# Hampton Roads Regional Special Inspection Guidelines and Procedures

## 2009 USBC Edition

## Revised: March 23, 2011

### Participating Localities:

**Accomack**
**Cape Charles**
**Chesapeake**
**Chincoteague**
**Franklin**
**Hampton**
**Isle of Wight**
**James City County**
**Newport News**
**Norfolk**
**Northampton**
**Poquoson**
**Portsmouth**
**Suffolk**
**Southampton**
**Virginia Beach**
**Williamsburg**
**York County**

## ACKNOWLEDGMENTS

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# Preface

As noted in the BOCA International manual ***Designing a Special Inspection Program***,

> The effects of structural failures are far too many to list. The seriousness of such events gained the attention of the U.S. government. In August of 1982, a Subcommittee, chaired by Albert Gore, Jr., held investigative hearings to examine the causes of structural failure and find common problems associated with these conditions. The Subcommittee's ultimate goal was to eliminate those problems; thereby, decreasing the number of failures. (BOCA, P. 2)

To accomplish this goal, the Hampton Roads building safety community has joined together to formulate a uniform set of procedures for the manner in which participating jurisdictions enforce special inspection provisions of the Virginia Uniform Statewide Building Code (USBC). The provisions for special inspections are intended to provide a higher degree of expertise in the implementation of the structural design for critical aspects of building construction not normally found in the local building department.

The 2009 USBC effective March 1, 2011, incorporates and amends the International Code Council, Inc. (ICC) 2009 International Building Code. The ***Hampton Roads Regional Special Inspection Guidelines and Procedures*** provides and coordinates the procedures for special inspections that are required by both the referenced USBC and IBC. These procedures and guidelines are intended to be useable during the design and permitting process and on the job site by containing the pertinent information needed for successful application of a special inspection program.

The ***Hampton Roads Regional Special Inspection Guidelines and Procedures*** includes the following:

- The responsibilities of the Registered Design Professional responsible for the structural design;
- The role of each member of the building construction team to include the Registered Design Professionals, Building Owner, Contractors, the Special Inspectors and Agents, and local Building Official;
- The experience and qualifications necessary to supervise and perform special inspections;
- Identification of the required areas of special inspections, and;
- Administrative procedures that include a uniform special inspection form that is accepted by the participating localities, important definitions, reporting requirements, and conflict resolution procedures.

The purpose of the ***Hampton Roads Regional Special Inspection Guidelines and Procedures*** is to increase awareness of the special inspection requirements and to have a uniform procedure applicable throughout the participating Hampton Roads communities. In addition, the procedure should help reduce the problem associated with permitting and performing special inspections in participating localities. Should you have any questions or suggestions for future editions of this document, contact the Procedure Coordinator noted on page 1.

# 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 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 an experienced expert be in responsible charge of the inspection of these special types of construction. The Hampton Roads building safety community has joined together in agreement to implement a uniform procedure for the manner in which jurisdictions enforce the special inspection requirements of the USBC and the IBC. This includes the standard for experience and qualifications necessary to adequately control the work being performed, duties of the special inspector, reporting requirements, as well as oversight by each jurisdiction. It specifies the type and manner of work and how it is to be performed and any supervision required. It also clarifies the requirements for reporting the results and record keeping.

This procedure is intended to safeguard public safety and general welfare through structural strength of building materials by:

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

## B. Background

Numerous structural failures occurred during the late 1970's and early 1980's throughout the United States. These failures resulted in personal tragedies and tremendous property damage costs. However, most if not all of these failures were predicable in nature and centered on one common theme; lack of an adequate construction inspection process.

In August of 1982, the U.S. House of Representatives, Subcommittee on Investigations and Oversight, chaired by Albert Gore, Jr., held investigative hearings to examine the causes of structural failures. This subcommittee was part of the Committee on Science and Technology. In March of 1984, the Committee on Science and Technology's report titled *Structural Failures in Public Facilities*, House Report 98-621, was presented to the 98th Congress. The following are highlights from this report.

The central issue addressed by the Subcommittee was:

> "Are there common problems associated with structural failures, the elimination of which would decrease the number of failures?"

While the Subcommittee identified over twenty contributing factors, two common problems were felt to be the most critical:

- The need for improved organization on construction projects and better communication between participants.
- The need for construction inspection by the Structural Engineer of Record (SER) during the construction of principal structural components.

The Subcommittee found that:

> "For a variety of reasons, the structural engineer of record or his designee is often not present on the job site during the construction of principal structural components. The absence of the structural engineer has permitted flaws and changes on site to go unnoticed and uncorrected."

The Subcommittee recommended that:

> "Professional organizations, such as the Building Officials and Code Administrators International (BOCA), the International Conference and Building Officials (ICBO), and the Southern Building Code Conference International, should make every effort to ensure that provisions are written into the building codes and adopted in public forum which make the on-site presence of the structural engineer mandatory during the construction of structural components on public facilities."

Model code organizations and Building Officials have attempted to address structural failures by enacting and enforcing Special Inspection provisions since 1987. However, the model codes fell short of requiring the Structural Engineer of Record to serve as the Special Inspector.

As time has elapsed and memories fade, special inspections and the role of the Structural Engineer of Record have been topics of controversy and confusion in recent years. Many organizations, such as the American Consulting Engineers Council (ACEC) and the Virginia Structural Engineers Council (VSEC) as well as the Council of American Structural Engineers (CASE), agree with the Subcommittee's recommendations and believe strongly that the Structural Engineer of Record or his Agent should serve as the Special Inspector whenever possible and practical.

## 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 Special Inspectors who are providing the inspections and tests necessary to complete the special inspection process.

***Approved.*** See VCC-202

***Approved agency***. See VCC -1702.1

***Approved documents.*** Includes building construction documents as approved by the municipality including all approved revisions; and also fabrication and erection documents as approved by municipality including all approved revisions.

***Approved fabricator***. See VCC -1702.1

***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.*** See VCC -202

***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.

***Building Occupancy Category.*** See VCC -1603.1.4, 1603.1.5, and 1604.5

***Certificate of Compliance.*** See VCC 1702; document issued by a supplier of materials and products that certifies they meet the specified requirements.

***Construction documents.*** See VCC -202

***Contractor:*** A General Contractor licensed in the Commonwealth of Virginia (See Commonwealth of Virginia, Title 54.1)

***Fabricated item***. See VCC -1702.1

***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 **I**nspector'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***. See VCC 1702.1

***Inspection and testing agency***. An established and recognized agency or agencies, meeting the requirements of ASTM E 329 and accredited, 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. See IBC-1702.1 Approved agency.

***Owner.*** See VCC-202.

***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 Registered Design Professional of Record (PRDP).*** The leader of the design team charged with the preparation of construction documents, either an architect or professional engineer. The Primary Registered Design Professional of Record is responsible for determining and interpreting the needs of the client or for coordinating the work of the other members of the design team.

***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).*** See VCC-202

***Special Inspection, yes (Y), continuous (C), periodic (P), and not required (N).*** See VCC-1702.1

***Sprayed fire-resistant materials***. See VCC-1702.1

***Structural observation.*** See VCC-1702.1

***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 Building Official. The SI shall be listed as Agent 1 on the SSI.

***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 by the permit applicant. The SSI includes the scope (schedule) of the special inspection services applicable to a construction project, and the RDP's 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.*** See VCC-202.

**USBC,** The adopted statewide building code in Virginia and includes Parts I, II, and III.

**VCC,** Virginia Construction Code, Part I of the USBC which adopts and amends the IBC.

## 3. Responsibilities

The **Building Official** is responsible for the issuance of the building permit and the Certificate of Occupancy. 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.

The **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.

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.

The **Primary Registered Design Professional of Record (PRDP)** 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. A RDP shall complete a SSI that shall include the Special Inspectors (SI) 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.

The **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.

The **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. When Special Inspections are required

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.)

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.
- For building components unless the design involves the practice of professional engineering and architecture as defined by the USBC.
- Unless otherwise required by the building official, for occupancies in Groups R-3, R-4 or R-5 and occupancies in Group U that are accessory to a residential occupancy.

Note: Check the requirements for each component of a building or structure listed in IBC Chapter 17 to determine if the exceptions to the requirement for special inspections of that component are applicable.

## 5. Special Cases

As per section 1704.15 of the IBC**,** *Special inspections* shall be required for proposed work that is, in the opinion of the *building official or the RDP*, unusual in its nature, such as but not limited to, the following examples:

- Construction materials and systems that are alternatives to materials and systems prescribed by the building code according to Section 112 USBC.
- Unusual design applications of materials described in the building code.
- Materials and systems required to be installed in accordance with additional manufacturer's instructions that prescribe requirements not contained in the building code or in standards referenced by the building code.

## 6. Special Inspector/Laboratory Qualifications

Special inspections shall be performed by individuals and Agents that are qualified in accordance with these procedures and are under the direct supervision of an RDP in responsible charge of special inspection activities. The RDP shall ensure that the individuals under their charge are performing only those special inspections that are consistent with their knowledge and training for the specified inspections in accordance with the edition of ASTM E329 and the USBC that is in force at the time of permit issuance.

The USBC requires that special inspections must be conducted under the supervision of a registered design professional. This places a requirement that the individual responsible for the coordination of special inspections (Agent 1) must be a Virginia licensed engineer or architect. Individuals or firms that conduct testing and/or special inspections (and the procedures they must follow) must comply with the requirements of ASTM E329. Firms providing special inspection services (or qualifications for individual inspectors) may submit documentation demonstrating equivalency by another recognized standard to the minimum qualifications, certification, and experience requirements of ASTM E329. The Building Official may approve the firm or individual after evaluating and determining that equivalency has been met.

Written documentation shall be provided to the Building Official demonstrating the applicable Agency's laboratory accreditation. Individual resumes indicating pertinent training, certifications, and/or other qualifications shall be provided for special inspection personnel associated with the project. Each local building department may prescribe the manner of qualification documentation and frequency of updating information regarding firm or individual inspector approval.

## 7. Completing the Statement of Special Inspection (SSI)

A complete SSI shall be provided with the application for permit. A complete SSI will contain the following:

- The Statement of Special Inspections form shall be completed to include signatures by the parties identified on the SSI to include:

    - A Registered Design Professional (RDP) is required to complete the statement and schedule. Although not required, typically this is accomplished by a RDP associated with the project design and understanding the critical elements. This can be the Structural Engineer of Record (SER), Special Inspector (SI) or any other RDP knowledgeable of the project that can execute the form. Their name is typed/printed on the line "Type or print name of the preparer of the

Schedule." The Virginia RDP seal and signature of the preparer is to be located above the printed name where indicated.

- The applicant's signature is required if the person applying for the permit is different from the owner. This can be the owner's authorized representative, a RDP authorized by the Owner or the appropriately licensed Contractor that will be performing the work. The Applicant provides a signature on the "Permit Applicant's Signature" line. If the Applicant and Owner are the same and the Owner has signed on the "Owner's Authorization" line, a seperate signature is not required on this line.

- The project Owner's authorization is required as they are responsible for the fees and costs of the Special Inspector. By signing this form, they acknowledge that special inspections are required for the project and agree to notify the Building Official of any changes regarding the special inspection agents. The owner provides a signature on the "Owner's Authorization" line.

- The Primary RDP of Record for the design provides a signature on the "Primary RDP of Record" line. The Primary RDP of Record is ususally the person with the most direct contact with the owner. Typically, this would be the primary design professional that coordinated the completion of the plans. By signing, the Primary RDP of Record is not taking on a responsibility for the entire special inspection process nor approval of the special inspection team. The signature is an acknowledgement that special inspections are required on the job based on the design of his/her project, has advised the owner of their responsibility to provide and pay for special inspections, and has assured that special inspections are properly called for in the schedule for areas dictated by his/her design are incorporated.

- The Structural Engineer of Record (if different from the Primary RDP of Record noted above) signs the SER line. The signature is an acknowledgement that the SER has reviewed the statement to ensure all required inspections dictated by his/her design are incorporated.

- The company name of the Special Inspector (Agent 1) is to be typed or printed on "Special Inspector" line. The RDP overseeing the implementation of special inspections for the project for the above named company will place his/her signature in the "Special Inspector (Signature)" line.

- The Building Official shall sign the form after all required signatures have been executed, he/she is satisfied that the area(s) of special inspections have been properly identified and called for, and he/she is satisfied that the special inspection agents and testing laboratories are properly qualified and certified. The signature of the Building Official shall signify acceptance and approval of the Statement/Schedule of Special Inspections.

- The Schedule of Special Inspections shall be included with proper identification of elements requiring special inspections continuous, periodic, and not required (C, P, N), as well as the associated Agent(s) responsible for inspection and/or testing.

- Agents for special inspections shall be identified to include address, phone number and responsible party. (Agent 1, Agent 2, Laboratory, etc…) Agent 1 shall always be the primary Special Inspector responsible for the coordination of the entire special inspection process.

- Proper documentation as to appropriate qualifications and certifications as discussed in Section 6.

## 8. Pre-construction Meeting

Pre-construction meetings are to be conducted by the SI at the start of the project unless work is of a minor nature and waived by the Building Official. The meeting is to be attended by the following individuals:

- Special Inspector
- Special Inspection Agent(s)
- Contractor
- Subcontractor's representatives for each trade of work specified in the SSI

The following individuals are to be notified of the pre-construction meeting and are encouraged to attend whenever possible:

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

The meeting should provide a forum to review and explain the following:

- Work to be reviewed as specified in the SSI.
- Inspections performed by the Building Official.
- Timely notification required by the Contractor to the SI of when the work is ready for inspections during the course of the work.
- Procedures to document, correct, re-inspect, and complete items found to be non compliant or deficient.
- Identification of the RDP designated to resolve field deviations and non-compliant items if different from the RDPs responsible for preparing the construction documents.
- Contact information of individuals involved with the project.
- Discussion of the inspections and testing to be performed.
- Proper submission and distribution of reports and supplemental information.
- Discussion of coordination of all work to be performed in accordance with the Contract Documents and that no changes shall be permitted unless authorized and approved in writing by the RDP of Record for the work in question.

A report shall be prepared by the SI indicating that the pre-construction meeting was conducted. The report shall indicate the date and location of the meeting, who attended and a brief description of the items discussed. A copy of the report shall be distributed as required in Section 9.

## 9. Reports of Special Inspections

The SI or agent shall provide a report for each inspection according to the standards of ASTM E-329. The SI shall provide copies of inspection reports to the PRDP, 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. All inspection and test reports shall be submitted within seven (7) working days of the inspection or test performed. In no case shall inspections be performed by the Building Official that would allow the concealment of work required to be inspected by the SI unless verification has been received that the special inspection has been successfully performed.

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.

At the completion of a project, all recorded non compliant work shall be documented as having been corrected or approved by the RDP(s) of Record or other RDP(s) responsible for any review and approval of deviations or changes from the approved construction documents as appropriate.

Upon request of the Building Official, the SI shall submit a letter indicating completion of a specific area or phase of special inspections and testing for a particular construction discipline.

## 10. Final Report of Special Inspections

Upon completion of all special inspections and testing specified on the SSI, the SI shall, after review and approval by the appropriate RDP(s), submit a Final Report of Special Inspections, which includes the completed Schedule of Special Inspections, and if applicable, a Fabricator's Certificate of Compliance as required by IBC 1704.2.2 to the Building Official for review and approval. **The Building Official review and approval is required prior to final building inspection approval or issuance of a Certificate of Occupancy.**

## 11. Changes in Design, Construction and Special Inspection Personnel

In the event that the members of the Special Inspections Team or the organizations or individuals contracted as agents to the Special Inspectors are changed during the course of construction, the ***Owner*** shall provide a written notification for such change to the Building Official. Such notice shall identify the replacement organization or replacement individual and shall furnish the documentation necessary; including resume and experience to illustrate such organization or individual is qualified for the work required. The Building Official shall approve or deny such replacement. The ***Owner*** shall then provide a revised Statement of Special Inspections signed by all parties. A new preconstruction meeting with the Design Team, Construction Team, Special Inspection Team, and the replacement organization or a replacement individual must be provided. The ***Owner*** shall ensure that there is a timely transfer of information and responsibility to the replacement party.

## 12. Referenced Documents

- 2009 edition of the Virginia Construction Code that adopts by reference and amends the 2009 edition of the IBC published by the International Code Council.
- ASTM E-329, Standard specification for agencies engaged in construction inspection and testing.

## 13. Revisions to this document (including Statement of Special Inspections)

This document is endorsed by the jurisdictions listed on the cover sheet. Revisions will be made from time to time by this group. Any unauthorized revision may cause the document not to be accepted by the jurisdictions.

**Appendix A**

# HAMPTON ROADS AREA STATEMENT OF SPECIAL INSPECTIONS

**PROJECT**

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**PERMIT APPLICANT**

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**PRIMARY RDP OF RECORD**

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**STRUCTURAL ENGINEER OF RECORD**

_____

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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). It includes a Schedule of Special Inspections applicable to this project as well as the name of the Special Inspector, and the identity of other testing laboratories or agencies intended to be retained for conducting these inspections or tests.

The Special Inspector shall keep records of all inspections, and shall furnish inspection reports to the Building Official, appropriate Registered Design Professional(s) (RDP(s)), Owner and Contractor. All discrepancies shall be brought to the immediate attention of the Contractor for correction. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and appropriate RDP(s). Interim reports shall be submitted to the Building Official, Owner, Contractor, and the appropriate RDP(s) according to the *Hampton Roads Regional Special Inspection Guidelines and Procedures*.

Jobsite safety is solely the responsibility of the contractor. Materials and activities to be inspected are not to include the contractor's equipment and methods used to erect or install the materials listed. **All fees/costs related to the performance of Special Inspections shall be the responsibility of the Owner. Additionally, the undersigned (RDP or SER) are only acknowledging that the items enumerated on the Schedule of Special Inspections are consistent with the required design elements, the applicable sections of the Uniform Statewide Building Code, and their area of expertise.**

**REVIEW, AUTHORIZATION & ACCEPTANCE**

**Permit Applicant** *(If not Owner)***:**

Signature / date: _____

Printed Name: _____

**Owner's Authorization** *(If other than Applicant)***:**

Signature / date: _____

Printed Name: _____

**Primary RDP of Record:**
**(Review and Acceptance of Schedule)**
Signature / date: _____

Printed Name: _____

**SER of Record:**
**(Review and Acceptance of Schedule)**
Signature / date: _____

Printed Name: _____

**Building Official's Acceptance:**

Signature / date: _____

Printed Name: _____

**SCHEDULE OF SI PREPARED BY:**

**Virginia RDP Seal of SSI Preparer**

_____

Printed Name of the Preparer of the Schedule (on line above)

**Special Inspector:**

Signature / date: _____

Printed Name: _____

SI Company Name: _____

# SCHEDULE OF SPECIAL INSPECTIONS

| MATERIAL/ACTIVITY | TYPE OF INSPECTION | APPLICABLE TO THIS PROJECT | | | |
|---|---|---|---|---|---|
| | | Y/C/P/N | EXTENT/REFERENCE | AGENT | COMPLETED |
| **GENERAL** | | | | | |
| Pre-construction conference | Meeting with parties listed in Section 6 of HRRSIGP to discuss Special Inspection procedures | Y | Scheduled by SI with the Contractor prior to commencement of work | 1 and 2 | |
| **EARTHWORK** | | | | | |
| Site preparation (building) | Field testing and inspection | P | Field Review; IBC 1704.7 | 2 | |
| Fill material (building) | Review submittals, field testing and inspection | P | Field Review; IBC 1704.7 | 2 | |
| Fill compaction (building) | In-place density tests | C | Field Review; IBC 1704.7 | 2 | |
| Foundation sub-grade | Field inspection of foundation subgrade prior to placement of concrete | P | Field Review; IBC 1704.7 | 2 | |
| **DEEP FOUNDATION ELEMENTS** | | | | | |
| Materials | Review product, sizes, and lengths | C | IBC 1704.8, .9 or .10 | 1 | |
| Test piles | Monitor driving of test piles | C | IBC 1704.8, .9 or .10 | 2 | |
| Installation | Monitor drilling, placement, driving of piles, including cut off and tip elevation | C | IBC 1704.8, .9 or .10 | 2 | |
| Load test | Monitor pile load test | C | IBC 1704.8, .9 or .10 | 2 | |
| **CONCRETE** | | | | | |
| Materials | Review product supplied versus certificates of compliance and mix design | P | Submittal & Field Review; IBC 1704.4.1; ACI 318: Ch. 4 and 5; IBC 1904.2.2, 1913.2, 1913.3 | 1 | |
| Installation of reinforcing steel, including prestress tendons and anchor bolts as well as welding | Field inspection of placement | C | Field Review; ACI 318:3.5, 3.5.2 & Ch. 7; AWS D1.4; IBC 1704.4, 1911.5, 1913.4 | 1 | |
| Formwork installation | Field inspection | P | Field Review; ACI 318: 6.1.1; IBC 1704.4 | 1 | |
| Concreting operations and placement | Field inspection of placement/sampling | C | Field Review; ACI 318: 5.6, 5.8, 5.9-10; ASTM C 172, C 31; IBC 1704.4, 1913.6, 1913.7, 1913.8, 1913.10 | 2 | |
| Concrete curing | Field inspection of curing process | P | Field Review; ACI 318: 5.11-13; IBC 1704.4, 1913.9 | 1 and 2 | |
| Concrete strength | Evaluation of concrete strength | P | Laboratory Testing; ACI 318: 6.2; IBC 1704.4 | 2 | |
| Application of forces for prestressed concrete | Field inspection | P | Field Review; ACI 318: 18.20 | 1 | |
| Grouting of prestress tendons | Field inspection | C | Field Review; ACI 318: 18.18.4 | 2 | |

| MATERIAL/ACTIVITY | TYPE OF INSPECTION | APPLICABLE TO THIS PROJECT | | | |
|---|---|---|---|---|---|
| | | Y/C/P/N | EXTENT/REFERENCE | AGENT | COMPLETED |
| **PRECAST CONCRETE** | | | | | |
| Verify fabrication/quality control procedures | In-plant inspection of fabrication/quality control procedures** | Y | IBC 1704.2 | 1 | |
| Erection and installation | Review submittals and as-built assemblies; Field inspection of in-place precast | P | ACI 318; Ch. 16; IBC Table 1704.4 | 1 | |
| **MASONRY (Level ____; Based on Occupancy Category __)** | | | | | |
| Materials | Review of products supplied versus certificate of compliance and material submitted | P | Submittal & Field Review; ACI 530.1; ASCE 6; TMS 602; IBC 1704.5, 1708 | 1 | |
| Strength | Testing/review of strength | P | Submittal & Field Review; ACI 530.1; ASCE 6; TMS 602; IBC 1704.5, 2105.2.2, 2105.3 | 2 | |
| Mortar and Grout | Inspection of proportioning and mixing. Placement of mortar only. | P | Field Review; IBC 1704.5, ACI 530.1; ASCE 6; TMS 602 | 2 | |
| Grout placement, including prestressing grout | Verification to ensure compliance | C | Field Review; IBC 1704.5, ACI 530.1; ASCE 6; TMS 602 | 2 | |
| Grout space | Verification to ensure compliance | P | Field Review; IBC 1704.5, ACI 530.1; ASCE 6; TMS 602 | 2 | |
| Mortar, grout, and prism specimens | Observe Preparation | P | Field Review; IBC 1704.5, ACI 530.1; ASCE 6; TMS 602 | 2 | |
| Reinforcement, prestressing tendons, and connections | Inspect condition, size, location, and spacing | C | Field Review; IBC 1704.5; ACI 530.1; ASCE 5; ASCE 6; TMS 402, 602 | 1 | |
| Welding of reinforcing bars | Inspection and testing of welds | C | Field Review; IBC 1704.5, ACI 530.1; ASCE 5; TMS 402 | 2 | |
| Prestressing force | Verify application and measurement | C | Field Review; IBC 1704.5, ACI 530.1; ASCE 6; TMS 602 | 1 | |
| Protection | Inspect procedures for protection during cold and hot weather | P | Field Review; IBC 1704.5, 2104.3, 2104.4; ACI 530.1; ASCE 6; TMS 602 | 1 and 2 | |
| Anchorage | Inspection of anchorages | C | Field Review; ACI 530.1; ASCE 5, ASCE 6; TMS 402; TMS 602; IBC 1704.5 | 1 | |
| Masonry installation | Inspection of placement of masonry and joints | P | Field Review; ACI 530.1; ASCE 6; TMS 602; IBC 1704.5 | 1 and 2 | |
| **STRUCTURAL STEEL** | | | | | |
| Verify fabrication/quality control procedures | In-plant inspection of fabrication/quality control procedures** | Y | IBC 1704.2 | 1 | |
| Bolts, nuts, and washers – materials | Material identification markings<br>Review of certificate of compliance | P | Submittal & Field Review; IBC 1704.3; ASTM; AISC 360, Section A3.3 | 1 | |
| Bolts, nuts, washers – installation | Inspection of in-place high-strength bolts, snug-tight joints, pre-tensioned and bearing type, and slip critical connections | P | Submittal & Field Review; IBC 1704.3.3, AISC 360 Section M2.5 | 1 or 2 | |

| MATERIAL/ACTIVITY | TYPE OF INSPECTION | APPLICABLE TO THIS PROJECT | | | |
|---|---|---|---|---|---|
| | | Y/C/P/N | EXTENT/REFERENCE | AGENT | COMPLETED |
| Structural steel – materials | Material identification markings and review of Certificate of Compliance | Y | Submittal & Field Review; IBC 1704.3, 1708.4, ASTM A6, A568 | 1 | |
| Structural steel details – installation | Inspection of member locations, structural details for bracing, connections, stiffening | P | Submittal & Field Review; IBC 1704.3.2 | 1 | |
| Weld filler materials and welder certification | Review of identification markings, certificate of compliance, and welder certifications | Y | Submittal & Field Review; AISC 360 A3.5 | 1 | |
| Welds | Inspection and testing of welds | C | Field Review; IBC 1704.3.1; AWS D1.1, D1.3 | 2 | |
| Cold-formed steel trusses spanning 60’ or greater | Inspection of temporary and permanent restraints/bracing | P | Field review 1704.3.4 | 1 | |
| **WOOD** | | | | | |
| Verify fabrication/quality control procedures | In-plant inspection of fabrication/quality control procedures** | Y | IBC 1704.2, 1704.6 | 2 | |
| Metal plate connected wood/metal trusses spanning 60’ or more | Approved bracing with submittal | Y/N | IBC 1704.6.2 | 2 | |
| High-Load Diaphragms- Installation | Review submittal and as-built assemblies; Inspection of sheathing, framing size, nail and staple diameter and length, number of fastener lines, and fastener spacing. | C | IBC 1704.1, 1704.6.1 | 1 | |
| **SPRAYED CEMENTITIOUS AND MINERAL FIBER FIRE RESISTIVE MATERIAL** | | | | | |
| Structural member surface conditions | Field Review of surface conditions prior to application | P | AWCI 12-B; IBC 1704.12 | 2 | |
| Application/thickness | Field review of application operations and thickness | P | ASTM E605, AWCI 12-B; IBC 1704.12 | 2 | |
| Mastic & Intumescent Fire Resistant Coating | Field review of application operations and thickness | | AWCI 12-B; IBC 1704.13 | 2 | |
| **EXTERIOR INSULATION AND FINISH SYSTEMS** | | | | | |
| Application | Field Review of application/installation | Y | ASTM E2570, IBC 1704.14 | 2 | |
| **SPECIAL CASES** | | | | | |
| Alternative Materials and Systems | As requested by Building Official, review system and installation | P | IBC 1704.15 | 1 or 2 or 3 | |

| | | | | | |
|---|---|---|---|---|---|
| **MAIN WIND FORCE RESISTING SYSTEM** | | | | | |
| Wind requirements | Review of the system components and installation | P | IBC 1609.1.2. 1705.4, 1705.4.1, 1705.4.2, 1710 | 1 | |
| **SEISMIC FORCE RESISTING SYSTEMS** | | | | | |
| Seismic requirements | Review of the designated seismic systems and seismic force resistance systems | P | IBC 1613, 1705.3, 1705.3.1, 1707, 1708, 1710.2; ASCE 7 | 1 | |
| **SMOKE CONTROL** | | | | | |
| Special Inspection of smoke control systems | Leakage testing and recording of device location. pressure difference testing, flow measurement and detection, and control verification | Y | IBC 1704.16, 1704.16.1, 1704.16.2 | 3 | |

| **INSPECTION AGENTS** | **FIRM** | **ADDRESS** | **TELEPHONE** |
|---|---|---|---|
| 1. Special Inspector: | | | |
| 2. Materials and Testing Laboratory: | | | |
| 3. Special Inspector Smoke Control System: | | | |
| 4. (Additional Agents?) | | | |

Note: * The Qualifications of the Special Inspector and Testing Laboratories are subject to the Approval of the Building Official.
** Inspection of quality control procedures required only if fabricator is not regularly inspected by an independent inspection agency.

# FINAL REPORT OF SPECIAL INSPECTIONS

**PROJECT**

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**PERMIT APPLICANT**

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**PRIMARY RDP OF RECORD**

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**STRUCTURAL ENGINEER OF RECORD**

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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 completed. Attached to this final report are the Certificates of Compliance for shop fabricated load bearing members and assemblies. (Include this statement only if applicable).

The following discrepancies that were outstanding since the last interim report dated_____, have been corrected:

_____
_____
_____

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 **(Agent 1)**

**Seal of SI**

**Upon completion of all special inspections and testing, the SI shall submit a Final Report of Special Inspections to Building Official for review and approval. The Building Official review and approval is required prior to final building inspection approval or issuance of a Certificate of Occupancy.**

# Appendix B 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 |
| R-3 | 2 FAMILY ATTACHED | - | - | YES | - | YES |
| R-4 | RESIDENTIAL ASSISTED LIVING | - | - | YES | - | YES |
| R-5 | 1 AND 2 FAMILY DWELLINGS | - | - | YES | - | YES |
| S | STORAGE (NON_FARM) | - | - | YES | - | YES |
| U | UTILITY & MISCELLANEOUS | - | - | YES | - | YES |
| ALL | INTERIOR DESIGN | SEE NOTE #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 the 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 stories or less Group R-2 multi-family buildings are required by the building officials to have A/E seals for the construction documents.