

Project: Elm Terrace  
Date Prepared: September 8, 2011

## Structural Statement of Special Inspections

Project: *Elm Terrace*  
Location: *Portland, ME*  
Owner: *Children's Hospital Housing Partners, LP c/o Community Housing of 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:  Upon request of Building Official \_\_\_\_\_ or  per attached schedule.

Prepared by:

*Daniel S. Burne, P.E.*

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

*Daniel S. Burne*  
Signature

*9/8/11*  
Date



Owner's Authorization:

Building Code Official's Acceptance:

Signature

Date

Signature

Date

## Structural Statement of Special Inspections (Continued)

### List of Agents

Project: Elm Terrace  
 Location: Portland, ME  
 Owner: Children's Hospital Housing Partners, LP c/o Community Housing of 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
- 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, Inc.	75 York St. Portland, ME 04101 (207) 879-1838 info@beckerstructural.com
2. Special Inspector (SI 1)	Becker Structural Engineers, Inc.	75 York St. Portland, ME 04101 (207) 879-1838 info@beckerstructural.com
3. Special Inspector (SI 2)	To be determined	
4. Testing Agency (TA 1)	To be determined	
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.

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## Structural Statement of Special Inspections (Continued)

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### Final Report of Special Inspections (SSIC/SI 1)

[To be completed by the Structural Special Inspections Coordinator (SSIC/SI 1). Note that all Agent's Final Reports must be received prior to issuance.]

Project: *Elm Terrace*  
Location: *Portland, ME*  
Owner: *Children's Hospital Housing Partners, LP c/o Community Housing of Maine*  
Owner's Address: *309 Cumberland Ave Ste. 203.*  
*Portland, ME 04101*  
Architect of Record: *Benedict Walter, AIA* *CWS Architects*  
*(name)* *(firm)*  
Structural Registered Design  
Professional in Responsible Charge: *Daniel S. Burne* *Becker Structural Engineers, Inc.*  
*(name)* *(firm)*

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

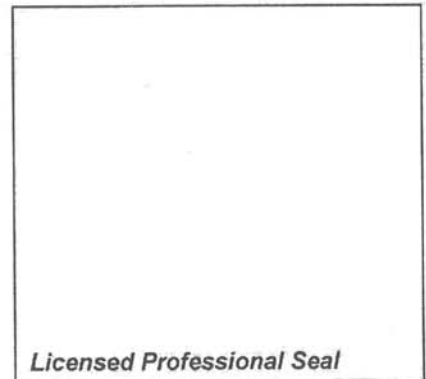
Interim reports submitted prior to this final report form a basis for and are to be considered an integral part of this final report.

Respectfully submitted,  
Structural Special Inspection Coordinator

\_\_\_\_\_  
(Type or print name)

\_\_\_\_\_  
(Firm Name)

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



Project: Elm Terrace  
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## Structural Statement of Special Inspections (Continued)

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### Special Inspector's/Agent's Final Report

Project: *Elm Terrace*

Special Inspector or  
Agent:

*(name)*

*(firm)*

Designation: **SI2**

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:

\_\_\_\_\_  
(Type or print name)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
*Licensed Professional Seal or  
Certification Number*

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## Structural Statement of Special Inspections (Continued)

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### Special Inspector's/Agent's Final Report

Project: *Elm Terrace*

Special Inspector or  
Agent:

*(name)*

*(firm)*

Designation: **TA1**

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:

\_\_\_\_\_  
(Type or print name)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

*Seal not Required for Testing  
Agency*

*Licensed Professional Seal or  
Certification Number*

## 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
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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

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## Structural Schedule of Special Inspections

### SOILS & FOUNDATION CONSTRUCTION

VERIFICATION AND INSPECTION	REQD Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
IBC Section 1704.7, 1704.8, 1704.9						
1. Required Verification and Inspection of Soils:						
a. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	Y	P	IBC 1704.7	SI2	PE/GE, EIT or ETT	
b. Verify excavations are extended to proper depth and have reached proper material.	Y	P	IBC 1704.7	SI2	PE/GE, EIT or ETT	
c. Perform classification and testing of compacted fill materials.	Y	P	IBC 1704.7	TA1	PE/GE, EIT or ETT	
d. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	Y	C	IBC 1704.7	TA1	PE/GE, EIT or ETT	
e. Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.	Y	P	IBC 1704.7	SI2	PE/GE, EIT or ETT	
2. Required Verification and Inspection of Driven Deep Foundation Elements:						
a. Verify element materials, sizes and lengths comply with the requirements.	N	C	IBC 1704.8	TA1	PE/GE, EIT or ETT	
b. Determine capacities of test elements and conduct additional load tests, as required.	N	C	IBC 1704.8	SI2	PE/GE, EIT or ETT	
c. Observe driving operations and maintain complete and accurate records for each element.	N	C	IBC 1704.8	TA1	PE/GE, EIT or ETT	
d. Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element.	N	C	IBC 1704.8	TA1	PE/GE, EIT or ETT	
3. Required Verification and Inspection of Cast-in-Place Deep Foundation Elements:						
a. Observe drilling operations and maintain complete and accurate records for each element.	N	C	IBC 1704.9	TA1	PE/GE, EIT or ETT	
b. Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, embedment into bedrock (if applicable) and adequate end bearing strata capacity. Record concrete or grout volumes.	N	C	IBC 1704.9	TA1	PE/GE, EIT or ETT	

See Concrete, Masonry, and/or Steel Schedules for additional material inspections for deep foundation elements as applicable.

**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	Y	P	ACI 318: 3.5, 7.1-7.7	SII	PE/SE or EIT	
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.	Y	C	IBC 1911.5	SII	PE/SE or EIT	
4. Inspection of anchors installed in hardened concrete.	Y	P	IBC 1212.1	SII	PE/SE or EIT	
5. Verifying use of required design mix	Y	P	ACI 318: Ch 4, 5.2-5.4	TA1	ACI-CFTT or ACI-STT	
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.	Y	C	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	TA1	ACI-CFTT or ACI-STT	
7. Inspection of concrete and shotcrete placement for proper application techniques	Y	C	ACI 318: 5.9, 5.10	TA1	ACI-CFTT or ACI-STT	
8. Inspection for maintenance of specified curing temperature and techniques	Y	P	ACI 318: 5.11-5.13	SII	PE/SE or EIT	
9. Inspection of Prestressed Concrete						
a. Application of prestressing force.	N	C	ACI 318: 18.20	TA2	PE/SE or EIT	
b. Grouting of bonded prestressing tendons in seismic force resisting system	N	C	ACI 318: 18.18.4	TA1	ACI-CFTT or ACI-STT	
10. Erection of precast concrete members.	N	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	P	ACI 318: 6.2	TA1	ACI-CFTT or ACI-STT	
12. Inspect formwork for shape, location and dimensions of the concrete member being formed.	Y	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.



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**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
<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 standards, AISC 360, A3.3	TAI	AWS/AISC-SSI	
b. Manufacturer's certificate of compliance required.	Y	S		SII	PE/SE or EIT	
<b>2. Inspection of high-strength bolting</b>						
a. Snug-tight joints.	Y	P		TAI	AWS/AISC-SSI	
b. Pretensioned and slip-critical joints using turn-of-nut with matchmaking, twist-off bolt or direct tension indicator methods of installation.	N	P	AISC LRFD Section M2.5 IBC Sect 1704.3.3	TAI	AWS/AISC-SSI	
c. Pretensioned and slip-critical joints using turn-of-nut without matchmaking or calibrated wrench methods of installation.	N	C		TAI	AWS/AISC-SSI	
<b>3. Material verification of structural steel and cold-formed steel deck:</b>						
a. For structural steel, identification markings to conform to AISC 360.	Y	P	AISC 360, M5.5	SII	PE/SE or EIT	
b. For other steel, identification markings to conform to ASTM standards specified in the approved construction documents.	N	P	Applicable ASTM material standards	SII	PE/SE or EIT	
c. Manufacturer's certified test reports.	Y	S		SII	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	P	AISC 360, M5.5	TAI	AWS/AISC-SSI	
b. Manufacturer's certificate of compliance required.	Y	S		SII	PE/SE or EIT	
5. Submit current AWS D1.1 welder certificate for all field welders who will be welding on this project.	Y	S	AWS D1.1	SII	PE/SE or EIT	
<b>6. Inspection of welding (IBC 1704.3.1):</b>						
<b>a. Structural steel and cold-formed deck:</b>						
1) Complete and partial joint penetration groove welds.	N	C	AWS D1.1	TAI	AWS-CWI	
2) Multipass fillet welds.	N	C		TAI	AWS-CWI	
3) Single-pass fillet welds > 5/16"	N	C		TAI	AWS-CWI	
4) Plug and slot welds	N	C		TAI	AWS-CWI	
5) Single-pass fillet welds ≤ 5/16"	Y	P		TAI	AWS-CWI	
6) Floor and deck welds.	Y	P	AWS D1.3	TAI	AWS-CWI	
<b>b. Reinforcing steel:</b>						
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	
<b>7. Inspection of steel frame joint details for compliance (IBC Sect 1704.3.2) with approved construction documents:</b>						
a. Details such as bracing and stiffening.	Y	P	IBC 1704.3.2	SII	PE/SE or EIT	
b. Member locations.	Y	P		SII	PE/SE or EIT	
c. Application of joint details at each connection.	Y	P		SII	PE/SE or EIT	

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

VERIFICATION AND INSPECTION  IBC Section 1704.2	REQD Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
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	Y	S	Fabricator shall submit one of the two qualifications	SII	PE/SE or EIT	
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.	Y	S	IBC 1704.2.2	SII	PE/SE or EIT	

**Structural Schedule of Special Inspection Services**  
**FABRICATION AND IMPLEMENTATION PROCEDURES – WOOD TRUSSES**

VERIFICATION AND INSPECTION  IBC Section 1704.2	REQD Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
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-	Y	S	Fabricator shall submit one of the two qualifications	SII	PE/SE or EIT	
2. TPI Inspection Program: Fabricator shall participate in the TPI Quality Assurance Inspection Program, and maintain a copy of the Quality Assurance Procedures Manual, QAP-90. Submit copy of certificate. All trusses shall bear the TPI Registered Mark.	Y					
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	Y	S	IBC 1704.2.2	SII	PE/SE or EIT	

## Structural Schedule of Special Inspections

### WOOD CONSTRUCTION

VERIFICATION AND INSPECTION IBC Section 1704.6	REQD Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
1. Fabrication of high-load diaphragms						
a. Verify wood structural panel sheathing for grade and thickness	Y	P	IBC 1704.6	SII	PE/SE or EIT	
b. Verify the nominal size of framing members at adjoining panel edges	Y	P	IBC 1704.6	SII	PE/SE or EIT	
b. Verify the nail or staple diameter and length	Y	P	IBC 1704.6	SII	PE/SE or EIT	
b. Verify the number of fastener lines	Y	P	IBC 1704.6	SII	PE/SE or EIT	
b. Verify the spacing between fasteners in each line and at edge margins	Y	P	IBC 1704.6	SII	PE/SE or EIT	
2. Load Tests for Joist Hangers: Provide evidence of manufacturer's load test in accordance with ASTM D1761 including the vertical load bearing capacity, torsional moment capacity, and deflection characteristics when there is no calculated procedure recognized by the code.	N	S	IBC 1716 [submit ICBO reports]	SII	PE/SE or EIT	
3. Metal-plate-connected wood trusses spanning 60 feet or greater:						
a. Verify the temporary installation restraint / bracing and the permanent individual truss member restraint / bracing is installed per the approved truss submittal package.	N	P	IBC 1704.6.2.	SII	PE/SE or EIT	

**SEISMIC RESISTANCE CHECK LIST [IBC 1705.3]**

**Seismic Design Category**    **B**

**FOR SEISMIC DESIGN CATEGORY C OR HIGHER:**

**Structural:**

The seismic-force-resisting systems

Steel Braced Frames and associated connections/anchorage (Not required for SDC C, R=3)

Steel Moment Frames and associated connections (Not required for SDC C, R=3)

Shear walls:    CMU    Wood    Concrete                       Diaphragms:    Floor    Roof

Other:

**WIND RESISTANCE CHECK LIST [IBC 1705.4]**

**Wind Exposure Category**    **B**

REQUIRED	NOT REQUIRED	NOT APPLICABLE	WIND RESISTANCE REQUIREMENTS
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	In wind exposure Category B, where the 3-second-gust basic wind speed is 120 miles per hour (mph) (52.8 m/sec) or greater.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	In wind exposure Categories C and D, where the 3-second-gust basic wind speed is 110 mph (49 m/sec) or greater.

**End of Structural Statement of Special Inspections**