Statement of Special Inspections

Project:	Sherman School Rer	novation Project					
Location:	2 Route 37E, Sherman, Connecticut						
Owner:	Town of Sherman						
Architect of	Record:	Antinozzi Asso	ciates				
	Engineer of Record:	e2 engineers					
Special Insp Special Insp Coordinator	pection and Structural Topection services application and the identity of other Statement of Special Insp	Testing requirement able to this project approved agence bections encompactural	ents of the Building ect as well as th ies to be retained f				
the Building discrepancie discrepancie the Register the Contract	g Official and the Re es shall be brought to es are not corrected, the ed Design Professional i	gistered Design the immediate discrepancies sha in Responsible Ch sponsibilities. Sp	Professional in attention of the oall be brought to the harge. The Special ecial Inspections	and shall furnish inspection reports to Responsible Charge. Discovered Contractor for correction. If such a attention of the Building Official and Inspection program does not relieve of Architectural Systems and			
Interim repo		to the Building	Official and the	Registered Design Professional in			
	fany discrepancies note			nired Special Inspections, testing and ed prior to issuance of a Certificate of			
Job site safe	ety and means and meth	ods of constructio	n are solely the res	ponsibility of the Contractor.			
Interim Repo	ort Frequency: Month	ly		or per attached schedule.			
Prepared by	:			WILLIAM CONNECTION			
R. Scott Er	ricson. P.E.			TO SOUTH FROM THE SECOND OF TH			
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Signature			Date	Design Professional Seal			
Owner's Aut	Owner's Authorization: Building Official's Acceptance:						
Signature		 Date	Signature	Date			
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Schedule of Inspection and Testing Agencies

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

Soils and Foundations
Cast-in-Place Concrete
Wood Construction
Precast Concrete
Exterior Insulation and Finish System
Masonry
Mechanical & Electrical Systems
Structural Steel
Cold-Formed Steel Framing
Special Cases

Special Inspection Agencies	Firm	Address, Telephone, e-mail
Special Inspection Coordinator	e2 engineers	488 Montauk Avenue New London, CT 06320 860-437-3259 scott.erricson@e2engineers.com christopher.wenderoth@e2engineer s.com
2. Geotechnical Engineer	Down to Earth Consulting	27 Siemon Company Drive Suite 363 West Watertown, CT
3. Field Inspector	TBD	TBD
4. Testing Agency	TBD	TBD
5. Testing Agency		
6. Other		

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.

Quality Assurance Plan

Quality Assurance for Seismic Resistance

Seismic Design Category B

Quality Assurance Plan Required (Y/N) N

Description of seismic force resisting system and designated seismic systems: *Intermediate reinforced masonry shear walls.*

Quality Assurance for Wind Requiremen95

Basic Wind Speed (3 second gust), V_{ult} 123mph Nominal Wind Speed (3 second gust), V_{asd} 95mph

Wind Exposure Category

Quality Assurance Plan Required (Y/N)

N

Description of wind force resisting system and designated wind resisting components: Reinforced masonry shear walls, steel systems not specifically detailed for seismic resistance.

Statement of Responsibility

Each contractor responsible for the construction or fabrication of a system or component designated above must submit a Statement of Responsibility.

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 if requested.

Key for Minimum Qualifications of Inspection Agents:

When the Registered Design Professional in Responsible Charge deems it appropriate that the individual performing a stipulated test or inspection have a specific certification or license as indicated below, such designation shall appear below the *Agency Number* on the Schedule.

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

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

Exterior Design Institute (EDI) Certification

EDI-EIFS EIFS Third Party Inspector

Other

Soils and Foundations

Item	Agency # (Qualif.)	Scope	Inspection Frequency
1. Shallow Foundations	2 (PE/GE)	Inspect prepared subgrade/undisturbed native soil at bottom of footings for consistency with presumptive bearing capacities and properties specified in geotechnical report. Each elevator pit slab/footing subgrade shall be inspected.	P
		Ensure that excavation is to proper depth.	P
		Inspect removal of unsuitable material and preparation of subgrade prior to placement of controlled fill	Р
2. Controlled Structural Fill	2,4 (PE/GE)	Perform sieve tests (ASTM D422 & D1140) and modified Proctor tests (ASTM D1557) of each source of fill material.	Р
		Inspect placement, lift thickness and compaction of controlled fill.	С
		Test density of each lift of fill by nuclear methods (ASTM D2922)	P
		Verify extent and slope of fill placement.	Р
3. Deep Foundations	N/A		
Ground Improvement	N/A		
5. Load Testing	N/A		

6. Special Inspection	1	Monitor testing lab and field inspection	С
Coordination:	PE/SE	results to ensure conformance with construction documents. Submit progress reports to the Building Official and Engineer of Record at the stated interim report frequency, including a log of all nonconforming items.	

Inspection Frequency:

C: Continuous

P: Periodic Inspections. Inspection frequency shall be determined by the Geotechnical Engineer (GE.) During ongoing soil and foundation operations, daily (minimum) inspections shall be performed.

Notes:

1. The Testing Agency (Agent #4) shall perform tests under Item 2 and provide results to the Geotechnical Engineer (GE – Agent #2) for review in addition to the parties listed on page 1. The Geotechnical Engineer (GE) shall report any non-conformance issues to the Architect, SER, General Contractor (GC,) and the Special Inspections Coordinator.

Cast-in-Place Concrete

Item	Agency # (Qualif.)	Scope	Inspection Frequency
1. Mix Design	3,4 ACI-CCI ICC-RCSI	Review concrete batch tickets and verify compliance with approved mix design. Verify that water added at the site does not exceed that allowed by the mix design.	Р
2. Material Certification	3,4 ACI-CCI ICC-RCSI	Verify on site materials (reinforcing, forms, accessories, embed items) are in accordance with plans and approved submittals.	P2
3. Reinforcement Installation	3,4 ACI-CCI ICC-RCSI	Inspect size, spacing, cover, positioning and grade of reinforcing steel. Verify that reinforcing bars are free of form oil or other deleterious materials. Inspect bar laps and mechanical splices. Verify that bars are adequately tied and supported on chairs or bolsters Inspect placement of all dowels.	P2
4. Formwork Geometry	3,4 ACI-CCI ICC-RCSI	Observe formwork geometry for column footings, foundation walls, slabs-on-grade, elevated slabs, retaining walls and elevator pits.	P2
5. Welding of Reinforcing	3,4 AWS-CWI	Visually inspect all reinforcing steel welds. Verify weldability of reinforcing steel. Inspect preheating of steel when required.	Р
		Verify weldability of reinforcing bars other than ASTM A706.	Р
		Inspect single-pass fillet welds, maximum 5/16"	Р
		Inspect all other welds	С
6. Anchor Rods	3,4 ACI-CCI ICC-RCSI	Inspect size, positioning and embedment of anchor rods. Inspect concrete placement and consolidation around anchors. Frequency shall be at all brace frames, all concrete piers, and 25% of remaining columns. Inspect concrete placement and consolidation around anchors.	P2
7. Concrete Placement	3,4 ACI-CCI ICC-RCSI	Inspect placement of concrete in column footings, foundation walls, retaining walls, piers, slabs-on-grade, elevated slabs, and elevator pits. Verify that concrete conveyance and depositing avoids segregation or contamination. Verify that concrete is properly consolidated.	С

Sampling and Testing of Concrete	4 ACI-CFTT ACI-STT	Test concrete compressive strength (ASTM C31 & C39), slump (ASTM C143), aircontent (ASTM C231 or C173) and temperature (ASTM C1064).	P3
9. Curing and Protection	3 ACI-CCI ICC-RCSI	Inspect curing, cold weather protection and hot weather protection procedures. Verify method of curing and protection of all concrete is in conformance with contract documents. Frequency of observation shall be one inspection each beginning, mid-point, and end of curing period per application. Notify Special Inspection Coordinator immediately of any deficiencies or deviations from approved curing and protection methods.	P4
10. Non-Shrink Grout for Column Base Plates and Beam Bearing Plates	3 ACI-CFTT ACI-STT	Review material preparation and placement per Manufacturer's requirements. Cast cubes and perform strength tests in conformance with ASTM C-109. Provide one set of six 2"x2" cubes for each 10 cubic feet of grout or fraction thereof for each day's grouting. Review curing and cold/hot weather precautions per Manufacturer's requirements.	P3

11. Mechanical and Adhesive	3 4CI-CCI	Confirm installer qualifications: ACI-Certified	С
11. Mechanical and Adhesive Anchoring	ACI-CCI ICC-RCS	Confirm installer qualifications: ACI-Certified Adhesive Anchor Installer. Witness installation of 100% of adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads as indicated in the Contract Documents. Verify that the work has been performed, the materials used, and the installation procedures used conform to the construction documents and the Manufacturer's Printed Installation Instructions. Witness initial installations of each type and size of mechanical or adhesive anchor by construction personnel on site. Any change in the anchor product being installed or the personnel performing the installation requires an initial inspection. Verify that the work has been performed, the materials used, and the installation procedures used conform to the construction documents and the Manufacturer's Printed Installation Instructions. With the exception of the conditions noted above, witness installation of a minimum of 25 percent of each type of mechanical and adhesive anchor, per Contractor, to verify that the work has been performed, the materials used, and the installation procedures used conform to the construction documents and the Manufacturer's Printed	C
		Installation Instructions.	
12. Special Inspection Coordination	1 PE	Monitor testing lab and field inspection results to ensure conformance with construction documents. Submit progress reports to the Building Official and Engineer of Record at the stated interim report frequency, including a log of all nonconforming items.	С
13. Other: Concrete Strength	1 PE/SE	Verify C.M. has notified Steel Erector in writing that supporting concrete has achieved 75% minimum design 28-day strength.	
14. Other Anchor Rods	1 PE/SE	Verify C.M has notified Steel Erector in writing of any repairs, replacements, and/or modifications to the anchor rods per OSHA.	
15. Other Shop Drawings	3	Verify approved shop drawings are on site and in use.	

Inspection Frequency: C: Continuous

- P: Periodic Inspections.

- P1: If all requirements are met, only one inspection is required.
- P2: Inspect before concrete placement.
- P3: Per Section 033000 "Cast-in-Place Concrete" specification.
- P4: Daily when required by weather conditions (See ACI305R, ACI 306R, ACI 306.1.)

Notes:

Special Inspections not required for the following concrete elements:

- 1. Non-structural concrete slabs supported directly on ground.
- 2. Concrete patios, driveways of sidewalks on grade.

Masonry Required Inspection Level: ☐ A ⋈ B ☐ C

Item	Agency # (Qualif.)	Scope	Inspection Frequency
Material Certification	1,4 PE/EIT	Review material certifications for concrete masonry components to be used in load-bearing, exterior, and interior walls and partitions, and firewall construction.	Р
2. Mixing of Mortar and Grout	1,4 PE/SE	Review proposed mix designs for mortar and grout for familiarity and for conformance with contract documents.	Р
	3,4 EIT ICC-SMSI	Observe proportioning, mixing and retempering of mortar and grout for concrete masonry to be used in masonry walls. Inspect at least once per wall type per story and not less than once per 500 sq. feet of wall.	
3. Installation of Masonry	3,4 EIT ICC-SMSI	Inspect size, layout, bonding and placement of masonry units. Inspect at least once per wall type per story and not less than once per 500 sq. feet of wall. Verify the installation of bond beams and special shapes.	Р
4. Mortar Joints	3,4 EIT ICC-SMSI	Inspect construction of mortar joints including tooling and filling of head joints.	Р
5. Reinforcement Installation	3,4 EIT ICC-SMSI AWS-CWI	Inspect placement, positioning and lapping of reinforcing steel. Inspect at least once per wall type per story and not less than once per 500 sq. feet of wall. Inspect welding of reinforcing steel.	Р
		Verify weldability of reinforcing steel. Inspect preheating of steel when required. Inspect welding of reinforcement	С
6. Grouting Operations	3,4 EIT ICC-SMSI	Inspect placement and consolidation of grout. Inspect at least once per wall type per story and not less than once per 500 sq. feet of wall. Inspect masonry cleanouts for high-lift grouting.	Р
7. Weather Protection	3,4 EIT ICC-SMSI	Inspect cold weather protection and hot weather protection procedures. Verify that wall cavities are protected against precipitation.	Р
8. Evaluation of Masonry Strength	4 EIT ICC-SMSI	Sample and test grout per ASTM C1019. Test compressive strength of mortar and grout cube samples (ASTM C780). Test compressive strength of masonry prisms (ASTM C1314). Frequency shall be at least one inspection per story.	Р

9. Anchors and Ties	3 ICC-SMSI	Verify type, size, location, spacing and embedment of dowels, anchors (incl. adhesive anchors) and ties, including	Р
		details of masonry anchorage to structural members, frames or other construction, for conformance with the contract documents.	
		Perform at least one inspection per 500 sq. ft. of wall.	
10. Mechanical and Adhesive Anchoring	3 ICC-SMSI	Confirm installer qualifications: ACI- Certified Adhesive Anchor Installer	С
		Witness installation of 100% of adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads where indicated in the Contract Documents. Verify that the work has been performed, the materials used, and the installation procedures used conform to the construction documents and the Manufacturer's Printed Installation Instructions.	
		Witness initial installations of each type and size of mechanical or adhesive anchor by construction personnel on site. Any change in the anchor product being installed or the personnel performing the installation requires an initial inspection. Verify that the work has been performed, the materials used, and the installation procedures used conform to the construction documents and the Manufacturer's Printed Installation Instructions.	
		With the exception of the conditions noted above, witness installation of a minimum of 25 percent of each type of mechanical and adhesive anchor, per Contractor, to verify that the work has been performed, the materials used, and the installation procedures used conform to the construction documents and the Manufacturer's Printed Installation Instructions.	
11. Wall Bracing	3 ICC-SMSI	Verify that masonry walls are braced to the structural steel framing in accordance with the project details.	Р

12. Special Inspection Coordination	1 PE	Monitor testing lab and field inspection results to ensure conformance with construction documents. Submit progress reports to the Building Official and Engineer of Record at the stated interim report frequency, including a log of all nonconforming items.	С
13. Other:			
Mortar Strength	(1) PE/SE	Verify C.M. has notified Steel Erector in writing that supporting masonry mortar and grout has achieved 75% minimum of design 28-day strength.	P
Anchor Rods	(1) PE/SE	Verify C.M. has notified Steel Erector in writing of any repairs, replacements and/or modifications to the anchor rods per OSHA.	Р

Inspection Frequency: C: Continuous P: Periodic Inspections.

Structural Steel

Item	Agency # (Qualif.)	Scope	Inspection Frequency
Fabricator Certification/ Quality Control Procedures Fabricator Exempt	1 PE/SE 4 AWS/AIS C-SSI ICC-SWSI	Verify PRIME Fabricator and all sub- contracted fabricators hold AISC Certification prior to start of fabrication when required by Project Specification. Review shop fabrication and quality control procedures for all shops NOT AISC Certified.	P1
2. Material Certification	(1) PE/SE (4) AWS/AIS C-SSI ICC-SWSI	Review certified mill test reports (1) and identification markings on wide-flange shapes, high-strength bolts, nuts and welding electrodes (4). Frequency shall be sufficient to satisfy testing agent and Special Inspection Coordinator.	P2
3. Anchor Rods	3,4 AWS/ AISC-SSI ICC-SWSI	Verify anchor rod diameter, grade, length, locations, and arrangement. Verify that all anchor rods have been properly torqued and have adequate fit-up. Verify plate washers have been installed and welded when indicated.	P2
4. Open Web Steel Joists	N/A		
5. Bolting	3,4 AWS/AIS C-SSI ICC-SWSI (See Notes 2,3)	Inspect installation and tightening of high- strength bolts. Verify that splines have separated from tension control bolts. Verify proper tightening sequence. Continuous inspection of bolts in slip- critical connections; 25% minimum of bolts in other connections. Verify bolt size and grade. Inspect installation and tightening of high strength bolts. Provide continuous inspection of bolts in slip- critical connections. Inspect per Section 9 of the RSCC "Specification for Structural Joints Using A325 or A490 Bolts."	С

6. Welding	3,4 AWS-CWI ASNT	Visually inspect all welds. Inspect preheat, post-heat and surface preparation between passes. Verify size and length of fillet welds. Ultrasonic testing of all full-penetration welds. Provide continuous inspection of all complete and partial penetration groove welds, all multi-pass fillet welds and all single pass fillet welds > 5/16" (see Note 3 and 4 for additional requirements). Check welder qualifications.	P3
7. Shear Connectors	3,4 AWS/AIS C-SSI ICC-SWSI	Inspect size, number, positioning and welding of shear connectors. Inspect studs for full 360 degree flash. Ring test all shear connectors with a 3 lb hammer. Bend test all questionable studs to 15 degrees.	С
8. Structural Details	3 PE/SE	Inspect steel frame for compliance with structural drawings, including bracing, member configuration and connection details.	P2
9. Metal Deck	3,4 AWS-CWI	Inspect welding and side-lap fastening of metal roof and floor deck. Prior to installation, inspect one unit per bundle for depth, gage and profile conforming to project specifications. Visually inspect all installed metal roof and floor deck for conformance with project specification and SDI. Visually inspect welding and side-lap fastening of metal roof and floor deck. Report broken welds or excessive burn through. Check welder qualifications.	P2

10. Expansion and Adhesive Anchoring	3 ACI-CCI ICC-RCSI	Confirm installer qualifications: ACI-Certified Adhesive Anchor Installer. Witness installation of 100% of adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads where indicated in the Contract Documents. Verify that the work has been performed, the materials used, and the installation procedures used conform to the construction documents and the Manufacturer's Printed Installation Instructions. Witness initial installations of each type and size of mechanical or adhesive anchor by construction personnel on site. Any change in the anchor product being installed or the personnel performing the installation requires an initial inspection. Verify that the work has been performed, the materials used, and the installation procedures used conform to the construction documents and the Manufacturer's Printed Installation Instructions. With the exception of the conditions noted above, witness installation of a minimum of 25 percent of each type of mechanical and adhesive anchor, per Contractor, to verify that the work has been performed, the materials used, and the installation procedures used conform to the construction documents and the Manufacturer's Printed Installation	C
11. Special Inspection Coordination	1 PE	Monitor testing lab and field inspection results to ensure conformance with construction documents. Submit progress reports to the Building Official and Engineer of Record at the stated interim report frequency, including a log of all nonconforming items.	С

12. Other: Concrete Strength	(1) PE/SE	Verify C.M. has notified Steel Erector in writing that supporting concrete has achieved 75% minimum of design 28-day strength.	Р
Masonry Strength	(1) PE/SE	Verify C.M. has notified Steel Erector in writing that supporting masonry mortar and grout has achieved 75% minimum of design 28-day strength.	Р
Anchor Rods	(1) PE/SE	Verify C.M. has notified Steel Erector in writing of any repairs, replacements and/or modifications to the anchor rods per OSHA	Р
Shop Drawings	(4)	Verify approved shop drawings are on site and in use.	P

Inspection Frequency:

- C: Continuous
- P: Periodic Inspections.

Add'l Requirements as follows:

P1: If all requirements are met, only one inspection is required.

P2: While steel erection operations are ongoing, daily inspections shall be performed, unless otherwise noted. This inspection frequency may be increased or decreased at the Special Inspections Coordinator's discretion. *P3*: Refer to Section 051000 Structural Steel

Notes:

- 1. Special Inspections Coordinator shall continuously monitor structural steel tests and inspections to assure conformance with the Construction Documents; notify SER of any discrepancies immediately.
- 2. Inspector shall have a minimum of 5 years experience in the inspection of steel structures.
- 3. Review material identification and manufacturer certificates for conformance of weld filler material with AWS Standards and AISC Manual of Steel Construction, ASD. 14th Edition.
- 4. Base metal exceeding 1.5 inches in thick and adjacent to the welds after joint welding.
- Special Inspections of Fabricator is not required if fabricator complies with "Fabricator's Certificate of Compliance."

Cold-Formed Steel Framing

Item	Agency # (Qualif.)	Scope	Inspection Frequency
1. Member Sizes	3,4 AWS- AISC SSI	Verify flange width, flange return lip and web depth conforms to contract documents and approved shop drawings for load bearing studs, joists and special assemblies. Sample a minimum of one unit per bundle.	P
2. Material Thickness	3,4 AWS- AISC SSI	Verify the material gage conforms to contract documents and approved shop drawings for load bearing studs, joists and special assemblies. Sample a minimum of one unit per bundle.	P2
3. Material Properties	3,4 AWS- AISC SSI	Review material certifications to verify yield stress and shop coating of load-bearing studs, joists and trusses conforms to the requirements of the contract documents. Review shipping tickets and/or component markings to verify materials on-site conform to approved shop drawings and material certificates.	P1
4. Mechanical Connections	3,4 AWS- AISC SSI	Visually inspect mechanical field connections for conformance with contract documents, approved shop drawings and approved manufacturer's written instructions.	Р
5. Welding	N/A		N/A
6. Framing Details	3,4 AWS- AISC SSI	Visually inspect all cold-formed steel construction for conformance with approved shop drawings and the design intent of the contract documents.	P2
7. Trusses	N/A		N/A
8. Permanent Truss Bracing	N/A		N/A
11. Special Inspection Coordination	1 PE	Monitor testing lab and field inspection results to ensure conformance with construction documents. Submit progress reports to the Building Official and Engineer of Record at the stated interim report frequency, including a log of all nonconforming items.	С

9. Other: Shop Drawings	3,4 AWS- AISC SSI	Verify approved shop drawings are on-site and in use. Verify design calculations are on file with	P P1
	331	SER for all load bearing members.	r i

Inspection Frequency:

- C: Continuous
- P: Periodic Inspections.

Add'l Requirements as follows:

- P1: If all requirements are met, only one inspection is required.
- *P2*: While cold-form metal framing operations are ongoing, daily inspections shall be performed, unless otherwise noted. This inspection frequency may be increased or decreased at the Special Inspections Coordinator's discretion.