

Madison County

&

**James Madison Building
Code Officials Association
Region Four (4)
Special Inspection
Guidelines and Procedures**



Effective: NOVEMBER 20TH 2008

Participating Localities:

**Albemarle
Buckingham
Charlottesville
Culpeper County
Cumberland
*Fauquier
Fluvanna
Goochland
Green
Louisa
Madison
Nelson
Orange
*Prince Edward
Rappahannock
Spotsylvania**

* Not actually in Region Four but will be adopting the program.

ACKNOWLEDGMENTS

Region Four would like to recognize the hard work and dedication put into the preparation of their document by Hampton Roads and the valuable assistance of all of the individuals and organizations who contributed to the creation of *Hampton Roads Regional Special Inspection Guidelines and Procedures*. Their document provided the baseline for our program and will serve to strengthen the special inspection program within Region Four.

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1. Introduction

A. Purpose

The provisions for special inspections are intended to provide a higher degree of scrutiny for aspects of construction that, upon failure, would cause significant harm. These aspects of construction include soil suitability analysis, fabrication and installation of structural steel members, certain concrete and masonry construction, fabrication and installation of wood structural elements, pile and pier foundations, sprayed fire-resistant materials, wall panels and veneer systems, EIFS, special cases, seismic resistance, wind resistance and smoke control systems as detailed in the International Building Code (IBC).

The IBC as adopted by reference through the Virginia Uniform Statewide Building Code (USBC) intends that a qualified person who has demonstrated competence, to the satisfaction of the building official, be in responsible charge of the inspections related to these special types of construction. The Region Four building safety community has joined together in agreement to implement a uniform procedure by which jurisdictions enforce the special inspection requirements of the USBC and all referenced publications and documents. In particular, the chapter, and all referenced areas, on Special Inspections in the International Building Code, will be the governing document for this program. The chapter on special inspections clearly delineates the requirements and or source documents related to all facets of the inspections process to include initial submission requirements to reporting and the final report on special inspections.

This process is intended as a safeguard for public safety and general welfare ensuring a standardized process is followed when dealing with areas or systems defined under the special inspection criteria. This is accomplished through:

- Clearly defining the responsibility of all parties involved in the special inspection process and
- Standardizing the necessary qualifications required for Special Inspectors and Laboratories and
- Applying the special inspection provisions of the USBC in a consistent manner across the Region Four Community.

It must also be understood that in order to comply with the requirements of this document the firm/company desiring to be a Special Inspector for Madison County must have, or have access to, all currently adopted publications identified in the referenced standards of the USBC.

2. Definitions

Words used in this procedure shall have a meaning as defined in the USBC and the IBC. Unless otherwise expressly stated, other words and terms shall have the meaning shown in this procedure. Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies.

Agents of Special Inspector (Agents). Qualified individuals or agencies working under the direction of the SI who are providing the inspections and tests necessary to complete the special inspection process.

Approved. As defined by the AHJ.

Approved agency. An approved agency responsible for laboratory testing or special inspections, or both, must comply with the qualification, certification and experience requirements of ASTM E 329 or the alternatives listed in the current edition of the USBC.

Approved documents. As approved per the Authority Having Jurisdiction.

Approved fabricator. An established and qualified person, firm or corporation approved by the building official pursuant to the applicable chapter in the IBC on Special Inspections.

Authority Having Jurisdiction (AHJ) Is that individual whose title is interchangeable with that of the **Building Official**. For the purpose of this document when the term **Building Official** or **AHJ** is used their meaning is interchangeable. It is that individual responsible for enforcing the requirements of the code or standard, or for approving equipment, materials, an installations, or a procedure.

Architect of Record (AR). The registered design professional (RDP) retained by the Owner to design or specify architectural construction in accordance with the USBC and whose signature and seal appears on the approved architectural construction documents.

Building Official. The local government authority charged with the administration and enforcement of the USBC. This shall include any duly authorized technical assistant as specified in the USBC.

Construction documents. Written, graphic and pictorial documents prepared or assembled for describing the design, location and physical characteristics of the elements of a project necessary for obtaining a building permit.

Contractor: A general contractor licensed in the Commonwealth of Virginia (See Commonwealth of Virginia, Title 54.1)

Fabrication item. Structural, load-bearing or lateral load-resisting assemblies consisting of materials assembled prior to installation in a building or structure or subjected to operations such as heat treatment, thermal cutting, cold working or reforming after manufacture and prior to installation in a building or structure. Materials produced in accordance with standard specifications referenced by this code, such as rolled structural steel shapes, steel-reinforcing bars, masonry units and wood structural panels shall not be considered “fabricated items.”

Fabrication and erection documents. All of the written, graphic, and pictorial documents prepared or assembled after issuance of a building permit and in addition to the municipality approved construction documents, describing the design, location, and physical characteristics of the building components or materials necessary for fabrication, assembly, or erection of the elements of the project. (Examples would include, but are not limited to, concrete reinforcing shop drawings, steel fabrication and erection shop drawings, and metal building fabrication and erection shop drawings.)

Final Report of Special Inspections. A certification by the special inspector which shall indicate that all construction elements subject to special inspections as identified by the jurisdiction approved Statement of Special Inspections (SSI) for all materials or phases of construction have been inspected prior to concealment, and in the special inspector’s professional opinion and knowledge, the construction project complies with jurisdiction’s approved Construction Documents.

Geotechnical Engineer of Record (GER). The RDP retained by the Owner to design or specify earthwork and foundations in accordance with the USBC, and whose seal and signature appear on the jurisdiction approved geotechnical report.

Inspection. The continuous or periodic observation of work and the performance of tests for certain building or structural components to establish conformance with jurisdiction approved documents as required by the USBC and the IBC.

Inspection certificate. Identification applied on a product by an approved agency containing the name of the manufacturer, the function and performance characteristics, and the name and identification of an approved agency that indicates that the product or material has been inspected and evaluated by an approved agency.

Inspection and testing agency. An accredited and recognized agency or agencies, retained by the Owner, independent of the contractors performing the work subject to special inspections, to perform special inspections and materials testing required by the USBC and the IBC.

Owner. Any person, agent, firm or corporation having a legal or equitable interest in the property.

Pre-engineered structural elements. Structural elements specified by the SER but which may be designed by a specialty RDP. (Examples are items such as open web steel joists and joist girders; wood trusses; combination wood, metal and plywood joists; pre-cast concrete elements; prefabricated wood or metal buildings; tilt-up concrete panel reinforcement and lifting hardware.)

Primary structural system. The combination of elements which serve to laterally brace and support the weight of the building's structural shell, the applicable live loads based upon use and occupancy, wind, snow, ice, thermal and seismic environmental loads.

Registered Design Professional (RDP). An architect or professional engineer, licensed to practice architecture or engineering, as defined under Section 54.1-400 of the Code of Virginia.

Registered Design Professional(s) of Record. The RDP whose professional seal and signature appears on the construction documents that require special inspection(s).

Special Inspection, continuous. The full-time observation of work requiring special inspection by an approved special inspector who is present in the area where the work is being performed.

Special Inspection, periodic. The part-time or intermittent observation of work requiring special inspection by an approved special inspector who is present in the area where the work has been or is being performed and at the completion of the work.

Sprayed fire-resistant materials. Cementitious or fibrous materials that are spray applied to provide fire-resistant protection of structural members.

Structural observation. The visual observation of the structural system by a registered design professional for general conformance to the approved construction documents at significant construction stages and at completion of the structural system.

Note: Structural observations does not include or waive the responsibility for the inspection required by other requirements of the code.

Shall. This term indicates mandatory requirements.

Special Inspector (SI). The SI is the RDP who is directly responsible for special inspections, materials testing and related services as described in the approved SSI. The SI shall be retained by the Owner, independent of the contractors performing the work subject to special inspection. The SI must be approved by the RDP responsible for the design and the building official.

Statement of Special Inspections (SSI). The SSI is a statement prepared by an RDP and shall be approved by the appropriate RDP(s) of Record and submitted to the applicable jurisdiction in which work is to be performed by the permit applicant. If a pre-construction conference is required by the jurisdiction the SSI document will be presented at that time, otherwise it will be provided per the Authority Having Jurisdiction, requirements. The SSI includes the scope (schedule) of the special inspection services applicable to a construction project, and the RDPs and inspection and testing agencies that will provide those services. **The SSI is required as a condition for permit issuance in accordance with IBC as amended by USBC and must be approved by the Building Official.**

Structural Engineer of Record (SER). The RDP retained by the Owner to design or specify structural documents in accordance with the USBC, and whose signature and seal appear on the jurisdiction approved structural construction documents.

Structure. An assembly of materials forming a construction for occupancy or use including stadiums, gospel and circus tents, reviewing stands, platforms, staging, observation towers, radio towers, water tanks, storage tanks (underground and aboveground), trestles, piers, wharves, swimming pools, amusement devices, storage bins, and other structures of this general nature but excluding water wells. The word "structure" shall be construed as though followed by the words "or part or parts thereof" unless the context clearly requires a different meaning. "Structure" shall not include roadway tunnels and bridges owned by the Virginia Department of Transportation, which shall be governed by construction and design standards approved by the Virginia Commonwealth Transportation Board.

3. Responsibilities

Building Official: is responsible for the issuance of the building permit and a Certificate of Occupancy, if required. Prior to issuing the building permit, the Building Official will review and approve the Construction Documents, the SSI, and the qualifications of the SI and the Agents. The Building Official shall review field reports of special inspections as directed by these guidelines and procedures. The Building Official has the authority to issue a stop work order if it is found that the approved special inspectors or laboratories are not being utilized to perform required special inspections. The Certificate of Occupancy or final inspection shall be issued only after the Building Official has received and approved the Final Report of Special Inspections.

Contractor: is responsible for the construction of the project in accordance with the approved Construction Documents and the USBC. In addition, the Contractor is responsible for controlling the quality of construction and for providing the SI and Agents safe access to the elements that require inspection or testing. The Contractor shall coordinate construction related activities, including scheduling and timely notification of the need for Special Inspections and shall cooperate with the project's design professionals, including the SI and Agents. The Contractor shall make the site available for inspections as necessary and shall deliver samples for testing when needed. The Contractor shall respond promptly when informed of nonconforming work. The special inspection process does not relieve the Contractor of responsibility for quality control.

Owner: Where application is made for construction as described in this section, the owner shall employ one or more special inspectors to provide inspections during construction on the types of work identified in the applicable chapter of the International Building Code on Special Inspections. All individuals or agents performing special inspection functions shall operate under the direct supervision of an RDP in responsible charge of special inspection activities; also known as the "special inspector." The special inspector shall ensure that the individuals under their charge are performing only those special inspections or laboratory testing that are consistent with their knowledge, training and certification for the specified inspection or laboratory testing.

The owner shall be responsible for the fees and costs related to the performance of special inspection services. The Owner or their authorized agent shall sign the SSI.

Exceptions:

1. Special inspections are not required for work of a minor nature or as warranted by conditions in the jurisdiction as approved by the building official.
2. Special inspections are not required for building components unless the design involves the practice of professional engineering or architecture as defined by the laws of this Commonwealth and regulations governing the professional registration and certification of engineers or architects.
3. Unless otherwise required by the building official, special inspections are not required for occupancies in Group R-3, R-4 or R-5 and occupancies in Group U that are accessory to a residential occupancy including, but not limited to, those listed in Section 312.1.

Personnel. An approved agency shall employ experienced personnel educated in conducting, supervising and evaluating tests or inspections, or both. Upon request by the building official, documentation shall be provided demonstrating the applicable agency's accreditation as noted in ASTM E 329 and individuals' resumes indicating pertinent training, certifications and other qualifications for special inspection personnel associated with the proposed construction requiring special inspections. The building official may prescribe the manner of qualification documentation and frequency of updating information regarding agency or individual inspector approval. Firms providing special inspection services or individual inspectors seeking approval of alternative certifications or qualifications, or both, listed in ASTM E 329 may submit documentation demonstrating equivalency. This documentation may include evidence of meeting other recognized standards or alternative certifications to demonstrate that the minimum qualifications, certification and experience intended by ASTM E 329 have been met. The building official may, if satisfied that equivalency has been demonstrated, approve the credentials of the firm or individual.

Registered Design Professional (RDP): shall be responsible for informing the Owner of the need to provide for Special Inspections and for assisting the Owner as may be needed to retain the services of an SI. An RDP shall complete a SSI that shall include the special inspector(s) and Agent(s). The RDP shall also review and act upon conditions noted in interim special inspection reports. The RDP shall also be responsible for supplying the SI with the necessary copies of current appropriate Construction Documents and approved submittals, fabrication, and erection documents, including those revisions and change orders affecting work to be inspected or tested. All issues related to Special Inspections will be in accordance with the USBC and the International Building Code (IBC), to include all referenced documents.

Special Inspector (SI): is responsible for performing, documenting, managing and coordinating the special inspections and the efforts of the various Agents. Individual Agents may be retained by the Owner or by the SI, but they are responsible to the SI. The Agents who are responsible for conducting inspections or tests shall be identified in the SSI that is submitted to the Building Official. The SI shall provide copies of inspection reports to the RDP of Record, Owner, Contractor and Building Official. All discrepancies shall be brought to the attention of the Contractor for correction. The SI shall report deviations from the approved Construction Documents to the appropriate RDP of Record for their resolution. Uncorrected work shall be reported to the Building Official and the appropriate RDP of Record.

Structural Engineer of Record (SER): shall be responsible for identifying in the Construction Documents the specific structural special inspections to be performed for the project in order to meet the requirements of the USBC and any other requirements specified by the SER.

4. The Requirement for Special Inspections

The USBC requires special inspections be made in accordance with the requirements of the IBC. The requirements for special inspections shall be determined prior to and are requisite for issuance of the building permit. Special inspections are required for building components identified in the IBC when the design of these components is required to be performed by a professional engineer or architect. (See attached CHART A in Appendix B which is taken from § 54.1 – 402 of the Code of Virginia.)

When Special inspections are not required:

Exceptions:

1. Special inspections are not required for work of a minor nature or as warranted by conditions in the jurisdiction as approved by the building official.
2. Special inspections are not required for building components unless the design involves the practice of professional engineering or architecture as defined by the laws of this Commonwealth and regulations governing the professional registration and certification of engineers or architects.
3. Unless otherwise required by the building official, special inspections are not required for occupancies in Group R-3, R-4 or R-5 and occupancies in Group U that are accessory to a residential occupancy including, but not limited to, those listed in Section 312.1.

Note: Check the requirements for each component of a building or structure listed in the IBC Chapter on Special Inspections to determine if the exceptions to the requirement for special inspections of that component are applicable.

5. Special Inspector Qualifications

The special inspector shall be a qualified person who shall demonstrate competence, to the satisfaction of the building official, for inspection of the particular type of construction or operation requiring special inspection. Special inspectors/agents are under the direct supervision of an RDP in responsible charge and shall perform special inspections. The RDP shall ensure that the individuals under their charge are performing only those special inspections that are consistent with their knowledge and training.

All laboratory facilities performing testing shall be operated under the direct supervision of an RDP and shall meet the requirements of ASTM E329. Written documentation shall be provided to the building official of the applicable Agency's laboratory accreditation and/or special inspection personnel qualification(s) and certification(s).

6. Pre-construction Meeting

Each jurisdiction may require a pre-construction meeting to discuss policies and procedures related to their programs and processes. Prior to this meeting all paperwork related to the Special Inspection process must be submitted to the Authority Having Jurisdiction. It is the responsibility of the Special Inspector to ascertain the required submission date for required documentation. The time and location of the pre-construction meeting will be generated by the AHJ.

The following individuals need to attend the Pre-construction meeting:

- Special Inspector (and Agents if required by the SI)
- Contractor
- Subcontractor's representatives for each trade

- Owner (or designee)
- RDP(s) of Record for each scope of work specified in the SSI
- Building Official (or designee)

The meeting is a forum to review, explain, discuss or obtain the following:

- Specific requirements of the jurisdiction related to their administrative and inspection process.
- Issues related to Special Inspections identified by the AHJ or SSI.
- Expected oversight by the Building Official.
- Timely notification required by the Contractor to the SI of on SI related inspections.
- Procedures to document, correct, re-inspect, and complete items found to be non-compliant or deficient.
- Contact information of key individuals involved with the project.
- Discussion of the inspections and testing to be performed.
- Proper submission and distribution of reports and supplemental information.
- Discussion on coordination of all work to be performed in accordance with the current adopted code of the Commonwealth of Virginia.
- Requirements for changes to construction or Special Inspection documents.

7. Completing the Statement of Special Inspection (SSI)

Three documents comprise the Statement of Special Inspections. The first document is an administrative document containing contact information and signatures of key people involved in the process, to include the seal of the RDP. The second document, the actual nuts and bolts of the project identifies all “Special Inspections” unique to the project. The third document provides contact information and numbering identification of the Agent used on the Statement of Special Inspections.

The following forms comprise the Statement of Special Inspections package:

- a) **Statement of Special Inspections Authorization Letter**. Provided as enclosure (1)
- b) **Statement of Special Inspections**, the document format required for you to submit your list of Special Inspections can be found in the current chapter of the IBC under Special Inspections. These tables shall be replicated to identify the Special Inspections unique to the project you are submitting and is attached as enclosure (2).
- c) **Identification Information on “Agents”** used to perform Special Inspections. Provided as enclosure (3)

Exceptions:

1. A statement of special inspections is not required for structures designed and constructed in accordance with the conventional light frame construction found in the current adopted construction provisions of the IBC.
2. The statement of special inspections may be prepared by a qualified person approved by the building official for construction not designed by a registered design professional.
3. The SI will provide in the format identified on enclosure (2) information detailing the scope of the special inspections applicable to the project.

NOTE: Changes to the approved special inspector or testing laboratory after a permit has been issued must be submitted in the form of a new Statement and Schedule of Special Inspections and

8. Reports of Special Inspections

The SI shall provide copies of inspection reports to the SER, Owner, Contractor, and Building Official. The SI shall report deviations from the approved Construction Documents to the appropriate RDP for their resolution before proceeding with the inspection of the deficient work. As a norm all reports of inspections to include test reports shall be submitted, electronically via fax or e-mail to the Building Official, within a twenty-four hour (24) period, (or a time-frame set by the Building Official) to ensure a work stoppage is not created. The paper copy with the appropriate wet seal shall be submitted within seven (7) working days (or a time-frame agreed upon by the Building Official) of the inspection or test performed to all parties. This process is designed to prevent scenarios that would allow any concealment of areas where the work scheduled to be inspected has not been seen by the special inspector. Unless verification has been received that the special inspection has been successfully performed no further work should proceed on the particular area that has the deficiency. Special inspection and testing reports shall indicate that the specified work has been inspected and found to be in compliance with the approved construction documents unless deficiencies are noted. Reports containing deficiencies or non-compliant work shall describe the nature and specific location of the discrepancies.

The following reports shall be submitted at the time frame indicated:

- **Daily/Weekly** inspection reports shall be submitted in the format designated by the jurisdiction in which the inspections are being performed. The AHJ will provide you with contact points of who will be performing reviews and how they should be submitted. I.E. Hard copy or electronically. Each inspection report shall have each item, which has not met the inspection criteria, labeled as a “**DEFICIENCY**” in bold print to provide easier identification. All reports shall be sequentially numbered for tracking purposes.
- “**DEFICIENCY**” **report, submission times to be per the AHJ**, shall be generated, based on the AHJ requirements, to provide amplifying data on deficiencies.
- A **Final report, enclosure (4)** documenting all special inspections with deficiencies to include corrective action taken shall be submitted at the completion of the project but prior to the final inspection be scheduled. The report shall identify that all deficiency reports by number, have been resolved. All non-compliant work shall be documented as having been corrected and approved and wet sealed by the RDPs of Record, as appropriate. This report is an electronic document provided with this document.

Special Notes: 1. In some instances the Building Official may require additional reports of inspections on specific phases or particular construction discipline of the project. A separate final report is required for this phase if this condition exists.

2. The Building Official’s review and approval is required prior to approving a request for the final building inspection or issuance of a Certificate of Occupancy.

9. Referenced Documents

- The current adopted addition of the USBC.
- The current adopted edition of the IBC published by the International Code Council.
- ASTM E-329.

A/E SEAL ON DRAWINGS

The purpose of these charts and notes is for quick reference to determine in accordance with § 54.1 - 402 of the Code of Virginia if an architect's or engineer's (A/E) seal is required on documents for proposed construction.

CHART A - GENERAL DESIGN

A proposed structure which is classified within any of the categories marked "Yes" requires an A/E seal on the documents. Separate requirements apply as to when the electrical, plumbing or mechanical systems in such structures require an A/E seal (see Charts B and C).

GROUP	BRIEF DESCRIPTION	AREA (SQ. FT.)			HEIGHT (STORIES)	
		5,000 OR LESS	5,001 TO 15,000	OVER 15,000	3 OR LESS	OVER 3
A ¹	ASSEMBLY	YES	YES	YES	YES	YES
B	BUSINESS	-	YES	YES	-	YES
E	SCHOOLS & DAY CARE CENTERS	YES	YES	YES	YES	YES
F	FACTORY & INDUSTRIAL	-	-	YES	-	YES
H	HIGH HAZARD	YES	YES	YES	YES	YES
I	INSTITUTIONAL	YES	YES	YES	YES	YES
M	MERCANTILE	-	YES	YES	-	YES
R-1	HOTEL, MOTEL & DORMITORY	YES	YES	YES	YES	YES
R-2 ⁷	MULTI-FAMILY RESIDENTIAL	-	-	YES	YES	YES
R-3	2 FAMILY ATTACHED	-	-	YES	-	YES
R-4	RESIDENTIAL ASSISTED LIVING	-	-	YES	-	YES
R-5	1 & 2 FAMILY DWELLINGS	-	-	YES	-	YES
S	STORAGE (NON-FARM)	-	-	YES	-	YES
U	UTILITY & MISCELLANEOUS	-	-	YES	-	YES
ALL	INTERIOR DESIGN	SEE NOTE NUMBER 4				

Notes: (Apply the following notes to all categories as applicable.)

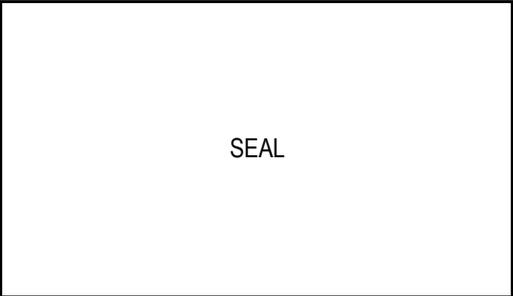
1. Churches are exempt if building does not exceed 5,000 square feet or three stories, and the occupant load does not exceed 100.
2. A local building code official may require an A/E seal even if not required to do so by this chart.
3. The law requires that, where an A/E seal is not present, the plans must be signed by the individual (not company) responsible for the design, including the individual's occupation and address.
4. Additions, remodeling or interior design defined under § 54.1-400 of the Code of Virginia might not require an A/E seal. For construction, additions or remodeling resulting in a change in occupancy, occupancy load, modification to the structural system, change in access or egress or an increase in fire hazard an A/E seal is required in accordance with § 54.1-400, although notes 1 and 2 still apply.
5. Any unique design of structural elements for floors, walls, roofs or foundations requires an A/E seal, regardless of whether or not the remainder of the plans require such certification.
6. Buildings, structures, or electrical and mechanical installations which are not otherwise exempted but which are of standard design, provided they bear the certification of a professional engineer or architect registered or licensed in another state, and provided that the design is adapted for the specific location and conformity with local codes, ordinances and regulations, and is so certified by a professional engineer or architect licensed in Virginia may not require an A/E seal.
7. One exit and three stories or less Group R-2 buildings would normally be exempted from an A/E seal except where required by Note 2. Most all other three

REGION FOUR STATEMENT OF SPECIAL INSPECTIONS

PROJECT NAME & ADDRESS		
PERMIT APPLICANT		
ADDRESS		
PHONE NO:		
CELL NO.		
E-MAIL		
FAX-NO		
STRUCTURAL ENGINEER OF RECORD		
ADDRESS		
PHONE NO:		
CELL NO.		
E-MAIL		
FAX-NO		
ARCHITECT OF RECORD		
ADDRESS		
PHONE NO:		
CELL NO.		
E-MAIL		
FAX-NO		

PREPARED BY:

RDP (PRINT)



SPECIAL INSPECTOR (PRINT)
SI SIGNATURE & DATE
RDP OF RECORD SIGNATURE & DATE
SER OF RECORD SIGNATURE & DATE

APPLICANT'S SIGNATURE & DATE
OWNER'S AUTHORIZATION (IF NOT APPLICANT)
BUILDING OFFICIAL'S ACCEPTANCE & DATE

This Statement of Special Inspections is submitted as a condition for permit issuance in accordance with the International Building Code (IBC) as stated in the Virginia Uniform Statewide Building Code (USBC). The Special Inspector shall keep records of all inspections, and shall furnish inspection and correction reports to the Building Official, RDP of Record, Owner and Contractor.

NOTE: All fees and costs related to the performance of special professional services, I.E. Special Inspections, shall be the responsibility of the owner.

**TABLE 1704.3
REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION**

VERIFICATION AND INSPECTION	CONT	PER	REFERENCED STANDARD ^a	IBC REFERENCE	AGENT/S NUMBER
1. Material verification of high-strength bolts, nuts and washers:					
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	—	X	Applicable ASTM material specifications; AISC 360, Section A3.3	—	
b. Manufacturer's certificate of compliance required.	—	X	—	—	
2. Inspection of high-strength bolting:					
a. Bearing-type connections.	—	X	AISC 360, Section M2.5	1704.3.3	
b. Slip-critical connections.	X	X			
3. Material verification of structural steel:					
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	—	—	ASTM A 6 or ASTM A 568	1708.4	
b. Manufacturers' certified mill test reports.	—	—	ASTM A 6 or ASTM A 568		
4. Material verification of weld filler materials:					
a. Identification markings to conform to AWS specification in the approved construction documents.	—	—	AISC 360, Section A3.5	—	
b. Manufacturer's certificate of compliance required.	—	—	—	—	
5. Inspection of welding:	—	—			
a. Structural steel:					
1) Complete and partial penetration groove welds.	X	—	AWS D1.1	1704.3.1	
2) Multipass fillet welds.	X	—			
3) Single-pass fillet welds $> \frac{5}{16}$ "	X	—			
4) Single-pass fillet welds $\leq \frac{5}{16}$ "	—	X			
5) Floor and roof deck welds.	—	X	AWS D1.3	—	
b. Reinforcing steel:	—	—	AWS D1.4	—	

VERIFICATION AND INSPECTION	CONT	PER	REFERENCED STANDARD ^a	IBC REFERENCE	AGENT/S NUMBER
			ACI 318: 3.5.2		
1) Verification of weldability of reinforcing steel other than ASTM A 706.	—	X			
2) Reinforcing steel-resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special reinforced concrete shear walls and shear reinforcement.	X	—			
3) Shear reinforcement.	X	—			
4) Other reinforcing steel.	—	X			
6. Inspection of steel frame joint details for compliance with approved construction documents: a. Details such as bracing and stiffening. b. Member locations. c. Application of joint details at each connection.	— — —	X — —	—	1704.3.2	

For SI: 1 inch = 25.4 mm.

a. Where applicable, see also Section 1707.1, Special inspection for seismic resistance.

**TABLE 1704.4
REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION**

VERIFICATION AND INSPECTION	CONT	PER	REFERENCED STANDARD^a	IBC REFERENCE	AGENT/S NUMBER
1. Inspection of reinforcing steel, including prestressing tendons, and placement.	—	X	ACI 318: 3.5, 7.1-7.7	1913.4	
2. Inspection of reinforcing steel welding in accordance with Table 1704.3, Item 5b.	—	—	AWS D1.4 ACI 318: 3.5.2	—	
3. Inspect bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased.	X	—	—	1911.5	
4. Verifying use of required design mix.	—	X	ACI 318: Ch. 4, 5.2-5.4	1904.2.2, 1913.2, 1913.3	
5. At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	X	—	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	1913.10	
6. Inspection of concrete and shotcrete placement for proper application techniques.	X	—	ACI 318: 5.9, 5.10	1913.6, 1913.7, 1913.8	
7. Inspection for maintenance of specified curing temperature and techniques.	—	X	ACI 318: 5.11-5.13	1913.9	
8. Inspection of prestressed concrete: a. Application of prestressing forces. b. Grouting of bonded prestressing tendons in the seismic-force-resisting system.	X X	—	ACI 318: 18.20 ACI 318: 18.18.4	—	
9. Erection of precast concrete members.	—	X	ACI 318: Ch. 16	—	
10. Verification of in-situ concrete strength, prior to stressing of tendons in posttensioned concrete and prior to removal of shores and forms from beams and structural slabs.	—	X	ACI 318: 6.2	—	
11. Inspect formwork for shape, location and dimensions of the concrete member being formed.	—	X	ACI 318: 6.1.1	—	

For SI: 1 inch = 25.4 mm.

a. Where applicable, see also Section 1707.1, Special inspection for seismic resistance.

**TABLE 1704.5.1
LEVEL 1 SPECIAL INSPECTION**

INSPECTION TASK	FREQUENCY OF INSPECTION		REFERENCE FOR CRITERIA			Agent/s Number
	Continuously during task listed	Periodically during task listed	IBC section	ACI 530/ASCE 5/TMS 402 ^a	ACI 530.1/ASCE 6/TMS 602 ^a	
1. As masonry construction begins, the following shall be verified to ensure compliance:						
a. Proportions of site-prepared mortar.	—	X	—	—	Art. 2.6A	
b. Construction of mortar joints.	—	X	—	—	Art. 3.3B	
c. Location of reinforcement, connectors, prestressing tendons and anchorages.	—	X	—	—	Art. 3.4, 3.6A	
d. Prestressing technique.	—	X	—	—	Art. 3.6B	
e. Grade and size of prestressing tendons and anchorages.	—	X	—	—	Art. 2.4B, 2.4H	
2. The inspection program shall verify:						
a. Size and location of structural elements.	—	X	—	—	Art. 3.3G	
b. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction.	—	X	—	Sec. 1.2.2(e), 2.1.4, 3.1.6	—	
c. Specified size, grade and type of reinforcement.	—	X	—	Sec. 1.13	Art. 2.4, 3.4	
d. Welding of reinforcing bars.	X	—	—	Sec. 2.1.10.7.2, 3.3.3.4(b)	—	
e. Protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F).	—	X	Sec. 2104.3, 2104.4	—	Art. 1.8C, 1.8D	
f. Application and measurement of prestressing force.	—	X	—	—	Art. 3.6B	
3. Prior to grouting, the following shall be verified to ensure compliance:						
a. Grout space is clean.	—	X	—	—	Art. 3.2D	
b. Placement of reinforcement and connectors and prestressing tendons and anchorages.	—	X	—	Sec. 1.13	Art. 3.4	
c. Proportions of site-prepared grout and prestressing grout for bonded tendons.	—	X	—	—	Art. 2.6B	
d. Construction of mortar joints.	—	X	—	—	Art. 3.3B	
4. Grout placement shall be verified to ensure compliance with code and construction document provisions.	X	—	—	—	Art 3.5	
a. Grouting of prestressing bonded tendons.	X	—	—	—	Art. 3.6C	
5. Preparation of any required grout specimens, mortar specimens and/or prisms shall be observed.	X	—	Sec. 2105.2.2, 2105.3	—	Art. 1.4	
6. Compliance with required inspection provisions of the construction documents and the approved submittals shall be verified.	—	X	—	—	Art. 1.5	

For SI: °C = (°F - 32)/1.8.

a. The specific standards referenced are those listed in Chapter 35.

**TABLE 1704.5.3
LEVEL 2 SPECIAL INSPECTION**

INSPECTION TASK	FREQUENCY OF INSPECTION		REFERENCE FOR CRITERIA			AGENT/S
	Continuous during task listed	Periodically during task listed	IBC section	ACI 530/ ASCE 5/ TMS 402 ^a	ACI 530.1/ ASCE 6/ TMS 602 ^a	NUMBER
1. From the beginning of masonry construction, the following shall be verified to ensure compliance:						
a. Proportions of site-prepared mortar, grout and prestressing grout for bonded tendons.	—	X	—	—	Art. 2.6A	
b. Placement of masonry units and construction of mortar joints.	—	X	—	—	Art. 3.3B	
c. Placement of reinforcement, connectors and prestressing tendons and anchorages.	—	X	—	Sec. 1.13	Art. 3.4, 3.6A	
d. Grout space prior to grouting.	X	—	—	—	Art. 3.2D	
e. Placement of grout.	X	—	—	—	Art. 3.5	
f. Placement of prestressing grout.	X	—	—	—	Art. 3.6C	
2. The inspection program shall verify:						
a. Size and location of structural elements.	—	X	—	—	Art. 3.3G	
b. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction.	X	—	—	Sec. 1.2.2(e), 2.1.4, 3.1.6	—	
c. Specified size, grade and type of reinforcement.		X	—	Sec. 1.13	Art. 2.4, 3.4	
d. Welding of reinforcing bars.	X	—	—	Sec. 2.1.10.7.2, 3.3.3.4(b)	—	
e. Protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F).	—	X	Sec. 2104.3, 2104.4	—	Art. 1.8C, 1.8D	
f. Application and measurement of prestressing force.	X	—	—	—	Art. 3.6B	
3. Preparation of any required grout specimens, mortar specimens and/or prisms shall be observed.	X	—	Sec. 2105.2.2, 2105.3	—	Art. 1.4	
4. Compliance with required inspection provisions of the construction documents and the approved submittals shall be verified.	—	X	—	—	Art. 1.5	

For SI: °C = (°F - 32)/1.8.

a. The specific standards referenced are those listed in Chapter 35.

**TABLE 1704.7
REQUIRED VERIFICATION AND INSPECTION OF SOILS**

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED	AGENT/S NUMBER
1. Verify materials below footings are adequate to achieve the design bearing capacity.	—	X	
2. Verify excavations are extended to proper depth and have reached proper material.	—	X	
3. Perform classification and testing of controlled fill materials.	—	X	
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of controlled fill.	X	—	
5. Prior to placement of controlled fill, observe subgrade and verify that site has been prepared properly.	—	X	

**TABLE 1704.9
REQUIRED VERIFICATION AND INSPECTION OF PIER FOUNDATIONS**

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED	AGENT/S NUMBER
1. Observe drilling operations and maintain complete and accurate records for each pier.	X	—	
2. Verify placement locations and plumbness, confirm pier diameters, bell diameters (if applicable), lengths, embedment into bedrock (if applicable) and adequate end bearing strata capacity.	X	—	
3. For concrete piers, perform additional inspections in accordance with Section 1704.4.	—	—	
4. For masonry piers, perform additional inspections in accordance with Section 1704.5.	—	—	

Madison County
FINAL REPORT OF SPECIAL INSPECTIONS

The Special Inspections related to the _____ project and identified on the “Statement of Special Inspections” have been completed. All discrepancies noted in previous reports have been resolved and to the best of my knowledge, and belief, there are no outstanding issued related to special inspections required for this project.

The discrepancies noted in inspection report/s number/s _____, have been corrected. The proposed resolution and expected completion date of the deficiencies noted is attached as enclosure (1) to this Final Report of Inspections.

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

Respectfully submitted,

Signature

Date

Type or Print Name

Seal of SI

Note: A final report documenting required special inspections and correction of any discrepancies noted in the inspections shall be submitted at a point in time agreed upon by the permit applicant and the building official prior to the start of work.

Encl (4)