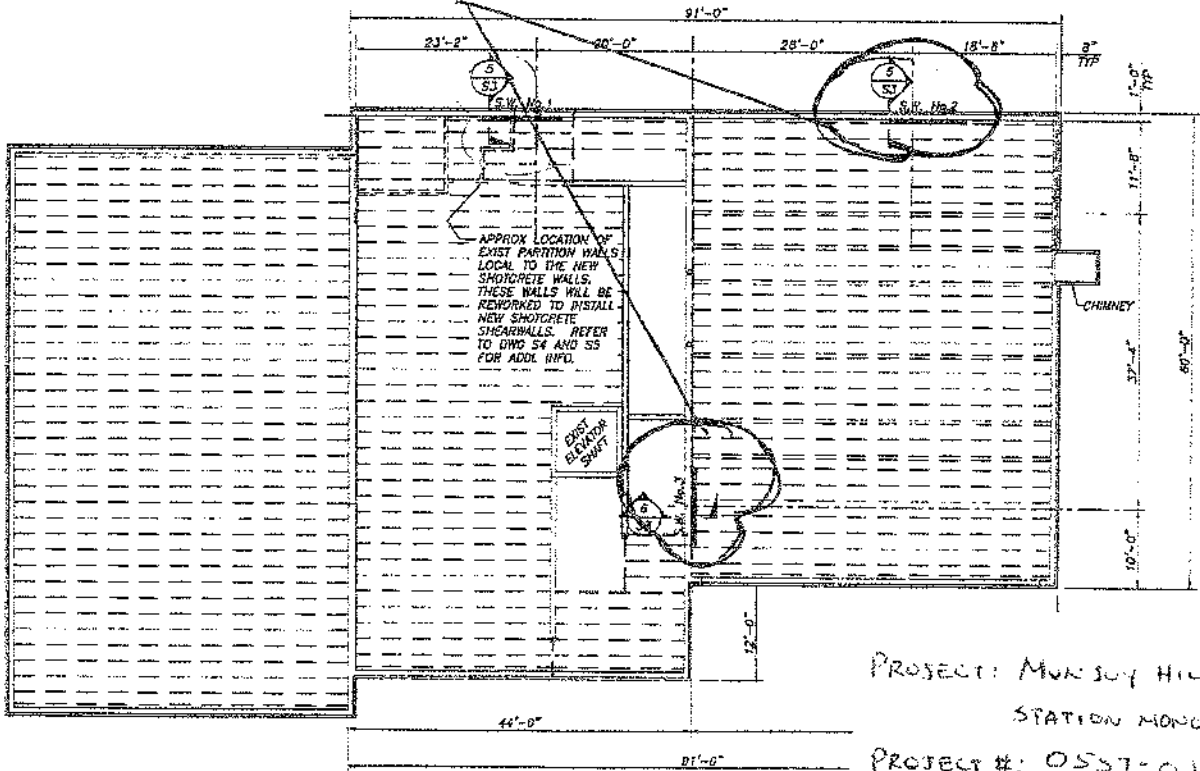
Other: KNOWLES HAD NOT FINISHED TYING THE REINFORCING STEEL FOR WALL # 3. THEY WERE STILL INSTALLING THE DOWELS IN THE WALL AND THE REBAR HAS NOT BEEN INSTALLED AT TOP OF THE WALL

Observations were verbally reported to: MARK LIBBY - SCOTT CONSTRUCTION BRUCE CURTIS - KNOWLES INDUSTRIAL
Construction Technologist: 
Print Name/Title MARCO STONE CIST



EXIST ROOF FRAMING PLAN
3/32=1'-0"

CHECKED REINFORCING STEEL



EXIST SECOND FLOOR FRAMING PLAN
3/32=1'-0"

PROJECT: MUNSLEY HILL FIRE
STATION MONOPOLE
PROJECT #: OSST-016
CLIENT: CITY OF PORTLAND
DATE: JUNE 19, 2012

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Project: MUNJOY HILL FIRE STATION		Time: _____	End Time _____	Mileage: _____	End _____
Project No.: 557-16	Tolls: _____	Beg. Time _____		Begin _____	
Per Diem/Lodging: _____		Total Time 7		Total 30	

Observations:

In-Place Densities Done _____ All IPDs meet Specifications Reported to _____

Not all IPDs meet Specifications Reported to _____

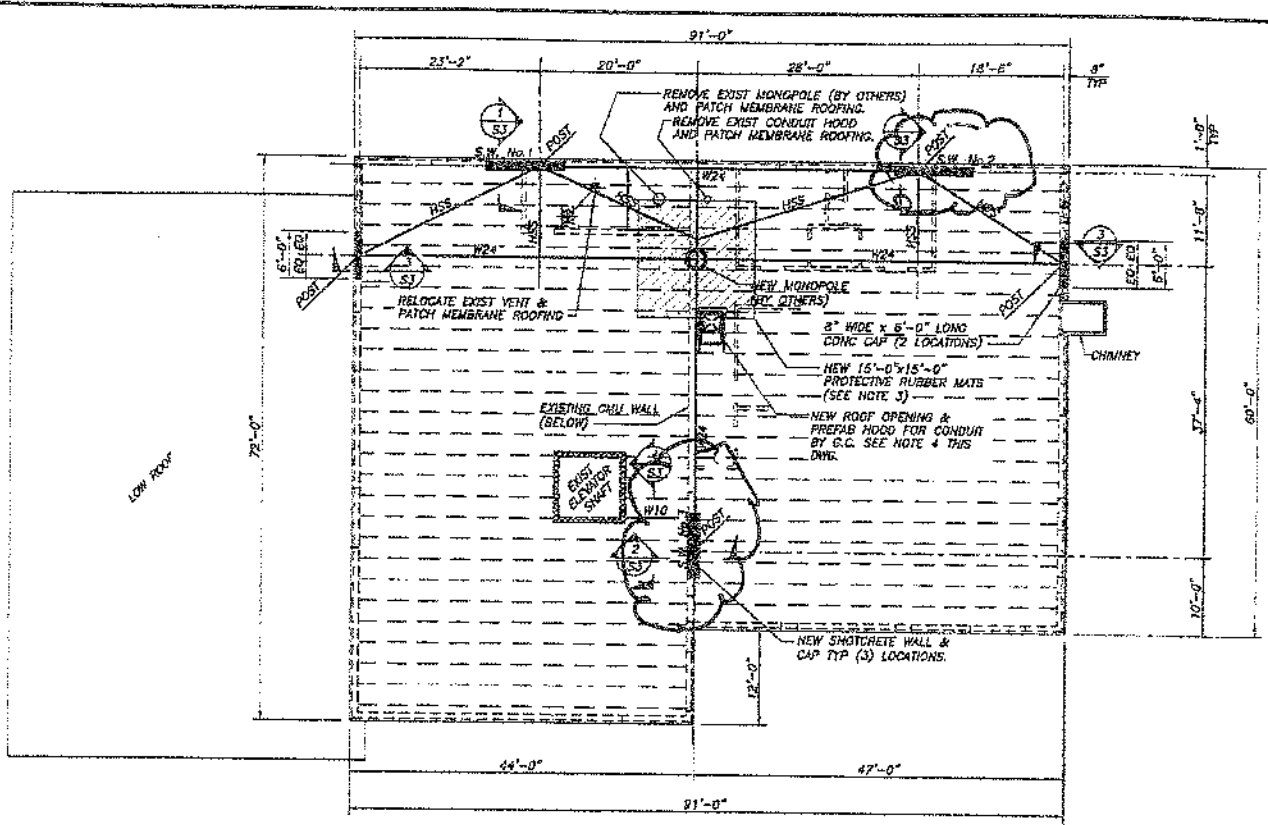
Phone Calls:

GOT TO THE SITE AND CHECKED THE REBAR FOR SHEAR WALL #2 THAT HAD NOT BEEN COMPLETED YET. ALL OF THE REBAR MET THE SPECS AND DRAWING'S ATTACHED KNOWLES MADE A 2'x2' PANNEL TO BE CORED TO TEST AFTER 28 DAYS I LEFT AFTER FIRST WALL WAS COMPLETED AND RETURNED THAT AFTERNOON TO OBSERVE THE SHEARWALL #2 BEING SHOTCRETED. REMAINED UNTIL END OF POUR. PANNEL WILL BE PICKED UP MONDAY (6/25)

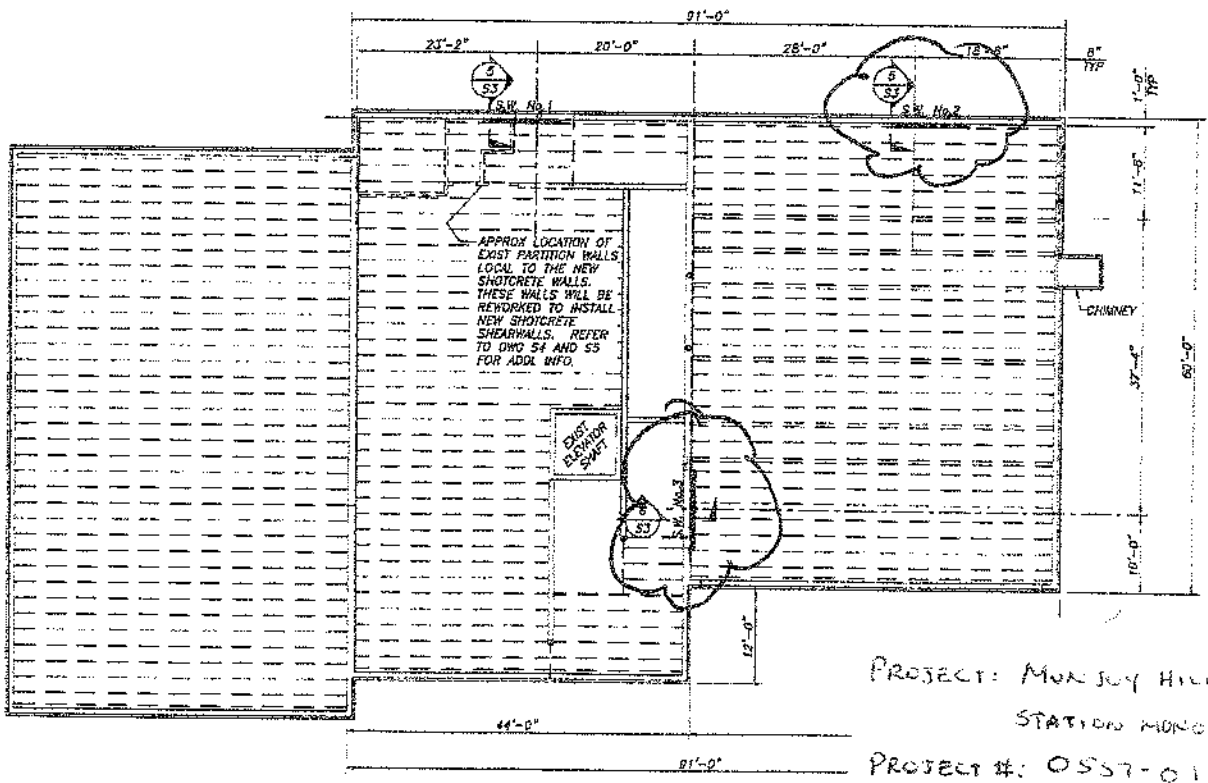
Reviewed By: *MT*

Signed: *[Signature]* DSD

<input type="checkbox"/> HNU _____ day	<input type="checkbox"/> Concrete Equipment _____	<input type="checkbox"/> Bags of Bentonite _____	<input type="checkbox"/> Locks _____
<input type="checkbox"/> Survey Level _____ day	<input type="checkbox"/> Nuc Densometer _____ day	<input type="checkbox"/> 5 ft. Screen 2" PVC _____	<input type="checkbox"/> Caps _____
<input type="checkbox"/> Rebar Meter _____ day	<input type="checkbox"/> Coring Machine _____ Dia. _____	<input type="checkbox"/> 10 ft. Screen 2" PVC _____	<input type="checkbox"/> Points _____
_____ Bailers (Disposable)	_____ Inches Cored	<input type="checkbox"/> 5 ft. Riser 2" PVC _____	<input type="checkbox"/> Screw Caps _____
<input type="checkbox"/> Water Level Ind. _____ day	<input type="checkbox"/> Generator _____ <input type="checkbox"/> Taylor Rental _____	<input type="checkbox"/> 10 ft. Riser 2" PVC _____	
<input type="checkbox"/> Drill Rig _____ day	<input type="checkbox"/> Peristaltic Pump (note tubing used) _____	<input type="checkbox"/> Other _____	
<input type="checkbox"/> Backhoe _____ day	<input type="checkbox"/> Other _____		



EXIST ROOF FRAMING PLAN
3/32=1'-0"



EXIST SECOND FLOOR FRAMING PLAN
3/32=1'-0"

PROJECT: MUNDAY HILL FIRE
STATION MONOPOLE
PROJECT #: OS57-016
CLIENT: CITY OF PORTLAND

AREAS WHERE DATE: 6/20/12
REWORKING WAS TECH: DSD
OBSERVED.

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 Geotechnical Engineering • Geohydrology • Materials Testing Services

200 International Dr., Ste 170
 Portsmouth, NH 03801
 603-427-0244 • Fax 603-430-2041

Corporate Office
 86 Industrial Park Rd, Ste 4
 Saco, ME 04072
 207-286-8008 • Fax 207-286-2882

CONCRETE REINFORCING STEEL OBSERVATION REPORT

Project Name: MUNSOY HILL FIRESTATION MONOPOLE
 Client/Project #: CITY OF PORTLAND 557-016
 General Contractor/ Subcontractor: SCOTT CONSTRUCTION

Date: 6/20/12
 Time: 7:30 AM
 Weather: SUNNY

Approved Documents Referenced: STRUCTURAL DRAWINGS & REBAR SHOP DRAWINGS
 Document Sheets/Details Referenced: _____
 Placement Location: WALL NO. 2 & WALL NO. 3 - SECOND FLOOR

ITEMS CHECKED

Item	In Accordance With Documents	Not In Accordance With Documents	Not Applicable
Bar Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar Grade	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Number of Bars	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spacing Before & After Concrete Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
End & Side Clearances	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Top & Bottom Clearances	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assure Bar are Clean and Free of Dirt, Oil, Rust, Paint, Etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar Junctions are Adequately Tied	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Placement & Adequacy of supports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vertical Embedment to Assure Proper Lap Length	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Horizontal Bars for Minimum Lap Length	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other: _____

Observations were verbally reported to: <u>KNOWLES INDUSTRIAL</u>
Construction Technologist: <u>DSD</u>
Print Name/Title <u>DAN DOWNEY - CONSTRUCTION TECHNOLOGIST</u>



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

LETTER OF TRANSMITTAL

Date:	JUN 29 2012	Project No.:	0557-016
Attention:	Barry Sheff [bsheff@woodardcurran.com]		
Re:	Concrete Testing Munjoy Hill Fire Station Monopole Replacement Portland, Maine		

City of Portland

389 Congress Street

Portland, ME 04101

Cylinder No. (s)	Age (Days)
71789	7

Remarks:

Copy to:
Bryson at Becker Structural Engineers (Bryson@beckerstructural.com),
Chief Smith at the City (sls@portlandmaine.gov),
Greg Scott at Scott Construction (gscott207@gmail.com), and
Mark Libby at Scott Construction (marklibby88@gmail.com)

Signed: Bertha Dawn

If Enclosures are not as noted, kindly notify us at once.

R.W. GILLESPIE & ASSOCIATES

86 Industrial Park Road, Suite 4, Saco, ME 04072 (207) 286-8008
 200 International Drive, Suite 170, Portsmouth, NH 03801 (603) 427-0244

CONCRETE TEST/PLACEMENT REPORT

JUL 13 2012

Project Name:	Munjoy Hill Fire Station Monopole Replacement	Date Cores Taken:	14-Jun-12
Project No:	0557-016	Cored By:	Dan S Downey
Specimen Age:	7	No. of Cores:	4

Remarks: Test Panels cast on 14 June, 2012 by Knowles Industrial Services Corporation
 Unit Weights: #71769 = 1.693 pcf, #71770 = 1.614 pcf, #71771 = 1.652 pcf, #71772 = 1.651 pcf

Coring Location:

Lab No.	Test Date	Ave Dia (in)	Ave Area (in ²)	Load (lbs)	Ratio h/d	Correction Factor	Corrected Load	Compressive Strength (psi)	Break Type
71769	21-Jun-12	2.732	5.86	35030	1.37	0.94	32928	5620	4
71770	12-Jul-12	2.731	5.86	42950	1.36	0.94	40373	6890	2
71771	12-Jul-12	2.733	5.87	46385	1.39	0.95	44066	7510	4
71772	12-Jul-12	2.735	5.87	41740	1.39	0.95	39653	6750	2

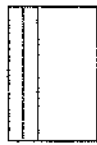
Types of Breaks



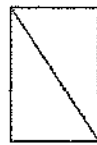
Cone
1



Cone & Split
2



Columnar
3



Shear
4



Side Fracture
5



Double Side Fracture
6

71769 is a 7 day break.

71770, 71771, and 71772 are 28 day breaks.

Checked by: Marco Stone
 MARCO STONE FOR Mathew T. Grady, Manager of MTS



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

LETTER OF TRANSMITTAL

Date: JUL 19 2012	Project No.: 0557-016
Attention: Barry Sheff [bsheff@woodardcurran.com]	
Re: Concrete Testing Munjoy Hill Fire Station Monopole Replacement Portland, Maine	

City of Portland

389 Congress Street

Portland, ME 04101

Core No. (s)	Age (Days)
71790	28
71791	28
71792	28

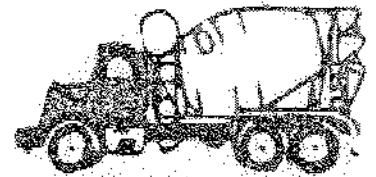
Remarks:

Copy to:

Bryson at Becker Structural Engineers (Bryson@beckerstructural.com),
Chief Smith at the City (sls@portlandmaine.gov),
Greg Scott at Scott Construction (gscott207@gmail.com), and
Mark Libby at Scott Construction (marklibby88@gmail.com)

Signed: Bertha Dawn

If Enclosures are not as noted, kindly notify us at once.



82 Goldthwaite Road • P.O. Box 1747 • Auburn, Maine 04210
 93 Scott Drive • Westbrook, Maine 04092
 50 Arthur Reno Road • West Bath, Maine 04830

Phone: (207) 777-7100 • Fax: (207) 777-7171
 Phone: (207) 780-0523 • Fax: (207) 750-1521
 Phone: (207) 386-5100 • Fax: (207) 386-5151

KNOWLES INDUSTRIAL

MUNJOY HILL FIRE STATION
 PORTLAND, MAINE

1 : 3½ GUNITE Mix Design Submittal

5/7/2012

Gunite

		<u>Weight-SSD (lbs)</u>	<u>Volume (Cu.Ft.)</u>	<u>Sources</u>
CEMENT	ASTM C150 Type II	800	4.07	DRAGON PRODUCTS COMPANY
RHEOMAC SF100	ASTM C1240	25	0.18	BASF/MASTER BUILDERS
FINE AGG	ASTM C33 (SSD)	2570	15.78	PORTLAND SAND & GRAVEL
TOTAL AIR CONTENT		3.0 +/- 1.5%	0.81	
W/C RATIO		N/A		
SLUMP (inches)		N/A		
OPTIONAL:				
MICROMESH - ASTM C1116, Type III		1.0 #/cyd		O'DEA CONCRETE PRODUCTS



January 20, 2012

KNOWLES INDUSTRIAL SERVICES CO
295 NEW PORTLAND ROAD
GORHAM ME, 04038

Project: CONCORD CULVERT PROJECT
Concord NH

Attn: Travis Whitehead

RE: Cement Concrete Mix Designs

Submittal No.: 1834

In accordance with your request, we respectfully submit the following mix designs for the above referenced project. These mixes have been proportioned in accordance with current ACI 211 and ACI 301 standards. All materials used in these mixes conform to current ASTM and AASHTO standards.

Should higher slumps be required for placement or workability, the use of a high-range or mid-range water reducer is required.

These proposed mix designs will meet stated strengths when concrete is placed, tested and cured in accordance with current ASTM and ACI standards and evaluated per ACI recommended standards and practices.

Concrete mixes containing Pozzolans may show lower than normal strength at 7 and 28 days, however these concretes typically yield much higher 56 day results. Concrete containing Pozzolans are known to be more durable, resistant to sulfate attack and protect the concrete from Alkali-Silica Reaction (ASR).

Concrete containing 40% or more Fly Ash has significant advantages when seeking LEED credits, 4.1 and 4.2 for Recycled Content and 5.1 and 5.2 for Regionally Manufactured Products. Typically 40% Fly Ash makes up 5% of the finished concrete and is produced within 500 miles of the manufacturing facility.

Aggregate Industries requests copies of all approved mix designs prior to jobsite delivery. In order to comply with ACI 318 standards, we also ask to be included in the distribution of all concrete test reports.

We recommend that a jobsite pre-pour meeting be held prior to any deliveries. This meeting would answer any questions regarding responsibilities in ordering, scheduling, testing and jobsite operations.

Aggregate Industries produces and delivers concrete in accordance with ASTM C-94 Standard Specification for Ready-Mixed Concrete.

Please note: You must use Mix Code when ordering concrete.

Respectfully submitted,

Garrison Todd
Product Designer

AGGREGATE INDUSTRIES -
NORTHEAST REGION, INC.

91 Chester Road
Raymond, NH 03077

Telephone: (603) 895-4898 x4308
Fax: (603) 895-9321



Cement Concrete Mix Design Submittal

Customer: KNOWLES INDUSTRIAL SERVICES CO
 Project: CONCORD CULVERT PROJECT
 Mix ID#: 130010CS Mix Description: 3000,SHOTCRETE,ETN,ZU5
 Intended Use: Shotcrete Submittal No.: 1834

PROPORTIONS		1 cubic yard (SSD)	
ASTM C-150	TYPE II CEMENT	800 LBS.	
ASTM C-1240	DENSIFIED SILICA FUME	25 LBS.	
ASTM C-33	FINE AGGREGATE	2825 LBS.	
ASTM C-1602	CITY WATER	0 LBS.	0.0 gal/cy
PHYSICAL PROPERTIES			
Slump:			
Air Content		w/c + p ratio:	0.00
COMPRESSIVE STRENGTH		$f_c =$	

Aggregate Industries has no knowledge or authority regarding where this mix is to be placed. Therefore it is the responsibility of the project architect/engineer, and/or contractor to insure that the above designed mix parameters of compressive strength, water cement ratio, cement content, and air content are appropriate for the anticipated environmental conditions (i.e., ACI 318 and local Building Codes).

Chemical admixtures are added in accordance with the manufacturer's recommendations.

Designed mix cementitious content is stated as a minimum, and Aggregate Industries reserves the right to adjust the cementitious sources and content. All individual coarse aggregate weights when proportioned properly conform to ASTM C-33 standards. Aggregate Industries reserves the right to adjust aggregate sources, weights and blends to maintain design consistencies. We also reserve the right to adjust admixture dosage rates if necessary.

Aggregate Industries uses recycled water in accordance with current ASTM standards when producing concrete.

* Bagged Silica Fume will be added to this mix design at a rate of 25 # (pounds) per cubic yard

Please direct inquiries to:
 Garrison Todd
 Product Designer
 cell phone #: (603) 231-7431
 gary.todd@aggregate-us.com

**AGGREGATE INDUSTRIES -
 NORTHEAST REGION, INC.**

81 Chester Road
 Raymond, NH 03077

Telephone: (603) 896-4886 x4308
 Fax: (603) 896-9321

GEOTECHNICAL SERVICES, INC.

• Geotechnical Engineering • Environmental Studies • Material Testing • Construction Monitoring

PROJECT: City of Concord - Fisherville Rd CM
 PROJECT No. 210190 SAMPLED BY: Others DATE SAMPLED: 2/29/12 & 3/6/12
 SAMPLE No.: L-179 & 182-12 TESTED BY: A. Osborne DATE TESTED: 3/27/2012
 DEPTH: N/A PLOTTED BY: A. Osborne DATE PLOTTED: 3/27/2012
 LOCATION: Concord, NH
 SOURCE: Culvert Pipe

ASTM C 42

Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete

Sample #	L-179-12	L-180-12	L-181-12	L-182-12
Specimen #	C-1	C-2	C-3	C-4
Diameter (Inches)	2.295	2.295	2.295	2.295
Area (in ²)	4.135	4.135	4.135	4.135
Length Received (Inches)	3.680	3.630	3.662	3.740
Weight (lbs.)	1.233	1.209	1.292	1.245
Length Cut (Inches)	3.680	3.630	3.662	3.740
Unit Weight (lbs/ft ³)	140.0	139.2	139.8	139.1
Length Capped (Inches)	3.873	3.740	4.109	3.891
L/D Ratio	1.688	1.630	1.791	1.696
Total (lbs.)	29,295	30,016	29,109	33,511
Strength (psi)	7,080	7,260	7,040	8,130
L/D Correction	0.975	0.970	N/A	0.978
Corrected Strength (psi)	6,910	7,040	7,040	7,930
Location of Rebar (Inches)	N/A	N/A	N/A	N/A
Core Location	Culvert	Culvert	Culvert	Culvert
Core Date	2/29	2/29	3/6	3/6

Remarks:

GEOTECHNICAL SERVICES, INC.

* Geotechnical Engineering * Environmental Studies * Material Testing * Construction Monitoring

PROJECT: City of Concord - Fisherville Rd CM
PROJECT No.: 210190 **SAMPLED BY:** Others **DATE SAMPLED:** 3/28/12 & 3/30/12
SAMPLE No.: L-216 & 219-12 **TESTED BY:** A. Osborne **DATE TESTED:** 4/30/2012
DEPTH: N/A **PLOTTED BY:** A. Osborne **DATE PLOTTED:** 5/1/2012
LOCATION: Concord, NH
SOURCE: Culvert Pipe

ASTM C 42

Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete

Sample #	L-216-12	L-217-12	L-218-12	L-219-12
Specimen #	C-1	C-2	C-3	C-4
Diameter (Inches)	2.298	2.298	2.298	2.298
Area (in ²)	4.148	4.148	4.148	4.148
Length Received (Inches)	3.974	3.933	3.945	3.895
Weight (lbs.)	1.303	1.299	1.312	1.299
Length Cut (Inches)	3.974	3.933	3.945	3.895
Unit Weight (lbs/ft ³)	136.6	137.6	138.6	139.0
Length Capped (Inches)	4.076	4.098	4.122	4.056
L/D Ratio	1.774	1.783	1.791	1.765
Total (lbs.)	24,541	26,311	27,729	24,001
Strength (psi)	5,920	6,340	6,680	5,790
L/D Correction	N/A	N/A	N/A	N/A
Corrected Strength (psi)	5,920	6,340	6,680	5,790
Location of Rebar (Inches)	N/A	N/A	N/A	N/A
Core Location	Culvert	Culvert	Culvert	Culvert
Core Date	3/28	3/28	3/30	3/30

Remarks:



FOX INDUSTRIES

FX-350

Shotcrete Accelerator (Gunite)

DESCRIPTION:

FX-350 Shotcrete Accelerator (Gunite) is a chloride-free accelerator for use in (pneumatically-applied cement mortar or concrete) shotcrete. **FX-350 Shotcrete Accelerator (Gunite)** is supplied in powder or liquid form. The powder is used with dry-line equipment. The liquid is used with wet or dry process, or where the fine and coarse aggregate is wet.

ADVANTAGES:

Provides Rapid Strength Gain – **FX-350 Shotcrete Accelerator (Gunite)** achieves structural strength more rapidly under any conditions.

Resists Blasting – Initial set is achieved in 3 to 5 minutes; structural strength is achieved in a matter of hours with **FX-350 Shotcrete Accelerator (Gunite)**, which permits sealing and lining to follow closely behind tunnel headings.

Leak Control – Accelerating the set with **FX-350 Shotcrete Accelerator (Gunite)** will seal damp and leaking rock or concrete. A flash set can be obtained by using greater amounts of **FX-350 Shotcrete Accelerator (Gunite)** in powder form. **FX-350** liquid can be used directly from the drum to achieve a flash set if desirable.

MIXING:

FX-350 Shotcrete Accelerator Liquid is used at the rate of 1 quart to one gallon per sack of cement. **FX-350 Shotcrete Accelerator Powder** is used at one to three pounds per sack of cement, depending on requirements. The proper proportion should be determined on site with the materials, mix and temperatures, to produce the best economy based on requirements. Type I and Type III cement produce faster sets than Type II.

APPLICATION:

FX-350 Shotcrete Accelerator Liquid – is added to the mix water, or at the mixing nozzle, **FX-350** liquid is used with either wet or dry process.

FX-350 Shotcrete Accelerator Powder – the powder form should be used only in dry line operations. Add the necessary amount to the mix prior to loading the mix into the hopper or to the equipment used for shotcreting (gunite).

FX-350 Shotcrete Accelerator Powder may be premixed with gunite if all other materials are moisture free.

PACKAGING:

Liquid – 55 gallon drums or bulk

Powder – 50 lb. polyethylene lined paper bags and 30 lb. pails

SHELF LIFE:

Liquid – Unlimited – Protect from freezing

Powder – 1 year – keep dry

LIMITATIONS:

FX-350 Shotcrete Accelerator Liquid must not be premixed with cement. Do not premix **FX-350 Shotcrete Accelerator Powder** with damp sand or stone. Do not use **FX-350 Shotcrete Accelerator** in concrete or grout without consulting your Fox Industries' representative.

CAUTION:

Prolonged contact with **FX-350 Shotcrete Accelerator** and/or Portland cement may irritate skin. Wear rubber gloves, goggles, and long-sleeved shirts. If skin or eye irritation persists, see a physician

WARNING ! Dust harmful if inhaled. Contact causes irritation of eyes and skin. Use with adequate ventilation. Avoid breathing dust. Avoid contact with eyes and skin. If overcome by inhalation, remove to fresh air. If not breathing, apply artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician. In case of contact, flush eyes with plenty of water for at least 15 minutes and get prompt medical attention; wash skin thoroughly with soap and water.

FOR INDUSTRIAL USE ONLY. KEEP AWAY FROM CHILDREN. 12/2004

PHONE 410-244-8856

CALL FREE 888-760-0609

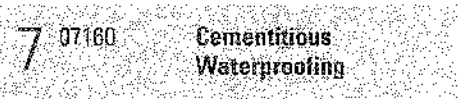
FAX 410-244-2701

Warranty: We warrant our materials to be of good quality and will replace any material proved defective. We believe that the technical information provided is reliable and that materials will perform to your satisfaction. However, we cannot guarantee final results because of the many possible variations in field conditions and application procedures.

THOROSEAL®

Waterproof cement based coating
for concrete and masonry

PRODUCT DATA



Description

Thoroseal® is a Portland-cement-based coating for concrete and masonry that resists both positive and negative hydrostatic pressure. Polymer-modified with Acryl 60®, Thoroseal® creates a low-maintenance and highly durable waterproof barrier.

Yield

225 ft²/50 lb (20.9 m²/22.7 kg) bag as a base coat at 1/16" (1.6 mm) dry-film thickness.

450 ft²/50 lb (41.8 m²/22.7 kg) bag as a topcoat at 1/32" (0.8 mm) dry-film thickness.

Coverage will vary depending on surface texture and porosity.

Packaging

THOROSEAL®

10 lb (4.5 kg) cans for Thoroseal® white and standard gray only

30 lb (13.6 kg) polyethylene-lined bags for Thoroseal® white and standard gray only

50 lb (22.7 kg) polyethylene-lined bags for Thoroseal® white, standard gray, all landscape standard colors and custom colors

60 lb (27.2 kg) pails for Thoroseal® white, standard gray, Navajo white, pearl gray, Thoro® gray, and custom colors



Features

- Waterproof
- Resistant to both positive and negative hydrostatic pressure
- NSF approved (white or gray only)
- Breathable
- Compatible with high-performance coatings
- Aesthetically beneficial
- Aesthetically superior

ACRYL 60®

1 quart (0.9 L) bottles

1 gallon (3.8 L) bottles

5 gallon (18.9 L) pails

30 gallon (113 L) drums

55 gallon (208 L) drums

Color

White and standard gray (this color is not uniform)

10 Landscape standard colors : bone, dijon, French vanilla, good earth, light khaki, Thoro® gray, Navajo white, parchment, pearl gray, and putty tan

Custom colors are available for 5,000 lbs (2268 kg) minimum order.

Shelf Life

1 year when properly stored

Storage

Transport and store in unopened containers and keep in a clean, dry condition protected from rain, dew, and humidity. Do not stack bags more than 2 pallets high. If dry onsite storage of bags is unavailable or if project is located in a very wet, humid climate zone, then specify Thoroseal® packaged in 60 lb (27.2 kg) metal pails. Store Acryl 60® in similar conditions. Do not allow Acryl 60® to freeze.

Benefits

- Protects building interiors from dampness and moisture damage
- Suitable for use below grade interior and exterior and in water-treatment construction
- Use in potable water tanks
- Allows interior moisture to escape without damaging coating
- Accepts a wide range of architectural coatings and textured finishes
- Hides minor surface defects and blemishes in architectural concrete
- Available in 10 standard colors and in custom colors

Where to Use

APPLICATION

- Alternative to mechanical finishing or rubbing of concrete
- Waterproofing basement and retaining walls
- Foundations
- Bridges and tunnels
- Water cisterns

LOCATION

- Vertical and light-pedestrian horizontal surfaces
- Interior and exterior
- Above and below grade

SUBSTRATE

- Cast-in-place and precast concrete
- Block, brick, and porous stone

Technical Data

Composition

Thoroseal® contains cement, graded sand, and proprietary additives.

Test Data

PROPERTY	RESULTS	TEST METHODS
Initial Set , min, at 70° F (21° C), 50% rh	10	Lab Method
Final Set , at 70° F (21° C), 50% rh	90	Lab Method
Density , (cured), lbs/ft ³ (kg/m ³)	129 (2,080)	Lab Method
Positive resistance to hydrostatic pressure , hrs, at 200 psi (1.4 MPa), 46 $\frac{1}{2}$ head ft, air cured at 70° F (21° C), 50% rh	752 No leakage, no softening	CRD C 49, modified
Negative resistance to hydrostatic pressure , hrs, at 200 psi (1.4 MPa), 46 $\frac{1}{2}$ head ft, air cured at 70° F (21° C), 50% rh	664 Limited dampness	CRD C 49, modified
Potable water (direct contact)	Suitable; approved	BS6920 (British standard) NSF Standard 61
Water absorption , %, boiling water submersion at 24 hours	3.6	ASTM C 67 (Section 7.3)
Compressive strength , psi (MPa) 7 days 28 days	4,200 (29) 6,030 (42)	ASTM C 109
Flexural strength , psi (MPa) 7 days 28 days	360 (2.5) 1,027 (7)	ASTM C 348
Tensile strength , psi (MPa) 7 days 28 days	250 (2) 440 (3)	ASTM C 190
Modulus of elasticity , psi (MPa) 28 days	2.72 x 10 ⁶ (1.87 x 10 ⁵)	ASTM C 469
Artificial weathering , hrs Xenon Arc Carbon Arc	5,000 = No failure 500 = No failure	ASTM G 26 ASTM G 23
Adhesion strength , psi (MPa)	418 (2.9)	Test by tensile bond
Artificial weathering ,	No cracking, loss of adhesion, checking, or other defect	Atlas Type DMC weatherometer
Freeze/thaw resistance , 200 cycles	No change	ASTM C 666 (Procedure B)
Salt spray resistance , 300 hours	No defect	ASTM B 117
Carbon Dioxide (CO₂) , in (mm)	1/16 (1.6) Equivalent to 3/4" (19 mm) new concrete	Lab Method Diffusion
Permeance , perms (metric permeability)	12 (0.10598) 18 x 10 ³ resistance	ASTM E 96 (water-vapor transmission) Swedish standard SS-02-15-82

Test Data, continued

PROPERTY	RESULTS	TEST METHODS
Wind-driven rain, hrs	8 = excellent	Fed. Spec. TT-P-0035 (Para 4.4.7)
Coefficient of thermal expansion, in/in/° F (mm/mm/° C), at 28 days	6.99×10^{-4} (5×10^{-4})	ASTM C 531
Impact strength (Gardener impact tester)	No chipping	Fed. Spec. TT-P-0035 (Cement paints para. 3.4.8)
Hardness, (Barber Colmen Impressor) Requirement min = 30, max = 60		Fed. Spec. TT-P-0035 (para 4.4.9)
7 days	35	
14 days	47	
21 days	52	
Abrasion resistance, 3,000 L sand	Passed	Fed. Spec. TT-P-141B
Reflectance		ASTM D 2244 using Hunterlab D-25 meter
Gray Thoroseal®	64.2	
White Thoroseal®	88.1	
Fungus resistance, at 21 days	No growth; meets all requirements	Fed. Spec. TT-P-29B
Surface burning characteristics		ASTM E 84
Flame Spread	0	
Smoke developed	5	
Fire Propagation	Index = 1.5	BS476: Part 6:1981
Flame spread	Class 1	BS476: Part 7:1971

Test results are averages obtained under laboratory conditions. Reasonable variations can be expected.

How to Apply**Surface Preparation**

1. Surface preparation is extremely important for proper adhesion. Substrates must be sound and free of dust, dirt, laitance, paints, oils, grease, curing compounds, or any other contaminants. Verify substrate has properly cured. Concrete should obtain 80% of design strength, typically achieved within 3 – 14 days. If efflorescence is present, mechanically remove it before proceeding. For extreme cases where this is not adequate, contact Technical Service.
2. Patch all holes and cracks before installation.
3. Relieve hydrostatic pressure in concrete block with weep holes.
4. Roughen or brush blast extremely smooth surfaces such as precast and cast-in-place concrete to ensure good mechanical adhesion of Thoroseal®.

Mixing

1. Mix Thoroseal® with a mixing liquid consisting of a blend of Acryl 60® diluted with water. Maximum dilution ratio is 1 part Acryl 60® to 3 parts water. Approximately 6 quarts of mixing liquid is needed per 50 lbs of Thoroseal® powder. Up to 2 additional quarts of mixing liquid may be added when using as a rubbing compound.
2. For best results, mechanically mix Thoroseal® with a slow-speed drill and mixing paddle. Gradually add the powder to the mixing liquid while drill is running.
3. When properly blended, Thoroseal® will have the lump-free consistency of smooth, heavy batter.
4. Allow the Thoroseal® and Acryl 60® mixture to rest undisturbed for a minimum of 10 minutes to fully wet out all the powder. Then remix the wet mixture and apply. A small amount of mixing liquid can be added to this remixing.

5. Pot life is 60 – 90 minutes at 70° F (21° C). At high temperatures and low relative humidity, pot life can be significantly less.

Application

1. Apply Thoroseal® with a Thoro® brush or broom or equivalent stiff fiber brush or by textured spray equipment. Spray applications of the first coat require back brushing or brooming to properly fill voids and achieve uniformity.
2. Completely dampen the substrate with water before application starts. Do not saturate the substrate, but keep it cool and damp throughout the application.
3. It is essential to work first coat thoroughly into the substrate to completely fill and cover all voids, holes, and nonmoving cracks. Finish with a horizontal stroke for an even coat.

4. Allow to cure 24 hours, then apply the second coat and finish with a vertical stroke. Above grade, the second coat can be replaced with a Thoro® high-build architectural coating to achieve better color uniformity.
5. On block or masonry walls, allow 5 – 7 days before applying second coat to eliminate joint read through.

Specific Applications

Above-grade interior or exterior applications in positive pressure situations (direct contact with rain or standing water with a low head of pressure)

1. A 50 lb (22.7 kg) bag of Thoroseal® will provide the following coverage at the designated material usage.

Recommended coverage:

- First Coat: 2 lbs/yd² (1.1 kg/m²) = 225 ft²/50 lb bag (20.9 m²/22.7 kg bag)
- Second Coat: 1 lb/yd² (0.54 kg/m²) = 450 ft²/50 lb bag (41.8 m²/22.7 kg bag)
- Total: 3 lbs/yd² (1.6 kg/m²), cured nominal thickness of 1/16" (1.6 mm).

Coverage will vary depending on surface texture and porosity.

2. A 3 lbs/yd² (1.6 kg/m²) application rate does not eliminate surface irregularities such as struck mortar joints. To hide surface irregularities, spray and back-brush a base coat of Thoroseal® at 2 lbs/yd² (1.1 kg/m²) and allow it to cure for 5 – 7 days. Then spray apply and back trowel a topcoat of Thoroseal® Plaster Mix (see Form No. 1019908) at an application rate of 9 lbs/yd² (4.9 kg/m²).

BELOW-GRADE INTERIOR APPLICATIONS

1. The standard application is 3 lbs/yd² (1.6 kg/m²).
2. For high hydrostatic pressure conditions (over 15 psi [0.10 MPa]), increase application rate to 4 lbs/yd² (2.2 kg/m²) and waterproof from the positive side wherever possible.

BELOW-GRADE EXTERIOR APPLICATIONS

1. Use Thoroseal® Foundation Coating (see Form No. 1019907) for high hydrostatic pressure conditions (over 15 psi [0.10 MPa]), apply a base coat of Thoroseal® Foundation Coating at 2 lbs/yd² (1.1 kg/m²) and allow to cure for 5 – 7 days.
2. Then apply a topcoat of Thoroseal® Plaster Mix at 12 lbs/yd² (6.5 kg/m²). A steel trowel finish is recommended.

3. For both below-grade interior and below-grade exterior applications where water might move between vertical walls and slab or footer, it is recommended to cut out and place a Waterplug® cove at the wall and floor junction prior to the application of the Thoroseal® base coat.

4. Thoroseal® can be covered with extruded polystyrene insulation board during the second coat application. The board must be fully coated with Thoroseal® and embedded into the still-wet coating already in place on the walls. Exercise care when placing the coated board because it should not be moved or slipped. Once placed, do not move the board. After curing, prepare the above-grade portions of the boards by roughening or removing the surface skin and then coating with Thoroseal® to protect them from UV light degradation.

WATERPROOFING POTABLE WATER TANKS OR RESERVOIRS

1. Install Thoroseal® as directed in the general Application instructions.
2. After Thoroseal® has fully cured, wash down the Thoroseal® surface with saline solution (salt brine, 1 lb salt per 1 gallon water).
3. Leave saline solution on the entire Thoroseal® surface for at least 24 hours.
4. Rinse off saline solution completely. If needed, reapply saline solution until final rinse water is completely clean and clear.

Color Uniformity

With any cementitious product, such as Thoroseal®, it may be difficult to achieve color uniformity due to weather and substrate variability. For this reason, it may be necessary to apply a topcoat of a Thoro® architectural coating.

Clean Up

Promptly clean hands and all tools with warm water while product is still wet. Cured material may only be removed mechanically.

For Best Performance

- Thoroseal® must be modified with Acryl 60® to achieve the properties listed in the technical data section.
- Do not apply to substrates with active water leaks or moving cracks; patch all leaking static cracks and holes with Waterplug®. Repair any other nonmoving cracks or voids with the appropriate Thoro® repair product and repair all moving cracks or voids with appropriate sealant.
- Maintain or place expansion and control joints as necessary.

- Do not apply in rain or when rain is expected within 24 hours. Do not apply above 90° F (32° C) or below 40° F (4° C) or when temperatures are expected to fall below 40° F (4° C) within 24 hours. For hot and cold temperature applications, store Thoroseal®, Acryl 60® and water at 50° F (10° C) to 70° F (21° C) before use.
- Hot substrates will effect working time and material strength.
- Variations between inside and outside temperatures may result in condensation on below-grade walls treated with Thoroseal®. This can be alleviated by assuring that adequate ventilation exists.
- Windy, dry, or hot conditions may require rewetting of Thoroseal® during cure and the use of polyethylene barriers.
- Before specifying Thoroseal® for water-retaining structures, conduct tests to determine water quality. Thoroseal® is not intended for continuous contact with acid or sulfate-containing water. Very soft water will have an adverse effect on Thoroseal®.
- Service temperatures: immersion, up to 140° F (60° C); cleaning water, up to 200° F (93° C); dry air, up to 220° F (104° C).
- On all projects, it is recommended that a sample be prepared on site and approved prior to the commencement of the work. The site sample should confirm the color, texture and workmanship required until the job is finished and accepted. Retain the sample until final approval is secured.
- Allow Thoroseal® to cure 7 – 10 days before immersion in water.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current version.
- Proper application is the responsibility of the user. Field visits by Degussa personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

Health and Safety

THOROSEAL®

Caution

Thoroseal® contains calcium hydroxide, crystalline silica, iron (III) oxide monohydrate, and Portland cement.

Risks

Product is alkaline on contact with water and may cause injury to skin or eyes. Ingestion or inhalation of dust may cause irritation. Contains small amount of free respirable quartz which has been listed as a suspected human carcinogen by NTP and IARC. Repeated or prolonged overexposure to free respirable quartz may cause silicosis or other serious and delayed lung injury.

Precautions

KEEP OUT OF THE REACH OF CHILDREN. Avoid contact with skin, eyes and clothing. Prevent inhalation of dust. Wash thoroughly after handling. Keep container closed when not in use. DO NOT take internally. Use only with adequate ventilation. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable federal, state and local regulations.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION. Refer to Material Safety Data Sheet (MSDS) for further information.

Proposition 65

This product contains material listed by the state of California as known to cause cancer, birth defects, or other reproductive harm.

VOC Content

0 lbs/gal or 0 g/L, less water and exempt solvents.

**For medical emergencies only,
call ChemTrec (1-800-424-9300).**

Degussa Building Systems

889 Valley Park Drive
Shakopee, MN, 55379

www.degussabuildingsystems.com

Customer Service 800-433-9517

Technical Service 800-243-6739

LIMITED WARRANTY NOTICE: Every reasonable effort is made to apply Degussa exacting standards both in the manufacture of our products and in the information which we issue concerning these products and their use. We warrant our products to be of good quality and will replace or, at our election, refund the purchase price of any product proved defective. Satisfactory results depend not only upon quality products, but also upon many factors beyond our control. Therefore, unless for such replacement or refund, Degussa MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, RESPECTING ITS PRODUCTS and Degussa shall have no liability with respect thereto. Any claim regarding product defect must be received in writing within one (1) year from the date of shipment. Requests will be considered without such written notice or after the specified time interval. User shall determine if a suitability of the product for the intended use and assume all risks and liability in connection therewith. Any authorized change in the printed recommendations concerning the use of our products must bear the signature of the Degussa Technical Manager.

This information and all further technical advice are based on Degussa's present knowledge and experience. However, Degussa assumes no liability for providing such information and advice including the extent to which such information and advice may relate to existing third party intellectual property rights, especially patent rights. In particular, Degussa disclaims all WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY. DEGUSSA SHALL NOT BE RESPONSIBLE FOR CONSEQUENTIAL, INCIDENTAL OR INCIDENTAL DAMAGES (INCLUDING LOSS OF PROFITS) OF ANY KIND. Degussa reserves the right to make any changes according to technological progress or future developments. It is the customer's responsibility and obligation to carefully assess and test any incoming goods. Performance of the product described herein should be verified by testing and carried out only by qualified experts. It is the sole responsibility of the customer to carry out and arrange for any such testing. Reference to trade names used by other companies is neither a recommendation, nor an endorsement of any product and does not imply that similar products could not be used.

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Form No. 10-9505 (1/03) (Replaces 1/02)
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Special Inspections – Exhibit B

05120 Structural Steel

Project: P.F.D. Munjoy Hill Fire Station Mono-pole Installation

Date Prepared: March 19, 2012

Structural Schedule of Special Inspections - STEEL CONSTRUCTION

VERIFICATION AND INSPECTION	REQD Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
IBC Section 1704.3						
1. Material verification of high-strength bolts, nuts and washers:						
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	TA I	P	Applicable ASTM material standards, AISC 360, A3.3	TAI	AWS/AISC-SSI	7/10
b. Manufacturer's certificate of compliance required.	SI I	S		SI I	PE/SE or EIT	7/19
2. Inspection of high-strength bolting						
a. Snug-tight joints.	TA I	P		TAI	AWS/AISC-SSI	7/10
b. Pretensioned and slip-critical joints using turn-of-nut with matchmaking, twist-off bolt or direct tension indicator methods of installation.	TA I	P	AISC LRFD Section M2.5	TAI	AWS/AISC-SSI	7/10
c. Pretensioned and slip-critical joints using turn-of-nut without matchmaking or calibrated wrench methods of installation.	TA I	C	IBC Sect 1704.3.3	TAI	AWS/AISC-SSI	7/10
3. Material verification of structural steel and cold-formed steel deck:						
a. For structural steel, identification markings to conform to AISC 360.	SI I	P	AISC 360, M5.5	SI I	PE/SE or EIT	7/10
b. For other steel, identification markings to conform to ASTM standards specified in the approved construction documents.	SI I	P	Applicable ASTM material standards	SI I	PE/SE or EIT	7/10
c. Manufacturer's certified test reports.	SI I	S		SI I	PE/SE or EIT	SEE BELOW
4. Material verification of weld filler materials:						
a. Identification markings to conform to AWS specification in the approved construction documents.	TA I	P	AISC 360, M5.5	TAI	AWS/AISC-SSI	7/10
b. Manufacturer's certificate of compliance required.	SI I	S		SI I	PE/SE or EIT	7/19
5. Submit current AWS D1.1 welder certificate for all field welders who will be welding on this project.						
	SI I	S	AWS D1.1	SI I	PE/SE or EIT	8/24
6. Inspection of welding (IBC 1704.3.1):						
a. Structural steel and cold-formed deck:						
1) Complete and partial joint penetration groove welds.	TA I	C	AWS D1.1	TAI	AWS-CWI	7/10
2) Multipass fillet welds.	TA I	C		TAI	AWS-CWI	7/10
3) Single-pass fillet welds > 5/16"	TA I	C		TAI	AWS-CWI	7/10
4) Plug and slot welds	TA I	C		TAI	AWS-CWI	7/10
5) Single-pass fillet welds ≤ 5/16"	TA I	P		TAI	AWS-CWI	7/10
6) Floor and deck welds.	TA I	P	AWS D1.3	TAI	AWS-CWI	7/10
b. Reinforcing steel:						
1) Verification of weldability of reinforcing steel other than ASTM A706.	N	-	Not applicable.	-	-	
2) Reinforcing steel-resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special structural walls of concrete and shear reinforcement.	N	C	AWS D1.4 ACI 318: 3.5.2	TAI	AWS-CWI	
3) Shear reinforcement.	N	C		TAI	AWS-CWI	
4) Other reinforcing steel.	N	P		TAI	AWS-CWI	
7. Inspection of steel frame joint details for compliance (IBC Sect 1704.3.2) with approved construction documents:						
a. Details such as bracing and stiffening.	SI I	P	IBC 1704.3.2	SI I	PE/SE or EIT	7/11
b. Member locations.	SI I	P		SI I	PE/SE or EIT	7/11
c. Application of joint details at each connection.	SI I	P		SI I	PE/SE or EIT	7/11

NOTE: MATERIAL PURCHASED BY THE CITY OF PORTLAND UNDER DIFFERENT CONTRACT & DELIVERED TO MANUFACTURER FOR FABRICATION

Structural Schedule of Special Inspection Services
FABRICATION AND IMPLEMENTATION PROCEDURES – STRUCTURAL STEEL

VERIFICATION AND INSPECTION	REQD Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
IBC Section 1704.2						
1. Fabrications Procedures: Review of fabricator's written procedural and quality control manuals and periodic auditing of fabrication practices by an approved special inspection agency. At the completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building code official stating that the work was performed in accordance with the approved construction documents. -OR- 2. AISC Certification	SI 1	S	Fabricator shall submit one of the two qualifications	SI1	PE/SE or EIT	7/19 (AISC)
3. At completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building code official stating that the work was performed in accordance with the approved construction documents.	SI 1	S	IBC 1704.2.2	SI1	PE/SE or EIT	7/19

OBSERVATION REPORT
Structural Steel

Date:	07/05/12
Time:	3:30
Temp:	90
Weather:	Partly Cloudy

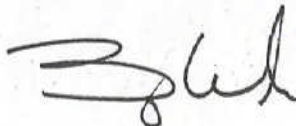
Project:	P.F.D. Munjoy Hill Fire Station
Location:	Portland, ME
Becker Job No:	2612

Observation Location:
Structural Steel located on the existing Roof

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Bolt Condition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Weld Condition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Anchor Bolts, Nuts, & Washers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Grout/Leveling Plates	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fit Up/Plumbness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Metal Deck Welds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Pour Stops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

The structural steel was erected earlier in the day and all of the bolts are snug tight. The bolt pretensioning and field welding will be done when R.W. Gillespie is on site. The contractor was grouting the base plate during the site visit.



OBSERVATION REPORT
Structural Steel

Date:	07/11/12
Time:	8:30
Temp:	75
Weather:	Partly cloudy

Project:	P.F.D. Munjoy Hill Fire Station
Location:	Portland, ME
Becker Job No:	2612

Observation Location:
Steel frame located on existing roof.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Bolt Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Provided by TA 1 report
Weld Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Note 1 & 3 below, Provided by TA 1 report
Anchor Bolts, Nuts, & Washers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Grout/Leveling Plates	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fit Up/Plumbness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Metal Deck Welds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See Note 2 below
Pour Stops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bracing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

1. R.W. Gillespie contacted Becker to note that the welds connecting the washers to the post base plates did not conform to plans and specifications. While on site the condition and size of the welds were reviewed. After reviewing the design loads it was determined that the welds were acceptable as is.
2. New metal roof deck was not required therefore metal deck welds were not required.

3. The welder tack welded the two plates on top of the post together while welding to provide a ground. It was noted to the contractor and they will grind the weld out. It was later confirmed that this was removed on a site observation performed on 7/13/12.

Signed: Bryson T. Welch, P.E.



Corporate Office
86 Industrial Park Rd, Ste 4
Portsmouth, NH 03801
207-286-8008 • Fax 207-286-2882

Branch Office
200 International Dr, Ste 170
Portsmouth, NH 03801
603-427-0244 • Fax 603-430-2041

STEEL OBSERVATION REPORT

Project Name: MUNSOY HILL FIRE STATION- MONOPOLE REPLACEMENT Date: JULY 9, 2017
Client/Project #: CITY OF PORTLAND / # 0557-016 Time on Site: 8 1/2
General Contractor: SCOTT CONSTRUCTION Mileage: 35
Welding Contractor: JAMES F. DOTEN Tolls: 1.20

Approved Documents: PLANS FOR MODIFICATION TO MUNSOY HILL FIRE STATION (5-11-2012)
CONTRACT AND SPECIFICATIONS FOR MUNSOY HILL FIRE STATION (03-19-2012)
Location/Observations: ROOF FRAMING @ EL. 177' 6" B & C / 1 & 5

TYPE OF WORK OBSERVED

Bolted Connections: SCOTT CONSTRUCTION HAD INSTALLED ALL THE BOLTS DURING ASSEMBLY. THEY SNUG-TIGHTENED EACH CONNECTION (ASTM A325 SECTION 8.1) AND THEN USED TURN-OF-NUT PRETENSIONING (ASTM A325 SECTION 8.2). EACH NUT WAS TIGHTENED 1/2 TURN AFTER SNUG-TIGHTENED. Visually checked and found complete

Shear Connections: _____
_____ Visually checked and found acceptable

Welded Connections: ALL CONNECTIONS EXCEPT CONNECTIONS AT PLATE WASHERS WERE CHECKED AND FOUND TO BE WITHIN PROJECT SPECIFICATION.
LOCATIONS: B1, C1, C4, B/S & A/3 Visually checked and found acceptable

Decking (Mezzanine/Roof): _____
_____ Visually checked and found acceptable

Joist Welds/Joist Bridging: _____
_____ Visually checked and found acceptable

Puddle Welds: _____

_____ Visually checked and found acceptable

Screw Attachments: _____

_____ Visually checked and found complete

Other: _____

_____ Visually checked and found acceptable

_____ Visually checked and found complete

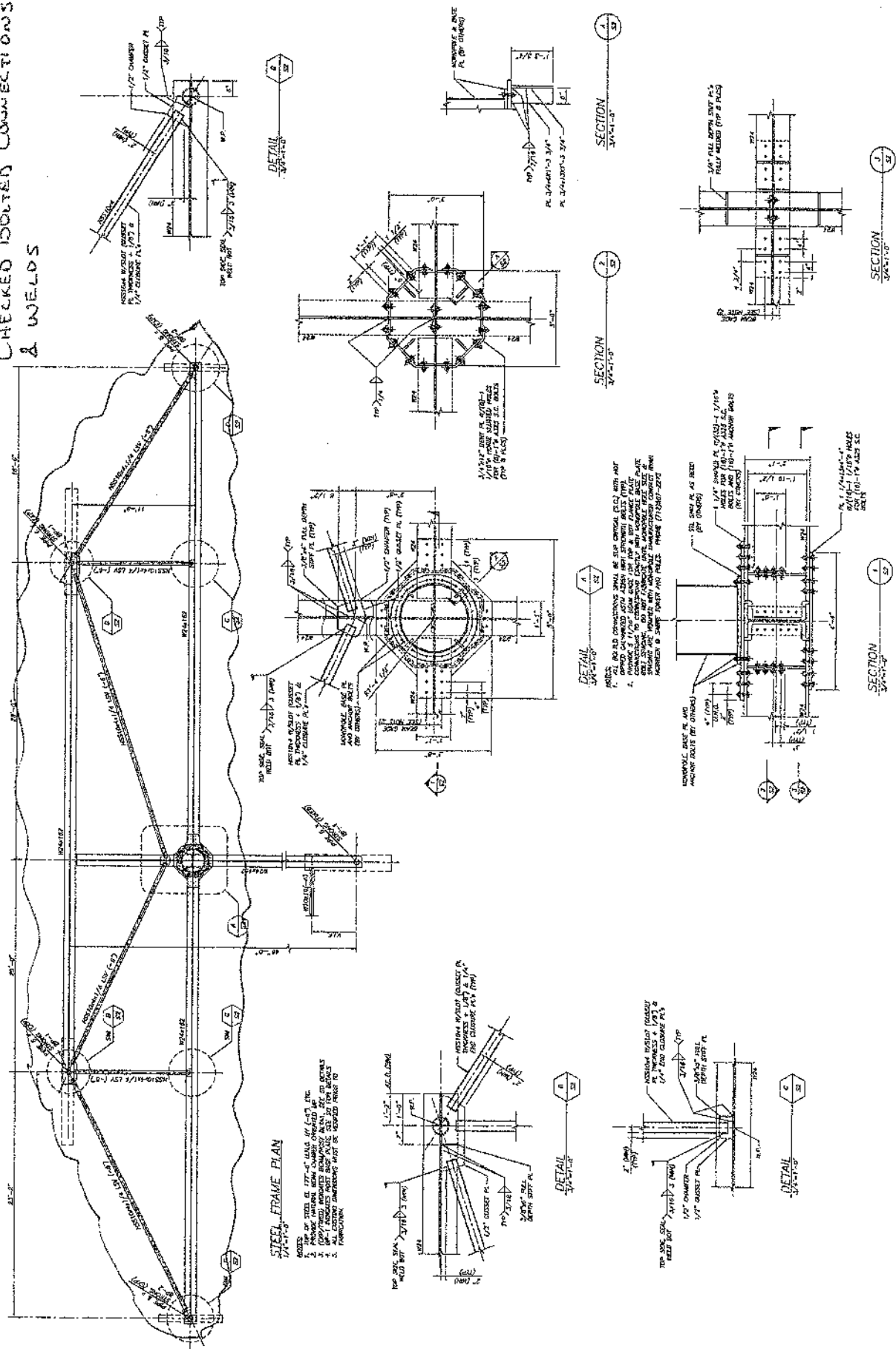
<p>RWG&A personnel are represented on site solely to observe work of the identified contractors, to form opinions about the adequacy of those operations, and to report those opinions to RWG&A's client. The presence and activities of our field representative do not relieve any contractor from their obligations to meet contractual requirements. The contractor retains sole responsibility of site safety and the methods, operations, and sequences of construction.</p>	Observations were verbally reported to:
	MARK LIBBY - SCOTT CONSTRUCTION
	Construction Technologist/CWI:
	<i>Marco Stone</i>
	Print Name/Title
	Certification #: 12050651 MARCO STONE, CET

MTG

DATE	12/18/17
BY	...
CHKD	...
APP	...
DATE	...

52

CHECKED BOLTED CONNECTIONS & WELDS



STEEL FRAME PLAN

- 1. ALL DIMENSIONS UNLESS OTHERWISE NOTED.
- 2. ALL DIMENSIONS UNLESS OTHERWISE NOTED.
- 3. ALL DIMENSIONS UNLESS OTHERWISE NOTED.
- 4. ALL DIMENSIONS UNLESS OTHERWISE NOTED.
- 5. ALL DIMENSIONS UNLESS OTHERWISE NOTED.

MUNDOY HILL FIRE STATION - MONOPOLE REPLACEMENT
 CITY OF PORTLAND
 OSST-011

ALL DIMENSIONS UNLESS OTHERWISE NOTED.
 ALL DIMENSIONS UNLESS OTHERWISE NOTED.
 ALL DIMENSIONS UNLESS OTHERWISE NOTED.

Corporate Office
86 Industrial Park Rd, Ste 4
Portsmouth, NH 03801
207-286-8008 • Fax 207-286-2882



Branch Office
200 International Dr, Ste 170
Portsmouth, NH 03801
603-427-0244 • Fax 603-430-2041

STEEL OBSERVATION REPORT

Project Name: MUNSON HILL FIRE STATION - MONOPOLE REPLACEMENT Date: JULY 10, 2012
Client/Project #: CITY OF PORTLAND / 0557-016 Time on Site: 2
General Contractor: SCOTT CONSTRUCTION Mileage: 20
Welding Contractor: JAMES E. DOTEN Tolls: 0.60

Approved Documents: PLANS FOR MODIFICATION TO MUNSON HILL FIRE STATION (5-11-2012)
CONTRACT AND SPECIFICATION FOR MUNSON HILL FIRE STATION (03-19-2012)
Location/Observations: ROOF FRAMING @ EL. 177'6"

TYPE OF WORK OBSERVED

Bolted Connections: @ A/3. THESE BOLTS WERE SNUG-TIGHTENED (ASTM A325, B.1)
AND THEN THEY USED TURN-OF-NUT PRETENSIONING (ASTM A325, B.2). EACH
NUT WAS TIGHTENED 1/3 TURN AFTER SNUG-TIGHTENED.
 Visually checked and found complete

Shear Connections: _____

 Visually checked and found acceptable

Welded Connections: OF PLATE WASHERS AT FIXED CONNECTIONS AT THE ROOF WHICH
WILL BE BELOW THE ROOFING MEMBRANE. THE WELDS WERE UNDER THE
SPECIFIED 5/16" AND THERE WAS UNDERCUTTING ON SOME OF THESE WELDS.
 Visually checked and found acceptable

Decking (Mezzanine/Roof): _____

 Visually checked and found acceptable

Joist Welds/Joist Bridging: _____

 Visually checked and found acceptable

Puddle Welds: _____

Visually checked and found acceptable

Screw Attachments: _____

Visually checked and found complete

*Other: 07-11-2012 BRYSON ^{WELCH} CONTACTED ME AND INFORMED ME THAT HE HAD RECALCULATED THE LOADS AT THE CONNECTIONS WITH PLATE WASHERS THAT DID NOT CONFORM TO PLANS & SPECIFICATIONS. BRYSON SAID THAT AFTER COMPLETE CALCULATION THAT HE DETERMINED THAT THESE WELDS WOULD BE ACCEPTABLE. BRYSON HAD VISITED THE SITE TO LOOK AT THE WELDS HIMSELF.

Visually checked and found acceptable

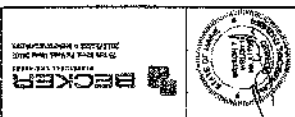
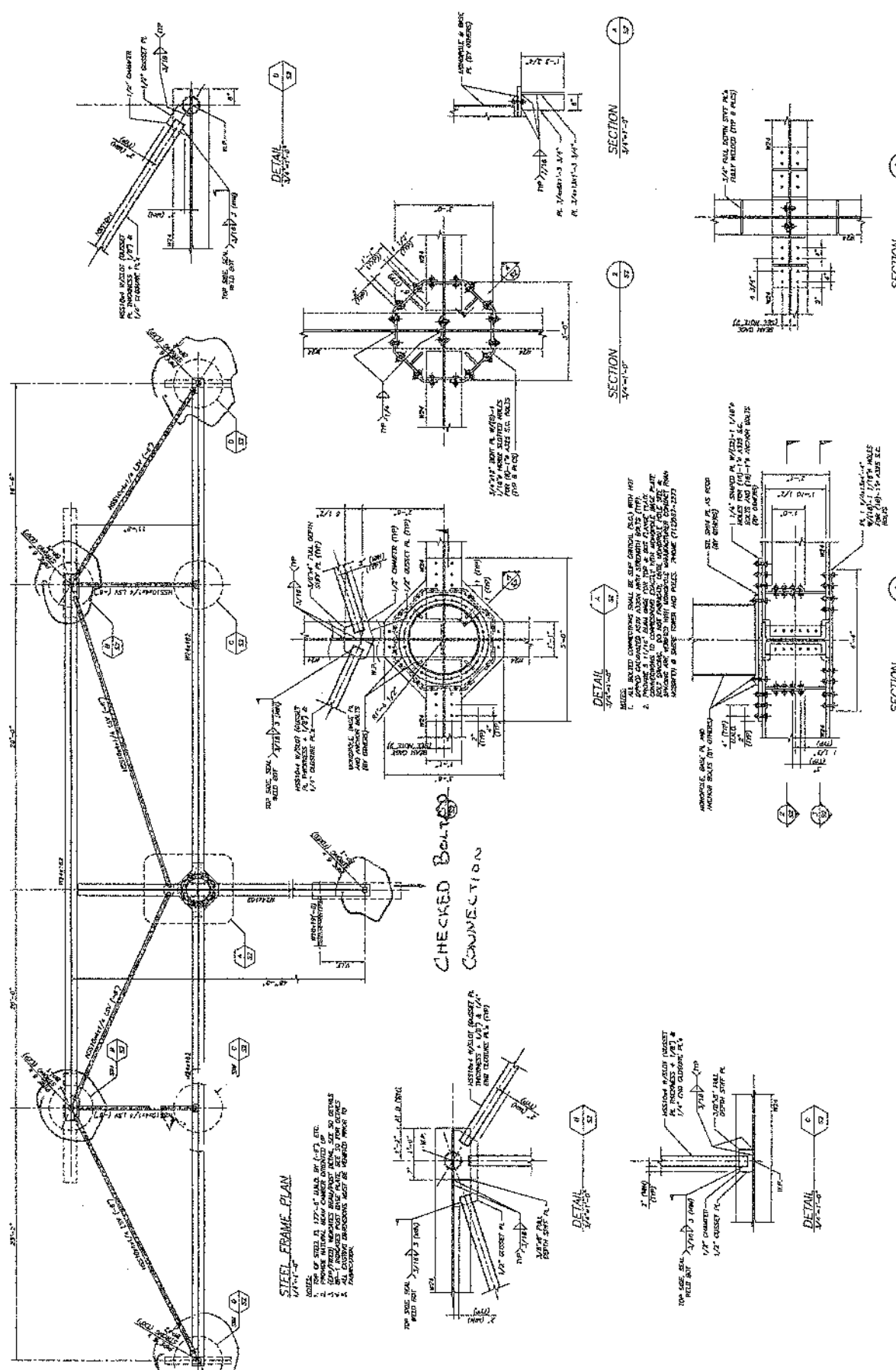
Visually checked and found complete

Marco Stone 07-11-2012

RWG&A personnel are represented on site solely to observe work of the identified contractors, to form opinions about the adequacy of those operations, and to report those opinions to RWG&A's client. The presence and activities of our field representative do not relieve any contractor from their obligations to meet contractual requirements. The contractor retains sole responsibility of site safety and the methods, operations, and sequences of construction.	Observations were verbally reported to: BRYSON WELCH - BECKER STRUCTURAL MARK LIBBY - SCOTT CONSTRUCTION
	Construction Technologist/CWI: <i>Marco Stone</i>
	Print Name/Title Certification #: 12030651 MARCO STONE CET

MTG

CHECKED WELDS ON PLATE WASHERS



NO.	DATE	DESCRIPTION
1	10/1/10	ISSUED FOR PERMIT
2	10/1/10	REVISED PER COMMENTS
3	10/1/10	REVISED PER COMMENTS
4	10/1/10	REVISED PER COMMENTS

FRAME PLAN, SECTIONS & DETAILS
 PORTLAND, MAINE
 MONO-POLE INSTALLATION
 FPD MUNDOY HILL FIRE STATION

NO.	DATE	DESCRIPTION
1	10/1/10	ISSUED FOR PERMIT
2	10/1/10	REVISED PER COMMENTS
3	10/1/10	REVISED PER COMMENTS
4	10/1/10	REVISED PER COMMENTS

52

MUNDOY HILL FIRE STATION - MONOPOLE REPLACEMENT
 CITY OF PORTLAND
 0557-016

American Institute of Steel Construction

is proud to recognize

Megquier & Jones, Inc.

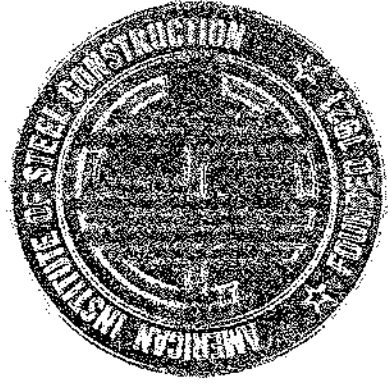
South Portland, ME

for successfully meeting the quality certification requirements for

Standard for Building Structures

Major Steel Bridges

Sophisticated Paint Endorsement - Covered



Roger E. Ferch

Certification valid through August 2013

James E Doten

Cert # 0712059W

SSN # XXX-XX-4056

Special Inspections – Exhibit C

Fabricator's Statement of Responsibility

Project: P.F.D. Munjoy Hill Fire Station Mono-pole Installation
Date Prepared: March 19, 2012

Fabricator's Certificate of Compliance

Each approved fabricator that is exempt from Special Inspection of shop fabrication and implementation procedures per section 1704.2 of the International Building Code must submit a *Fabricator's Certificate of Compliance* at the completion of fabrication.

Project: P.F.D. MUNJOY HILL FIRE STATION MONO-POLE INSTALLATION

Fabricator's Name: MEGQUIER & JONES

Address: 1156 BROADWAY SO. PORTLAND, ME

Certification or Approval Agency: AISC

Certification Number: —

Date of Last Audit or Approval: 2012 - EXPIRES 2/31/2013

Description of structural members and assemblies that have been fabricated:

STRUCTURAL STEEL POSTS, BEAMS, BRACING

I hereby certify that items described above were fabricated in strict accordance with the approved construction documents.

John W. McGreegan

Signature

7-19-12

Date

John W. McGreegan

CHIEF ENGINEER

Title

Attach copies of fabricator's certification or building code evaluation service report and fabricator's quality control manual

End of Special Inspections Report