

Project: USM Central Heat Plant Boiler Replacement  
Date Prepared: February 5, 2015

## Structural Statement of Special Inspections

Project: *University of Southern Maine Central Heat Plant, Boiler Replacement*

Location: *Portland, Maine*

Owner: *University of Southern Maine*

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: *X Upon request of Building Official* \_\_\_\_\_ or  per attached schedule.

Prepared by:

*James P. Curley, P.E*

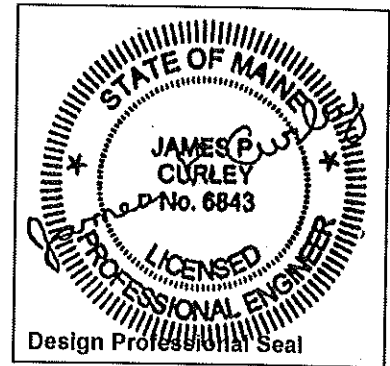
(type or print name of the Structural Registered Design Professional in Responsible Charge)

*James P. Curley*

Signature

*02-05-15*

Date



Owner's Authorization:

Building Code Official's Acceptance:

*[Signature]* *2/11/15*  
Signature Date

\_\_\_\_\_  
Signature Date

Project: USM Central Heat Plant Boiler Replacement  
 Date Prepared: February 5, 2015

## Structural Statement of Special Inspections (Continued)

### List of Agents

Project: *University of Southern Maine Central Heat Plant*

Location: *Portland, Maine*

Owner: *University of Southern Maine*

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
- Masonry Systems
- Structural Steel
- Wood Construction
- Special Cases

Special Inspection Agencies	Firm	Address, Telephone, e-mail
1. STRUCTURAL Special Inspections Coordinator (SSIC)	<i>Harriman</i>	<i>46 Harriman Drive Auburn, ME 04210 (207) 784-5100</i>
2. Special Inspector (SI 1)	<i>Harriman</i>	<i>46 Harriman Drive Auburn, ME (207) 784-5100</i>
3. Special Inspector (SI 2)		
4. Testing Agency (TA 1)	<i>R. W. Gillespie &amp; Associates</i>	<i>86 Industrial Park Road, Suite 4 Saco, ME (207) 286-8008</i>
5. Testing Agency (TA 2)		
6. Other (O1)		

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.

## Structural Schedule of Special Inspections

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### 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

#### 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.

#### 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

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## Structural Schedule of Special Inspections

### CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION  IBC Section 1704.4	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGEN T	AGENT QUALIFICATION	TASK COMPLETED
1. Inspection of reinforcing steel, including prestressing tendons, and placement	Y	P	ACI 318: 3.5, 7.1-7.7		PE/SE or EIT	
2. Inspection of reinforcing steel welding in accordance with Table 1704.3, Item 5B	N	N	Welding of Reinf Not Allowed		AWS-CWI	
3. Inspect bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased	N	N	IBC 1912.5		PE/SE or EIT	
4. Verifying use of required design mix	Y	S	ACI 318: Ch 4, 5.2-5.4		PE/SE or EIT	
5. At time fresh concrete is sampled to fabricate specimens for strength test, perform slump and air content test and temperature	Y	P	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8		ACI-CFTT or ACI-STT	
6. Inspection of concrete placement for proper application techniques	Y	P	ACI 318: 5.9, 5.10		PE/SE or EIT	
7. Inspection for maintenance of specified curing temperature and techniques	Y	P	ACI 318: 5.11-5.13		PE/SE or EIT	
8. Inspection of Prestressed Concrete	N/A					
a. Application of prestressing force.	N	N	ACI 318: 18.20		PE/SE or EIT	
b. Grouting of bonded prestressing tendons in seismic force resisting system	N	N	ACI 318: 18.18.4		PE/SE or EIT	
9. Erection of precast concrete members	N	N	ACI 318: Ch 16		PE/SE or EIT	
10. Verification of in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms beams and structural slabs	N	N	ACI 318: 6.2		ACI-STT	

## Structural Schedule of Special Inspections

### MASONRY CONSTRUCTION – LEVEL 1 (NON-ESSENTIAL FACILITY)

VERIFICATION AND INSPECTION IBC Section 1704.5	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
1. As masonry construction begins, the following shall be verified to ensure compliance:						
a. Proportions of site-prepared mortar.	Y	P	ACI530.1, 2.6A		PE/SE or EIT	
b. Construction of mortar joints.	Y	P	ACI530.1, 3.3B		PE/SE or EIT	
c. Location of reinforcement and connectors.	Y	P	ACI530.1, 3.4, 3.6A		PE/SE or EIT	
d. Prestressing technique.	N	N	ACI530.1, 3.6B		PE/SE or EIT	
e. Grade and size of prestressing tendons and anchorages.	N	N	ACI530.1, 2.4B, 2.4H		PE/SE or EIT	
2. The inspection program shall verify:						
a. Size and location of structural elements.	Y	P	ACI530.1, 3.3G		PE/SE or EIT	
b. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction.	Y	P	ACI530, 1.2.2(e), 2.1.4, 3.1.6		PE/SE or EIT	
c. Specified size, grade and type of reinforcement.	Y	P	ACI530, 1.12, ACI530.1, 2.4, 3.4		PE/SE or EIT	
d. Welding of reinforcing bars.	N	N	AC530, 2.1.10.6.2, 3.2..4 (b)		AWS-CWI	
e. Protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F).	Y	P	IBC 2104.3, 2104.4; ACI530.1, 1.8C, 1.8D		PE/SE or EIT	
f. Application and measurement of prestressing force.	N	N	ACI530.1, 3.6B		PE/SE or EIT	
3. Prior to grouting, the following shall be verified to ensure compliance:						
a. Grout space is clean.	Y	P	ACI530.1, 3.2D		PE/SE or EIT	
b. Placement of reinforcement and connectors and prestressing tendons and anchorages.	Y	P	ACI530, 1.12, ACI530.1, 3.4		PE/SE or EIT	
c. Proportions of site-prepared grout and prestressing grout for bonded tendons.	Y	P	ACI530.1, 2.6B		PE/SE or EIT	
d. Construction of mortar joints.	Y	P	ACI530.1, 3.3B		PE/SE or EIT	
4. Grout placement shall be verified to ensure compliance with code and construction document provisions.	Y	C	ACI530.1, 3.5		PE/SE or EIT	
a. Grouting of prestressing bonded tendons.	N	N	ACI530.1, 3.6C		PE/SE or EIT	
5. Preparation of any required grout specimens, mortar specimens and/or prisms shall be observed.	Y	C	IBC 2105.2.2, 2105.3; ACI530.1, 1.4		PE/SE or EIT	
6. Compliance with required inspection provisions of the construction documents and the approved submittals shall be verified.	Y	P	ACI530.1, 1.5		PE/SE or EIT	

## Structural Schedule of Special Inspections

### STEEL CONSTRUCTION

VERIFICATION AND INSPECTION	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
<b>IBC Section 1704.3</b>						
<b>1. Material verification of high-strength bolts, nuts and washers:</b>						
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	Y	P	Applicable ASTM material specifications; AISC 335, Section A3.4; AISC LRFD, Section A3.3		PE/SE or EIT	
b. Manufacturer's certificate of compliance required.	Y	S			PE/SE or EIT	
<b>2. Inspection of high-strength bolting</b>						
a. Bearing-type connections.	Y	P	AISC LRFD Section M2.5		AWS/AISC-SSI	
b. Slip-critical connections.	N	N	IBC Sect 1704.3.3		AWS/AISC-SSI	
<b>3. Material verification of structural steel (IBC Sect 1708.4):</b>						
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	Y	S	ASTM A 6 or ASTM A 568 IBC Sect 1708.4		PE/SE or EIT	
b. Manufacturers' certified mill test reports.	Y	S	ASTM A 6 or ASTM A 568 IBC Sect 1708.4		PE/SE or EIT	
<b>4. Material verification of weld filler materials:</b>						
a. Identification markings to conform to AWS specification in the approved construction documents.	Y	S	AISC, ASD, Section A3.6; AISC LRFD, Section A3.5		PE/SE or EIT	
b. Manufacturer's certificate of compliance required.	Y	S			PE/SE or EIT	
<b>5. Submit current AWS D1.1 welder certificate for all field welders who will be welding on this project.</b>	Y	S	AWS D1.1		PE/SE or EIT	
<b>6. Inspection of welding (IBC 1704.3.1):</b>						
a. Structural steel:						
1) Complete and partial penetration groove welds.	N	N	AWS D1.1		AWS-CWI	
2) Multipass fillet welds.	N	N			AWS-CWI	
3) Single-pass fillet welds > 5/16"	N	N			AWS-CWI	
4) Single-pass fillet welds < 5/16"	Y	P			AWS-CWI	
5) Floor and deck welds.	Y	P	AWS D1.3		AWS-CWI	