

Spotsylvania County Special Inspections Program

*County of Spotsylvania
Founded 1721*



Service, Integrity, Pride

2012 Edition

Based on 2012 Edition of Virginia Uniform Statewide Building Code

TABLE OF CONTENTS

Introduction	Page 3
Definitions	Page 3
Duties and Responsibilities	Page 6
Registered Design Professional In Responsible Charge	Page 8
Spotsylvania County Position Regarding The Registered Design Professional in Responsible Charge	Page 8
Special Inspections Classifications	Page 9
When Special Inspections are Required	Page 10
Statement of Special Inspections as a Condition for Permit Issuance	Page 11
Statement of Special Inspections	Page 12
Contractor Responsibility for Additional Wind Or Seismic Resistance Inspections	Page 14
Spotsylvania County Position Regarding Statement of Special Inspection	Page 15
Special Inspector / Laboratory Qualifications	Page 15
Distribution of Inspection Reports	Page 16
Spotsylvania County Requirements Regarding Special Inspection Reports	Page 16
Pre-construction meeting	Page 17

Required Special Inspections per International Building Code	Page 18
1. Fabricators	Page 18
2. Steel construction	Page 18
a) IBC Table 1704.3	Page 21
3. Concrete construction	Page 22
a) IBC Table 1704.4	Page 24
4. Masonry construction	Page 25
a) IBC Table 1704.5.1	Page 27
b) IBC Table 1704.5.3	Page 28
5. Wood construction	Page 29
6. Soils	Page 29
7. Pile foundations	Page 29
8. Pier foundations	Page 29
a) IBC Table 1704.7	Page 30
b) IBC Table 1704.8	Page 31
c) IBC Table 1704.9	Page 31
Soil Investigation and reports	Page 32
9. Sprayed fire-resistant materials	Page 34
10. Mastic and Intumescent Fire Resistant Coatings	Page 35
11. Exterior insulation and finish systems	Page 36
12. Special cases	Page 36
13. Smoke control	Page 37
Referenced Documents	Page 38
Appendix A	Page 39
Statement of Special Inspections	Page 40
Schedule of Special Inspections	Page 41
Final Report of Special Inspections	Page 49
Discrepancy Notice	Page 50
Appendix B	Page 51
§ 54.1 – 402 Chart A – General Design	Page 52

INTRODUCTION

Under the International Building Code (IBC), special inspection is not a voluntary activity. The conditions under which special inspection must be utilized are clearly stated in IBC Section 1704. Special Inspections involve the inspection of fabrication and installation of the structural components of buildings, and work that is considered critical to life safety and property protection. The intent of the Spotsylvania County Special Inspections Program is to clarify when special inspections are required and to clarify what materials, fabrication processes and installation techniques are required to be inspected.

In addition, the Spotsylvania County Special Inspections Program shall define the responsibilities of each of the parties involved regarding the required special inspections and testing. A better understanding of these responsibilities along with cooperation between everyone involved, allows for a more efficient construction site, resulting in an improved quality of construction. This, in turn, enhances public safety.

DEFINITIONS

Approved. Acceptable to the code official or authority having jurisdiction. (IBC-202)

Approved agency. An established and recognized agency regularly engaged in conducting tests or furnishing inspection services, when such agency has been approved. (IBC-1702.1)

Approved fabricator. An established and qualified person, firm or corporation approved by the building official pursuant to Chapter 17 of this code. (IBC-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 appear on the approved architectural construction documents.

Building. Any structure used or intended for supporting or sheltering any use or occupancy. (IBC-202)

Building Official. The officer or other designated authority charged with the administration and enforcement of this code, or a duly authorized representative. (IBC-202)

Certificate of compliance. A certificate stating that materials and products meet specified standards or that work was done in compliance with approved construction documents. (IBC-1702.1)

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. (IBC-202)

Fabricated 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 or in accordance with a standard, listed in Chapter 35, which provides requirements for quality control done under the supervision of a third-party quality control agency shall not be considered “fabricated items.” (IBC-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 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.

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 county 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 county approved construction documents. The final report of special inspections shall carry the original signature and seal of the special inspector (SI) making the statement.

Geotechnical Engineer of Record (GER). The registered design professional (RDP) retained by the Owner to design or specify earthwork and foundations in accordance with the USBC and whose signature and seal appear on the 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 county approved documents as required by the USBC and the IBC.

Inspection certificate. An 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 (see Section 1703.5 and “Label,” “Manufacturer’s Designation” and “Mark”). (IBC-1702.1)

Intumescent Fire-resistant coatings. Thin film liquid mixture applied to substrates by brush, roller, spray or trowel which expands into a protective foamed layer to provide fire-resistant protection of the substrates when exposed to flame or intense heat. (IBC-1702.1)

Label. An identification applied on a product by the manufacturer that contains the name of the manufacturer, the function and performance characteristics of the product or material, and the name and identification of an approved agency and that indicates that the representative sample of the product or material has been tested and evaluated by an approved agency (see Section 1703.5 and “Inspection Certificate,” “Manufacturer’s Designation” and “Mark”). (IBC-202)

Manufacturer's Designation. An identification applied on a product by the manufacturer indicating that a product or material complies with a specified standard or set of rules (see also "Inspection Certificate," "Label" and "Mark"). (IBC-202)

Mark. An identification applied on a product by the manufacturer indicating the name of the manufacturer and the function of a product or material (see also "Inspection Certificate," "Label" and "Manufacturer's Designation"). (IBC-202)

Mastic Fire-resistant coatings. Liquid mixture applied to a substrate by brush, roller, spray or trowel that provides fire-resistant protection of a substrate when exposed to flame or intense heat. (IBC-1702.1)

Owner. Any person, agent, firm or corporation having a legal or equitable interest in the property. (IBC-202)

Pre-engineered structural elements. Structural elements specified by the Structural Engineer of Record (SER) but which may be designed by a specialty Registered design professional (RDP). Examples are items such as open web steel joists and joist girders, wood trusses, combination wood, metal and plywood joists, precast 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 support the weight of the building's structural shell, the applicable live loads based upon use and occupancy, and wind, snow, thermal and seismic environmental loads.

Registered Design Professional. An individual who is registered or licensed to practice their respective design profession as defined by the statutory requirements of the professional registration laws of the state or jurisdiction in which the project is to be constructed. (IBC-202)

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

Registered Design Professional in Responsible Charge. A registered design professional engaged by the owner to review and coordinate certain aspects of the project, as determined by the building official, for compatibility with the design of the building or structure, including submittal documents prepared by others, deferred submittal documents and phased submittal documents. (IBC 202)

Shall. This term indicates mandatory requirements.

Special Inspection. Inspection as herein required of the materials, installation, fabrication, erection or placement of components and connections requiring special expertise to ensure compliance with approved construction documents and referenced standards (see Section 1704). (IBC-1702.1)

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. (IBC-1702.1)

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. (IBC-1702.1)

Special Inspector (SI). The Registered Design Professional (RDP) who is directly responsible for special inspections, materials testing and related services as described in the approved Statement of Special Inspections (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.

Sprayed Fire-resistant materials. Cementitious or fibrous materials that are sprayed to provide fire-resistant protection of the substrates. (IBC-1702.1)

Statement of Special Inspections (SSI). A statement prepared by the **Registered Design Professional (RDP) in Responsible Charge** and submitted by the permit applicant. 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.

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

Structural Observation. The visual observation of the structural system by a registered design professional for general conformance to the approved construction documents. Structural observation does not include or waive the responsibility for the inspection required by Section 110, 1704 or other sections of this code.

Structure. That which is built or constructed. (IBC-202)

DUTIES AND RESPONSIBILITIES

Each party involved in the Spotsylvania County Special Inspections Program has specific duties and responsibilities relating to the construction project. Knowledge of and acceptance of duties and responsibilities by each participant will help reduce confusion and create a more efficient project.

Duties and Responsibilities of the **Special Inspector and/or inspection agencies:**

1. Review approved construction documents for special inspection requirements.
2. Notify the **contractor** of their presence and responsibilities at the jobsite.

3. Inspect all work for which they are responsible for conformance with the approved construction documents. (IBC Section 1704)
4. Bring all nonconforming items to the immediate attention of the **contractor**. If these items are not resolved in a timely manner or is about to be incorporated into the work, the **registered design professional in responsible charge** and the **building official** shall be notified immediately and the item noted in the **special inspector's** written report. (IBC Section 1704.1.2)

The **special inspector** shall write a separate discrepancy notice, which should contain, as a minimum, the following:

- a) Description and exact location
 - b) Reference to applicable detail of approved plans/specifications
 - c) Name and title of each individual notified and method of notification
 - d) Resolution or corrective action taken
5. Complete written inspection reports for each inspection visit and forward said reports to the **registered design professional in responsible charge**, the **building official**, **contractor** and **owner**. (IBC Section 1704.1.2)
These daily inspections should include, as a minimum, the following:
 - a) Description of inspections and tests made with applicable locations
 - b) Description of how nonconforming items were resolved
 - c) List unresolved items, parties notified, and time and method of notification
 - d) Itemize changes authorized by **registered design professional in responsible charge**
 6. Submit a **final report of special inspections** to the **building official** stating that all items requiring special inspection and testing were fulfilled and reported, and in conformance with the approved construction documents. (IBC Section 1704.1.2)

Items not in conformance, unresolved items or any discrepancies in inspection coverage shall be itemized in the **final report of special inspections**.

Duties and Responsibilities of the **Owner**:

1. All fees and costs related to the performance of special inspections and testing services shall be the responsibility of the **owner**.

Duties and Responsibilities of the **Registered Design Professional in Responsible Charge**:

1. Prepare **statement of special inspections** to include the schedule of special inspection services applicable to the construction project and the inspection and testing agencies that will provide those services. Qualifications of the **special inspector** and/or **agents** shall be included. List items, if any, for which the IBC or the **building official** approves periodic inspection. The **SSI** shall be submitted for approval as part of the application for permit.
2. Coordinate with the project **owner** in the selection of **special inspectors**.
During selection of the **special inspectors** and testing **agencies**, consideration shall be given to the following:
 - a) Experience with projects of similar size and complexity
 - b) Verify staff size to be adequate for project

- c) Proximity of inspection and testing facilities in relation to the construction site.
- d) Capabilities to incorporate offsite inspection
3. Review and approve shop drawings that detail structural information.
4. Supply the **Special inspector** with the necessary copies of construction documents and approved submittals, fabrication, and erection drawings upon his request.
5. Submit to the **building official** and to the **special inspection agency** written approval of any approved deviations from the approved plans and shall submit revised plan for **building official** approval as required.
6. Respond to **special inspector** reports of uncorrected field discrepancies.

Duties and Responsibilities of the **Contractor**:

1. 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 **special inspector** and **agents**.
2. Provide the **special inspector** access to approved plans.
3. Retain special inspections records submitted by the **special inspector**, to be reviewed by the **building department inspector** upon request.
4. Respond promptly when informed of nonconforming work.

Duties and Responsibilities of the **Building Official**:

1. Review submittal documents (plans, specifications, special inspection program, etc.) for compliance with the special inspection requirements.
2. Approve the **statement of special inspections** and the qualifications of the **Special inspector** and the **agents** submitted by the **design professional in responsible charge**. (
3. Shall determine if a preconstruction meeting is necessary for the project, to review the special inspections requirements with all applicable members of the construction team.
4. Approve **special inspectors** and/or inspection **agencies**.
5. Monitor special inspection activities at the jobsite.
6. Review inspection reports for conformance with the approved submittal documents and workmanship provisions of the code.
7. Perform final inspection and issue Certificate of Occupancy, only after the **final report of special inspections** has been reviewed and approved.
8. Authority to issue a stop work order if it is found that the approved **special inspectors** or **laboratories** are not being utilized to perform the required special inspections.

REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE

When it is required that documents be prepared by a **registered design professional** (see appendix B), the **building official** shall be authorized to require the **owner** to engage and designate on the building permit application a **registered design professional** who shall act as the **registered design professional in responsible charge**.

If the circumstances require, the **owner** shall designate a substitute **registered design professional in responsible charge** who shall perform the duties required of the original **registered design professional in responsible charge**. The **building official** shall be notified in writing by the **owner** if the **registered design professional in responsible charge** is changed or is unable to continue to perform the duties.

The **registered design professional in responsible charge** shall be responsible for reviewing and coordinating submittal documents prepared by others, including phased and deferred submittal items, for compatibility with the design of the building.

SPOTSYLVANIA COUNTY POSITION REGARDING THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE

The **Structural Engineer of Record (SER)** is legally responsible for the design of the Primary Structural System, and therefore is the one most familiar with the structural aspects of the construction project. The **Registered Design Professional in Responsible Charge** is responsible for reviewing and coordinating submittal documents prepared by others for compatibility with the design of the building. For this reason, Spotsylvania County Special Inspections Program would like to state that the **SER** is well suited to be the **Design Professional in Responsible Charge**.

Spotsylvania County Special Inspections Program would like to make clear the fact that the Structural Engineer of Record (SER) may, at the discretion of the owner, also act as the Registered Design Professional (RDP) in Responsible Charge for the same project.

SPECIAL INSPECTIONS CLASSIFICATIONS

Special inspections as required by the International Building Code are as follows:

1. Inspection of fabricators IBC Section 1704.2
2. Steel construction IBC Section 1704.3
 - a) Material verification of high-strength bolts, nuts and washers
 - b) Inspection of high-strength bolting
 - c) Material verification of structural steel and cold formed steel deck
 - d) Material verification of weld filler materials
 - e) Inspection of welding for structural steel, cold formed steel deck and reinforcing steel
 - f) Inspection of steel frame joint details for compliance with approved construction documents

3. Concrete construction IBC Section 1704.4
 - a) Reinforcing steel, including prestressing tendons, and placement
 - b) Reinforcing steel welding in accordance with Table 1704.3, Item 5b
 - c) Bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased or where strength design is used.
 - d) Anchors installed in hardened concrete
 - e) Verifying use of required design mix
 - f) Sampling fresh concrete and performing slump, air content and fresh concrete temperature at time of making specimens for strength tests
 - g) Proper application techniques for concrete and shotcrete placement
 - h) Maintaining specified curing temperature and techniques
 - i) Prestressed concrete, including application of prestressing forces and grouting of bonded prestressing tendons in the seismic-force-resisting system
 - j) Erection of precast concrete members
 - k) Verifying in-situ concrete strength prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs
 - l) Formwork for shape, location and dimensions of the concrete member being formed, shoring and reshoring

4. Masonry construction IBC Section 1704.5
 - Level 1
 - a) Verifying compliance with required inspection provisions of the construction documents and the approved submittals
 - b) Verification of f 'm and f 'aac prior to construction
 - c) Slump flow and VSI as delivered to the site for self-consolidating grout
 - d) Site-prepared mortar proportions, construction of mortar joints, and location of reinforcement, connectors, prestressing tendons and anchorages
 - e) Prestressing technique as well as grade and size of prestressing tendons and anchorages
 - f) Size and location of structural elements
 - g) Type, size and location of anchors including other details of anchorage of masonry to structural members, frames or other construction
 - h) Verification of specified size, grade and type of reinforcement, anchor bolts, prestressing tendons and anchorages
 - i) Welding of reinforcing bars
 - j) Preparation, construction and protection of masonry during cold or hot weather
 - k) Application and measurement of prestressing force
 - l) Prior to grouting to ensure grout space is clean
 - m) Placement of reinforcement and connectors, and prestressing tendons and anchorages
 - n) Proportions of site prepared grout and prestressing grout for bonded tendons
 - o) Construction of mortar joints
 - p) Grout placement and grouting of prestressing bonded tendons
 - q) Preparation of any required grout specimens, mortar specimens and/or prisms

Level 2

- a) Verifying compliance with required inspection provisions of the construction documents and the approved submittals
 - b) Verification of f 'm and f 'aac prior to, and during construction
 - c) Verification of slump flow and VSI as delivered to the site for self-consolidating grout
 - d) Verification of proportions of materials in premixed or preblended mortar and grout as delivered to the site
 - e) Proportions of site-prepared mortar, grout and prestressing grout for bonded tendons
 - f) Placement of masonry units and construction of mortar joints
 - g) Placement of reinforcement, connectors and prestressing tendons and anchorages
 - h) Grout space prior to grout
 - i) Placement of grout
 - j) Placement of prestressing grout
 - k) Size and location of structural elements
 - l) Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction
 - m) Specified size, grade and type of reinforcement, anchor bolts, prestressing tendons and anchorages
 - n) Welding of reinforcing bars
 - o) Preparation, construction and protection of masonry during cold or hot weather
 - p) Application and measurement of prestressing force
 - q) Preparation of any required grout specimens and/or prisms
5. Wood construction IBC Section 1704.6
6. Soils IBC Section 1704.7
- a) Adequacy of materials below shallow foundations to achieve the design bearing capacity
 - b) Excavations are extended to proper depth and have reached proper material
 - c) Classification and testing of compacted fill materials
 - d) Use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill
 - e) Observe subgrade prior to placement of compacted fill and verify that site has been prepared properly
7. Driven deep foundations IBC Section 1704.8
- a) Compliance of element materials, sizes and lengths with the requirements
 - b) Determine capacities of test elements and conduct additional load tests as required
 - c) Observe driving operations and maintain complete and accurate records for each element
 - d) Placement locations and plumbness, type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element
 - e) Additional inspections in accordance with Section 1704.3 for steel elements
 - f) Additional inspections in accordance with Section 1704.4 for concrete elements and concrete filled elements

- g) Additional inspections as determined by the registered design professional in responsible charge for specialty elements
- | | | |
|-----|--|---------------------|
| 8. | Cast in place deep foundations | IBC Section 1704.9 |
| 9. | Helical pile foundations | IBC Section 1704.10 |
| 10. | Vertical masonry foundation elements | IBC Section 1704.11 |
| 11. | Sprayed fire-resistant materials | IBC Section 1704.12 |
| | a) Condition of substrates | |
| | b) Thickness of application | |
| | c) Density | |
| | d) Bond strength adhesion / cohesion | |
| | e) Condition of finished application | |
| 12. | Mastic and intumescent fire-resistant coatings | IBC Section 1704.13 |
| 13. | Exterior insulation and finish systems (EIFS) | IBC Section 1704.14 |
| 14. | Special cases | IBC Section 1704.15 |
| 15. | Smoke control | IBC Section 1704.16 |
| 16. | Special inspections for wind requirements | IBC Section 1706 |
| 17. | Special inspections for seismic resistance | IBC Section 1707 |

WHEN SPECIAL INSPECTIONS ARE REQUIRED

Special Inspections as Required by Virginia Uniform Statewide Building Code (VUSBC)

VUSBC-111.2 Special inspection requirements. Special inspections shall be conducted when required by Section 1704. Individuals or agencies, or both, conducting **special inspections** shall meet the qualification requirements of Sections 1703 and 1704.1. The permit applicant shall submit a completed **statement of special inspections** with the permit application. **The building official** shall review, and if satisfied that the requirements have been met, approve the **statement of special inspections** as required in Sections 1704.1.1 and 1705 as a requisite to the issuance of a **building permit**. The **building official** may require interim inspection reports. The **building official** shall receive, and if satisfied that the requirements have been met, approve a **final report of special inspections** as specified in Section 1704.1.2. All fees and costs related to the **special inspections** shall be the responsibility of the building **owner**.

VUSBC-1704.1 General. 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 listed under Section 1704. All individuals or agents performing special inspection functions shall operate under the direct supervision of a **Registered Design Professional 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.

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 and architects.
3. Unless otherwise required by the building official, special inspections are not required for occupancies in Groups 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

These inspections are in addition to the inspections specified in VUSBC Section 113.3.

The visual observation of the structural system by a registered design professional for general conformance to the approved construction documents does not include or waive the requirement to provide special inspections for the project.

Note to exception 1: This exception shall not be interpreted as one that can be invoked by the permit applicant.

As indicated above, 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 chart A from § 54.1 – 402 of the Code of Virginia in Appendix B.

VUSBC 113.4 Additional inspections. The **building official** may designate additional inspections and tests to be conducted during the construction of a building or structure and shall so notify the permit holder.

Due to the presence of shrink swell soils throughout Spotsylvania County, The Special Inspections Department shall require special inspections on all communication towers, water storage tanks and all pole signs exceeding twenty (20) feet in height.

STATEMENT OF SPECIAL INSPECTIONS AS A CONDITION FOR PERMIT ISSUANCE

A Statement of Special Inspections shall be submitted for approval as part of the application for permit for all projects requiring special inspections.

VUSBC 1704.1.1 Statement of special inspections. The permit applicant shall submit a **statement of special inspections** prepared by the **registered design professional in responsible charge** in accordance with Section 111.1. This statement shall be in accordance with Section 1705.

Exceptions:

1. A **statement of special inspections** is not required for structures designed and constructed in accordance with the conventional construction provisions of Section 2308.
2. The **statement of special inspections** is permitted to be prepared by a qualified person approved by the **building official** for construction not designed by a **registered design professional**.

STATEMENT OF SPECIAL INSPECTIONS

IBC 1705.1 General. Where special inspection or testing is required by Section 1704, 1707 or 1708, the **registered design professional in responsible charge** shall prepare a **statement of special inspections** in accordance with Section 1705 for submittal by the permit applicant (see Section 1704.1.1).

IBC 1705.2 Content of statement of special inspections. The **statement of special inspections** shall identify the following:

1. The materials, systems, components and work required to have **special inspection** or testing by the **building official** or by the **registered design professional responsible** for each portion of the work.
2. The type and extent of each **special inspection**.
3. The type and extent of each test.
4. Additional requirements for **special inspection** or testing for seismic or wind resistance as specified in Section 1705.3, 1705.4, 1707 or 1708.

5. For each type of **special inspection**, identification as to whether it will be continuous special inspection or periodic special inspection.

IBC 1705.3 Seismic resistance. The **statement of special inspections** shall include seismic requirements for cases covered in Sections 1705.3.1 through 1705.3.5.

Exceptions: Seismic requirements are permitted to be excluded from the statement of special inspections for structures designed and constructed in accordance with the following:

1. The structure consists of light-frame construction; the design spectral response acceleration at short periods, S_{Ds} , as determined in Section 1613.5.4, does not exceed 0.5g; and the height of the structure does not exceed 35 feet (10,668 mm) above grade plane; or
2. The structure is constructed using a reinforced masonry structural system or reinforced concrete structural system; the design spectral response acceleration at short periods, S_{Ds} , as determined in Section 1613.5.4, does not exceed 0.5g; and the height of the structure does not exceed 25 feet (7620 mm) above grade plane; or
3. Detached one-or two-family dwellings not exceeding two stories above grade plane, provided the structure does not have any of the following plan or vertical irregularities in accordance with Section 12.3.2 of ASCE 7:
 - 3.1. Torsional irregularity.
 - 3.2. Nonparallel systems.
 - 3.3. Stiffness irregularity-extreme soft story and soft story.
 - 3.4. Discontinuity in capacity-weak story.

IBC 1705.3.1 Seismic-force-resisting systems. The seismic-force-resisting systems in structures assigned to Seismic Design Category C, D, E or F, in accordance with Section 1613.

Exception: Requirements for the seismic-force-resisting system are permitted to be excluded from the statement of special inspections for steel systems in structures assigned to Seismic Design Category C that are not specifically detailed for seismic resistance, with a response modification coefficient, R , of 3 or less, excluding cantilever column systems.

IBC 1705.3.3 Seismic Design Category C. The following additional systems and components in structures assigned to Seismic Design Category C:

1. Heating, ventilating and air-conditioning (HVAC) ductwork containing hazardous materials and anchorage of such ductwork.
2. Piping systems and mechanical units containing flammable, combustible or highly toxic materials.
3. Anchorage of electrical equipment used for emergency or standby power systems.

Note: The majority of the buildings within Spotsylvania County are assigned a Seismic Design Category B. Therefore; Section 1705.3 will not apply in most situations and the statement of special inspections need not include seismic requirements.

IBC 1705.3.6 Seismic requirements in the statement of special inspections. When Section 1705.3 through 1705.3.5 specify that seismic requirements be included, the **statement of special inspections** shall identify the following:

1. The designated seismic systems and seismic-force-resisting systems that are subject to **special inspections** in accordance with Sections 1705.3 through 1705.3.5.
2. The additional **special inspections** and testing to be provided as required by Sections 1707 and 1708 and other applicable sections of this code, including the applicable standards referenced by this code.

Note: This information shall only be required when the building is assigned a Seismic Design Category C.

IBC 1705.4 Wind resistance. The **statement of special inspections** shall include wind requirements for structures constructed in the following areas:

1. In wind Exposure Category B, where the 3-second-gust basic wind speed is 120 miles per hour (mph) (52.8 m/s) or greater.
2. In wind Exposure Category C or D, where the 3-second-gust basic wind speed is 110 mph (49 m/s) or greater.

Note: All buildings within Spotsylvania County are designed for a 3-second-gust basic wind speed of 90 miles per hour (mph). For this reason, Section 1705.4 does not apply and the statement of special inspections need not include wind requirements.

CONTRACTOR RESPONSIBILITY FOR ADDITIONAL WIND- OR SEISMIC-RESISTANCE INSPECTIONS

IBC 1709.1 Contractor responsibility. Each contractor responsible for the construction of a main wind- or seismic-force-resisting system, designated seismic system or a wind- or seismic-resisting component listed in the statement of special inspections shall submit a written statement of responsibility to the building official and the owner prior to the commencement of work on the system or component. The contractor's statement of responsibility shall contain acknowledgment of awareness of the special requirements contained in the statement of special inspections.

Note: This section only applies when the statement of special inspections includes additional seismic requirements in accordance with Section 1705.3.1 or additional wind requirements in accordance with Section 1705.4.1.

SPOTSYLVANIA COUNTY POSITION REGARDING STATEMENT OF SPECIAL INSPECTION

- Spotsylvania County Code Compliance Department will not issue a Building Permit without the Statement of Special Inspections.
- Spotsylvania County Code Compliance Department will not issue a Partial Building Permit without the Statement of Special Inspections.
- The Statement of Special Inspections shall contain the signature and seal of the registered design professional in responsible charge for the project.

SPECIAL INSPECTOR / LABORATORY QUALIFICATIONS

VUSBC 1703.1.1 Independence. An approved agency shall be objective and competent. The agency shall also disclose possible conflicts of interest so that objectivity can be confirmed. The special inspector and their agents shall be independent from the person, persons or contractor responsible for the physical construction of the project requiring **special inspections**.

The RDP who is directly responsible for special inspection activities, also known as the Special Inspector (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 in responsible charge and the Building Official.

All individuals and **agents** shall work under the direct supervision of the **Special Inspector**. The **Special Inspector** shall ensure that the individuals under their charge are performing only those special inspections that are consistent with their knowledge, training and certification in accordance with ASTM E329 and the USBC that is applicable at the time of permit issuance.

Inspection and testing agency field inspection personnel shall be certified by examination through Washington Area Council of Engineering Laboratories (**WACEL**), American Concrete Institute (**ACI**), American Welding Society (**AWS**), International Code Council (**ICC**) or other organizations whose programs are recognized by the **building official**. **Laboratory facilities** performing testing shall be operated under the supervision of the **Special Inspector** and shall meet the requirements of ASTM E329, and individually accredited by organizations such as Washington Area Council of Engineering Laboratories (**WACEL**), American Association for Laboratory Accreditation (**AALA**), National Institute of Standards and Technology (**NIST**), National Voluntary Laboratory Accreditation Program (**NVLAP**) or other organizations whose programs are recognized by the **building official**. Inspection and testing agency personnel, as

well as all laboratories shall be reviewed and approved by the **building official**, on a case by case basis.

The qualifications and certifications of the **special inspection personnel** and/or accreditation of the applicable **agent's laboratory** shall be included as part of the **Statement of Special Inspections**, which is submitted for approval as part of the application for building permit.

DISTRIBUTION OF INSPECTION REPORTS

Special Inspectors shall forward Inspection Reports to the Registered Design Professional in Responsible Charge and the Building Official

IBC Report Requirement

IBC 1704.1.2 Special inspectors shall keep records of inspections. The **special inspector** shall furnish inspection reports to the **building official**, and to **the registered design professional in responsible charge**. Reports shall indicate that work inspected was or was not completed in conformance to approved construction documents. Discrepancies shall be brought to the immediate attention of the **contractor** for correction. If they are not corrected, the discrepancies shall be brought to the attention of the **building official** and to the **registered design professional in responsible charge** prior to the completion of that phase of the work. 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.

Spotsylvania County Requirements Regarding Special Inspection Reports:

- In addition to the **building official** and **the registered design professional in responsible charge** receiving inspection reports, as required above per IBC 1704.1.2, the **special inspector** shall also furnish inspection reports to the **owner** and the general **contractor**.
- All reports shall indicate that work inspected was done in conformance to approved construction documents.
- All approved inspection and test reports shall be submitted to the **building official** within ten (10) working days.
- All discrepancies and deviations from the approved construction documents shall be reported to the **registered design professional in responsible charge** for resolution prior to proceeding with inspection of the work in question.
- All discrepancies and deviations from the approved construction documents, as well as the resolution by the **RDP in responsible charge**, shall be submitted to the **building official** within five (5) working days.
-

- Records of each inspection **MUST** be submitted to **the building official** so as to compile a complete legal record of the project.
- **ALL** inspections made must be submitted, including violations and discrepancies.
- Upon completion of each phase of construction requiring special inspections, the **special inspector** shall submit a completion letter to the **RDP in responsible charge**, and to the **building official**, indicating the items inspected.
- A **FINAL REPORT OF SPECIAL INSPECTIONS** must be submitted to the **building official** for review and approval prior to issuance of the **CERTIFICATE OF OCCUPANCY**.
- The **FINAL REPORT OF SPECIAL INSPECTIONS** shall indicate that **ALL** inspections have been made and **ALL** discrepancies have been resolved or removed in order to show compliance with the applicable code requirements.

PRE-CONSTRUCTION MEETING

A pre-construction meeting shall be required for all structures over three (3) stories, for all buildings that represent a substantial hazard to human life in the event of failure (category III per IBC Table 1604.5) and for all essential facilities (category IV per IBC Table 1604.5). At the discretion of the **Building Official**, other buildings may require a pre-construction meeting depending on the complexity of the project. Pre-construction meetings shall be coordinated by the **Special Inspector**.

The meeting, which is to take place in order to review the special inspections requirements of the construction project, shall be attended by the following individuals:

- **Owner**
- **RDP(s) of Record for each scope of work specified in the SSI**
- **RDP in Responsible Charge (if differs from RDP of Record)**
- **Special Inspector**
- **Special Inspection Agent(s)**
- **Contractor**
- **Subcontractor's representatives for each trade of work specified in the SSI**
- **Building Official(s)**

Items of discussion during the pre-construction meeting shall include:

- The scope of special inspections for the project
- 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 project.
- Contact Information of individuals involved with the project
- Submission and distribution of reports
- Changes shall not be permitted unless authorized and approved in writing by the **RDP of record**

REQUIRED SPECIAL INSPECTIONS PER INTERNATIONAL BUILDING CODE

1. Inspection of Fabricators

IBC 1704.2 Inspection of fabricators. Where fabrication of structural load-bearing members and assemblies is being performed on the premises of a fabricator's shop, special inspection of the fabricated items shall be required by this section and as required elsewhere in this code.

IBC 1704.2.1 Fabrication and implementation procedures. The **special inspector** shall verify that the fabricator maintains detailed fabrication and quality control procedures that provide a basis for inspection control of the workmanship and the fabricator's ability to conform to approved construction documents and referenced standards. The **special inspector** shall review the procedures for completeness and adequacy relative to the code requirements for the fabricator's scope of work.

Exception: Special inspections as required by Section 1704.2 shall not be required where the fabricator is approved in accordance with Section 1704.2.2.

IBC 1704.2.2 Fabricator approval. Special inspections required by Section 1704 are **not required** where the work is done on the premises of a fabricator registered and approved to perform such work without special inspection. Approval shall be based upon review of the fabricator's written procedural and quality control manuals and periodic auditing of fabrication practices by an approved special inspection agency. At completion of fabrication, the approved fabricator shall submit a **certificate of compliance** to the **building official** stating that the work was performed in accordance with the approved construction documents.

The special inspector shall be responsible for determining whether or not a fabricator meets the requirements listed above for being considered an approved fabricator. The special inspector shall forward a list of approved fabricators, along with all pertinent information, to the building official prior to starting fabrication of materials.

2. Inspection of Steel Elements

IBC 1704.3 Steel Construction. The special inspections for steel elements of buildings and structures shall be as required by Section 1704.3 and Table 1704.3.

Exceptions:

1. Special inspection of the steel fabrication process shall not be required where the fabricator does not perform any welding, thermal cutting or heating operation of any kind as part of the fabrication process. In such cases, the fabricator shall be required to submit a

detailed procedure for material control that demonstrates the fabricator's ability to maintain suitable records and procedures such that, at any time during the fabrication process, the material specification, grade and mill test reports for the main stress-carrying elements are capable of being determined.

2. The special inspector need not be continuously present during welding of the following items, provided the materials, welding procedures and qualifications of welders are verified prior to the start of the work; periodic inspections are made of the work in progress; and a visual inspection of all welds is made prior to completion or prior to shipment of shop welding.

- 2.1. Single pass fillet welds not exceeding 5/16 inch (7.9 mm) in size.
- 2.2. Floor and roof deck welding.
- 2.3. Welded studs when used for structural diaphragm.
- 2.4. Welded sheet steel for cold-formed steel members.
- 2.5. Welding of stairs and railing systems.

IBC 1704.3.1 Welding. Welding inspection and welding inspector qualification shall be in accordance with this section.

IBC 1704.3.1.1 Structural steel. Welding inspection and welding inspector qualification for structural steel shall be in accordance with AWS D1.1.

IBC 1704.3.1.2 Cold-formed steel. Welding inspection and welding inspector qualification for cold-formed steel floor and roof decks shall be in accordance with AWS D1.3.

IBC 1704.3.1.3 Reinforcing steel. Welding inspection and welding inspector qualification for reinforcing steel shall be in accordance with AWS D1.4 and ACI318.

All prequalified or qualified welds should have a written welding procedure specification prepared by the fabricator, following the detail and outline suggested by AWS D1.1. This specification should be available to the structural engineer of record, inspector and building official.

IBC 1704.3.2 Details. The **special inspector** shall perform an inspection of the steel frame to verify compliance with the details shown on the approved construction documents, such as bracing, stiffening, member locations and proper application of joint details at each connection.

IBC 1704.3.3 High-strength bolts. Installation of high-strength bolts shall be inspected in accordance with AISC 360.

IBC 1704.3.3.1 General. While the work is in progress, the **special inspector** shall determine that the requirements for bolts, nuts, washers, and paint; bolted parts and installation and tightening in such standards are met. For bolts requiring pretensioning, the **special inspector** shall observe the pre-installation testing and calibration procedures when such procedures are required by the installation method or by project plans or specifications;

determine that all plies of connected materials have been drawn together and properly snugged and monitor the installation of bolts to verify that the selected procedure for installation is properly used to tighten bolts. For joints required to be tightened only to the snug tight condition, the special inspector need only verify that the connected materials have been drawn together and properly snugged.

IBC 1704.3.3.2 Periodic monitoring. Monitoring of bolt installation for pretensioning is permitted to be performed on a periodic basis when using the turn-of-the-nut method with matchmarking techniques, the direct tension indicator method, or the alternate design fastener (twist-off bolt) method. Joints designated as snug tight need be inspected only on a periodic basis.

IBC 1704.3.3.3 Continuous monitoring. Monitoring of bolt installation for pretensioning using the calibrated wrench method or the turn-of-the-nut method without matchmarking shall be performed on a continuous basis.

IBC 1704.3.4 Cold-formed steel trusses spanning 60 feet or greater. Where a cold-formed steel truss clear span is 60 feet (18 288 mm) or greater, the special inspector shall verify that the temporary installation restraint/bracing and the permanent individual truss member restraint/bracing are installed in accordance with the approved truss submittal package.

Completion of the Structural Steel Construction

Upon completion of the structural steel construction, the **Special Inspector** shall submit a completion letter to the **Registered Design Professional in Responsible Charge**. After review and approval by the **Registered Design Professional in Responsible Charge**, the **Special Inspector** shall submit the completion letter to Spotsylvania County Special Inspections Department. In addition, the **Special Inspector** shall indicate the date of completion on the **Final Report of Special Inspections**.

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

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD *	IBC REF.
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	AISC 360, Sec. A3.3 and ASTM material standards	
b. Manufacturer's cert. of compliance required.		X		
2. Inspection of high-strength bolting:				
a. Snug-tight joints.		X	AISC 360, Section M2.5	1704.3.3
b. Pretensioned and slip-critical joints using turn-of-nut with matchmarking, twist-off bolt or direct tension indicator methods of installation.		X		
c. Pretensioned and slip-critical joints using turn-of-nut without matchmarking or calibrated wrench methods of installation.	X			
3. Material verification of structural steel and cold-formed steel deck:				
a. For structural steel, identification markings to conform to AISC 360.		X	AISC 360, Section M5.5	
b. For other steel, identification markings to conform to ASTM standards specified in the approved construction documents.		X	ASTM material standards	
c. Manufacturer's certified test reports.		X		
4. Material verification of weld filler materials:				
a. Identification markings to conform to AWS specification in the approved construction documents.		X	AISC 360, Sec. A3.5 & AWS A5 documents	
b. Manufacturer's cert. of compliance required.		X		
5. Inspection of welding:				
a. Structural steel and cold-formed steel deck:				
1) Complete and partial joint penetration groove welds.	X		AWS D1.1	1704.3.1
2) Multipass fillet welds.	X			
3) Single-pass fillet welds > 5/16".	X			
4) Plug and slot welds.	X			
5) Single-pass fillet welds ≤ 5/16".		X		
6) Floor and roof deck welds.		X		

(continued)

IBC TABLE 1704.3 - continued
REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD *	IBC REF.
5. Inspection of welding (cont.):				
b. Reinforcing steel:				
1) Verification of weldability of reinforcing steel other than ASTM A 705.		X	AWS D1.4 ACI 318: Section 3.5.2	
2) Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special structural walls of concrete and shear reinforcement.	X			
3) Shear reinforcement.	X			
4) Other reinforcing steel.		X		
6. Inspection of steel frame joint details for compliance:				
a. Details such as bracing and stiffening.		X		1704.3.2
b. Member locations.		X		
c. Application of joint details at each connection.		X		

For SI: 1 inch = 25.4 mm.

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

3. Inspection & Verification of Concrete Construction

IBC 1704.4 Concrete Construction. The special inspections and verifications for concrete construction shall be as required by this section and Table 1704.4.

Exceptions: Special inspections shall not be required for:

1. Isolated spread concrete footings of buildings three stories or less above grade plane that are fully supported on earth or rock.
2. Continuous concrete footings supporting walls of buildings three stories or less above grade plane that are fully supported on earth or rock where:
 - 2.1. The footings support walls of light frame construction;
 - 2.2. The footings are designed in accordance with Table 1809.7; or
 - 2.3. The structural design of the footing is based on a specified compressive strength, f'_c , no greater than 2,500 pounds per square inch (psi) (17.2 Mpa), regardless of the compressive strength specified in the construction documents or used in the footing construction.

3. Nonstructural concrete slabs supported directly on the ground, including prestressed slabs on grade, where the effective prestress in the concrete is less than 150 psi (1.03 Mpa).
4. Concrete foundation walls constructed in accordance with Table 1807.1.6.2.
5. Concrete patios, driveways and sidewalks, on grade.

IBC 1704.4.1 Materials. In the absence of sufficient data or documentation providing evidence of conformance to quality standards for materials in Chapter 3 of ACI 318, the **building official** shall require testing of materials in accordance with the appropriate standards and criteria for the material in Chapter 3 of ACI 318. Weldability of reinforcement, except that which conforms to ASTM A 706, shall be determined in accordance with the requirements of Section 3.5.2 of ACI 318.

SPOTSYLVANIA COUNTY POSITION REGARDING INSPECTION & VERIFICATION OF CONCRETE CONSTRUCTION

VUSBC 113.4 Additional inspections. The **building official** may designate additional inspections and tests to be conducted during the construction of a building or structure and shall so notify the permit holder.

Spotsylvania County Special Inspections Program shall require special inspections and verifications for concrete construction of ALL FOOTINGS AND FOUNDATION WALLS in accordance with IBC Table 1704.4, without exception. This requirement shall supersede the aforementioned exceptions of IBC 1704.4.

Completion of the Concrete Construction

Upon completion of the concrete construction, the **Special Inspector** shall submit a completion letter to the **Registered Design Professional in Responsible Charge**. After review and approval by the **Registered Design Professional in Responsible Charge**, the **Special Inspector** shall submit the completion letter to Spotsylvania County Special Inspections Department. In addition, the **Special Inspector** shall indicate the date of completion on **the Final Report of Special Inspections**.

**IBC TABLE 1704.4 (REVISED PER USBC)
REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION**

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD *	IBC REF.
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. Inspection of bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased or where strength design is used.	X		ACI 318: 8.1.3, 21.2.8	1911.5, 1912.1
4. Inspection of anchors installed in hardened concrete.		X	ACI 318: 3.8.6, 8.1.3, 21.2.8	1912.1
5. Verifying use of required design mix.		X	ACI 318: Ch. 4, 5.2-5.4	1904.2.2 1913.2
6. 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
7. Inspection of concrete and shotcrete placement for proper application techniques.	X		ACI 318: 5.9, 5.10	1913.6 - 1913.8
8. Inspection for maintenance of special curing temperature and techniques.		X	ACI 318: 5.11-5.13	1913.9
9. 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	
10. Erection of precast concrete members.		X	ACI 318: Ch. 16	
11. Verification of in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs		X	ACI 318: 6.2	
12. Inspect formwork for shape, location and dimensions of the concrete member being formed, shoring and reshoring.		X	ACI 318: 6.1, 6.2	1906

For SI: 1 inch = 25.4 mm.

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

4. Inspection of Masonry Construction

IBC 1704.5 Masonry Construction. Masonry construction shall be inspected and verified in accordance with the requirements of Sections 1704.5.1 through 1704.5.3, depending on the occupancy category of the building or structure.

Exception: Special inspections shall not be required for:

1. Empirically designed masonry, glass unit masonry or masonry veneer designed by Section 2109, 2110 or Chapter 14, respectively, or by Chapter 5, 6 or 7 of TMS 402/ACI 530/ASCE 5, respectively, when they are part of structures classified as Occupancy Category I, II or III in accordance with Section 1604.5.
2. Masonry foundation walls constructed in accordance with Table 1807.1.6.3(1), 1807.1.6.3(2), 1807.1.6.3(3) or 1807.1.6.3(4).
4. Masonry fireplaces, masonry heaters or masonry chimneys installed or constructed in accordance with Section 2111, 2112 or 2113, respectively.

IBC TABLE 1704.5				
SPECIAL INSPECTION OF MASONRY CONSTRUCTION				
OCCUPANCY CATEGORY:	I, II OR III		IV	
DESIGN METHOD:	EMPIRICAL	ENGINEER	EMPIRICAL	ENGINEER
Type of Special Inspection	Exempt	Level 1	Level 1	Level 2

IBC 1704.5.1 Empirically designed masonry, glass unit masonry and masonry veneer in Occupancy Category IV. The minimum special inspection program for empirically designed masonry, glass unit masonry or masonry veneer designed by Section 2109, 2110 or Chapter 14, respectively, or by Chapter 5, 6 or 7 of TMS 402/ACI 530/ASCE 5, respectively, in structures classified as Occupancy Category IV, in accordance with Section 1604.5, shall comply with **Table 1704.5.1**.

IBC 1704.5.2 Engineered masonry in Occupancy Category I, II or III. The minimum special inspection program for masonry designed by Section 2107 or 2108, or by chapters other than Chapter 5, 6 or 7 of TMS 402/ACI 530/ASCE 5 in structures classified as Occupancy Category I, II or III, in accordance with Section 1604.5, shall comply with **Table 1704.5.1**.

IBC 1704.5.3 Engineered masonry in Occupancy Category IV. The minimum special inspection program for masonry designed by Section 2107 or 2108, or by chapters other than Chapter 5, 6 or 7 of TMS 402/ACI 530/ASCE 5 in structures classified as Occupancy Category IV, in accordance with Section 1604.5, shall comply with **Table 1704.5.3**.

IBC TABLE 1704.5.1**LEVEL 1 REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION**

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD *	IBC REF.
1. Compliance with required inspection provisions of the construction documents and the approved submittals		X	TMS 602 Art. 1.5	
2. Verification of f 'm and f 'aac prior to construction except where specifically exempted by this code.		X	TMS 602 Art. 1.4B	
3. Verification of slump flow and VSI as delivered to the site for self-consolidating grout.	X		TMS 602 Art. 1.5B.1.b.3	
4. As masonry construction begins, the following shall be verified to ensure compliance:				
a. Proportions of site-prepared mortar.		X	TMS 602 Art. 2.6A	
b. Construction of mortar joints.		X	TMS 602 Art. 3.3B	
c. Location of reinforcement, connectors, prestressing tendons and anchorages.		X	TMS 602 Art. 3.4, 3.6A	
d. Prestressing technique.		X	TMS 602 Art. 3.6B	
e. Grade and size of prestressing tendons and anchorages.		X	TMS 602 Art. 2.4B, 2.4H	
5. During construction the inspection program shall verify:				
a. Size and location of structural elements.		X	TMS 602 Art. 3.3F	
b. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction		X	TMS 402 Sec. 1.2.2(e), 1.16.1	
c. Specified size, grade and type of reinforcement, anchor bolts, prestressing tendons and anchorages.		X	TMS 602 Art. 2.4,3.4 TMS 402 Sec. 1.15	
d. Welding of reinforcing bars.	X		TMS 402 Sec. 2.1.9.7.2, 3.3.3.4(b)	
e. Preparation, construction and protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F).		X	TMS 602 Art. 1.8C, 1.8D	2104.3, 2104.4
f. Application and measurement of prestressing force	X		TMS 602 Art. 3.6B	

(continued)

* TMS 402 is short for TMS 402/ACI 530/ ASCE 5

TMS 602 is short for TMS 602/ACI 530.1/ ASCE 6

IBC TABLE 1704.5.1 - continued

LEVEL 1 REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD *	IBC REF.
6. Prior to grouting, the following shall be verified to ensure compliance:				
a. Grout space is clean.		X	TMS 602 Art. 3.2D	
b. Placement of reinforcement and connectors, and prestressing tendons and anchorage.		X	TMS 602 Art. 3.4, TMS 402 Sec. 1.13	
c. Proportions of site-prepared grout and prestressing grout for bonded tendons.		X	TMS 602 Art. 2.6B	
d. Construction of mortar joints.		X	TMS 602 Art. 3.3B	
7. Grout placement shall be verified to ensure compliance:	X		TMS 602 Art. 3.5	
a. Grouting of prestressing bonded tendons.	X		TMS 602 Art. 3.6C	
8. Preparation of any required grout specimens, mortar specimens and/or prisms shall be observed.		X	TMS 602 Art. 1.4	2105.2.2, 2105.3

* TMS 402 is short for TMS 402/ACI 530/ ASCE 5
 TMS 602 is short for TMS 602/ACI 530.1/ ASCE 6

Completion of the Masonry Construction

Upon completion of the masonry special inspections, the **Special Inspector** shall submit a completion letter to the **Registered Design Professional in Responsible Charge**. After review and approval by the **Registered Design Professional in Responsible Charge**, the **Special Inspector** shall submit the completion letter to Spotsylvania County Special Inspections Department. In addition, the **Special Inspector** shall indicate the date of completion on the **Final Report of Special Inspections**.

IBC TABLE 1704.5.3**LEVEL 2 REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION**

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD *	IBC REF.
1. Compliance with required inspection provisions of the construction documents and the approved submittals		X	TMS 602 Art. 1.5	
2. Verification of f 'm and f 'aac prior to construction and for every 5,000 square feet during construction.		X	TMS 602 Art. 1.4B	
3. Verification of proportions of materials in premixed or preblended mortar and grout as delivered to the site.		X	TMS 602 Art. 1.5B	
4. Verification of slump flow and VSI as delivered to the site for self-consolidating grout.	X		TMS 602 Art. 1.5B.1.b.3	
5. The following shall be verified to ensure compliance:				
a. Proportions of site-prepared mortar, grout and pre-stressing grout for bonded tendons.		X	TMS 602 Art. 2.6A	
b. Placement of masonry units and construction of mortar joints.		X	TMS 602 Art. 3.3B	
c. Placement of reinforcement, connectors and prestressing tendons and anchorages.		X	TMS 602 Art. 3.4 TMS 602 Art. 3.6A TMS 402 Sec. 1.15	
d. Grout space prior to grout.	X		TMS 602 Art. 3.2D	
e. Placement of grout.	X		TMS 602 Art. 3.5	
f. Placement of prestressing grout.	X		TMS 602 Art. 3.6C	
g. Size and location of structural elements.		X	TMS 602 Art. 3.3F	
h. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction	X		TMS 402 Sec. 1.2.2e & 1.16.1	
i. Specified size, grade and type of reinforcement, anchor bolts, prestressing tendons and anchorages.		X	TMS 602 Art. 2.4,3,4 TMS 402 Sec. 1.15	
j. Welding of reinforcing bars.	X		TMS 402 Sec. 2.1.9.7.2, 3.3.3.4(b)	
k. Preparation, construction and protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F).		X	TMS 602 Art. 1.8C TMS 602 Art. 1.8D	Sec.2104.3 Sec.2104.4

(continued)

* TMS 402 is short for TMS 402/ACI 530/ ASCE 5
TMS 602 is short for TMS 602/ACI 530.1/ ASCE 6

IBC TABLE 1704.5.3 - continued**LEVEL 2 REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION**

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD *	IBC REF.
I. Application and measurement of prestressing force.	X		TMS 602 Art. 3.6B	
6. Preparation of any required grout specimens and/or prisms shall be observed.	X		TMS 602 Art. 1.4	2105.2.2 2105.3

* TMS 402 is short for TMS 402/ACI 530/ ASCE 5

TMS 602 is short for TMS 602/ACI 530.1/ ASCE 6

5. Inspection of Wood Construction

IBC 1704.6 Wood construction. Special inspections of the fabrication process of prefabricated wood structural elements and assemblies shall be in accordance with Section 1704.2. Special inspections of site-built assemblies shall be in accordance with this section.

IBC 1704.6.1 High-load diaphragms. High-load diaphragms designed in accordance with Table 2306.2.1(2) shall be installed with special inspections as indicated in Section 1704.1. The **special inspector** shall inspect the wood structural panel sheathing to ascertain whether it is of the grade and thickness shown on the approved building plans. Additionally, the **special inspector** must verify the nominal size of framing members at adjoining panel edges, the nail or staple diameter and length, the number of fastener lines and that the spacing between fasteners in each line and at edge margins agrees with the approved building plans.

Spotsylvania County Special Inspections Program shall require special inspections and verification of ALL wood shear wall installations without exception. This requirement shall supersede the aforementioned IBC section 1704.6.1.

IBC 1704.6.2 Metal-plate-connected wood trusses spanning 60 feet or greater. Where a truss clear span is 60 feet (18288 mm) or greater, the **special inspector** shall verify that the temporary installation restraint/bracing and the permanent individual truss member restraint/bracing are installed in accordance with the approved truss submittal package.

Spotsylvania County Special Inspections Program shall require special inspections and verification of ALL metal-plate-connected wood truss installations regardless of span length, without exception. This requirement shall supersede the aforementioned IBC section 1704.6.2.

Completion of Wood Construction

Upon completion of the wood construction, the **Special Inspector** shall submit a completion letter to the **Registered Design Professional in Responsible Charge**. After review and approval by the **Registered Design Professional in Responsible Charge**, the **Special Inspector** shall submit the completion letter to Spotsylvania County Special Inspections Department. In addition, the **Special Inspector** shall indicate the date of completion on the **Final Report of Special Inspections**.

6. Inspection of Soils and Foundations Construction

IBC 1704.7 Soils. Special inspections for existing site soil conditions, fill placement and load-bearing requirements shall be as required by this section and Table 1704.7. The approved geotechnical report, and the construction documents prepared by **the registered design professionals** shall be used to determine compliance. During fill placement, the **special inspector** shall determine that proper materials and procedures are used in accordance with the provisions of the approved geotechnical report.

Exception: Where Section 1803 does not require reporting of materials and procedures for fill placement, the **special inspector** shall verify that the in-place dry density of the compacted fill is not less than 90 percent of the maximum dry density at optimum moisture content determined in accordance with ASTM D 1557.

IBC 1704.8 Driven deep foundation. Special inspections shall be performed during installation and testing of driven deep foundation elements as required by Table 1704.8. The approved geotechnical report, and the construction documents prepared by **the registered design professionals**, shall be used to determine compliance.

IBC 1704.9 Cast-in-place deep foundations. Special inspections shall be performed during installation and testing of cast-in-place deep foundation elements as required by Table 1704.9. The approved geotechnical report, and the construction documents prepared by **the registered design professionals**, shall be used to determine compliance.

IBC 1704.10 Helical pile foundations. Special inspections shall be performed **continuously** during installation of helical pile foundations. The information recorded shall include installation equipment used, pile dimensions, tip elevations, final depth, final installation torque and other pertinent installation data as required by **the registered design professional in responsible charge**. The approved geotechnical report and the construction documents prepared by **the registered design professional**, shall be used to determine compliance.

IBC 1704.11 Vertical masonry foundation elements. Special inspection shall be performed in accordance with Section 1704.5 for vertical masonry foundation elements.

Completion of Soils and Foundations Construction

Upon completion of the soil special inspections, the **Special Inspector** shall submit a completion letter to the **Registered Design Professional in Responsible Charge** and the **Geotechnical Engineer of Record**. After review and approval by the **Registered Design Professional in Responsible Charge**, the **Special Inspector** shall submit the completion letter to Spotsylvania County Special Inspections Department. In addition, the **Special Inspector** shall indicate the date of completion on the **Final Report of Special Inspections**.

Upon completion of the pile and pier special inspections, the **Special Inspector** shall submit a completion letter to the **Registered Design Professional in Responsible Charge** and the **Geotechnical Engineer of Record**. After review and approval by the **Registered Design Professional in Responsible Charge**, the **Special Inspector** shall submit the completion letter to Spotsylvania County Special Inspections Department. In addition, the **Special Inspector** shall indicate the date of completion on the **Final Report of Special Inspections**.

IBC TABLE 1704.7

REQUIRED VERIFICATION AND INSPECTION OF SOILS

VERIFICATION AND INSPECTION TASK	TYPE OF INSPECTION DURING TASK LISTED	
	CONTINUOUS	PERIODIC
1. Verify materials below shallow foundations 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 compacted fill, observe subgrade and verify that site has been prepared properly.	—	X

**IBC TABLE 1704.8
REQUIRED VERIFICATION AND INSPECTION OF
DRIVEN DEEP FOUNDATION ELEMENTS**

VERIFICATION AND INSPECTION TASK	TYPE OF INSPECTION DURING TASK LISTED	
	CONTINUOUS	PERIODIC
1. Verify element materials, sizes and lengths comply with the requirements.	X	—
2. Determine capacities of test elements and conduct additional load tests, as required.	X	—
3. Observe driving operations and maintain complete and accurate records for each element.	X	—
4. Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elev. and document any damage to fndn. element.	X	—
5. For steel elements, perform additional inspections in accordance with Section 1704.3.	—	—
6. For concrete elements and concrete-filled elements, perform additional inspections in accordance with Section 1704.4.	—	—
7. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge.	—	—

**IBC TABLE 1704.9
REQUIRED VERIFICATION AND INSPECTION OF
CAST-IN-PLACE DEEP FOUNDATION ELEMENTS**

VERIFICATION AND INSPECTION TASK	TYPE OF INSPECTION DURING TASK LISTED	
	CONTINUOUS	PERIODIC
1. Observe drilling operations and maintain complete and accurate records for each element.	X	
2. Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, embedment into bedrock (if applicable) and adequate end-bearing strata capacity. Record concrete or grout volumes.	X	
3. For concrete elements, perform additional inspections in accordance with Section 1704.4.		

GEOTECHNICAL INVESTIGATIONS

IBC 1803.1 General. Geotechnical investigations shall be conducted in accordance with Sections 1803.2 and reported in accordance with Section 1803.6. Where required by the **building official** or where geotechnical investigations involve in-situ testing, laboratory testing or engineering calculations, such investigations shall be conducted by a **registered design professional**.

IBC 1803.2 Investigations required. Geotechnical investigations shall be conducted in accordance with Sections 1803.3 through 1803.5.

IBC 1803.3 Basis of investigation. Soil classification shall be based on observation and any necessary tests of the materials disclosed by borings, test pits or other subsurface exploration made in appropriate locations. Additional studies shall be made as necessary to evaluate slope stability, soil strength, position and adequacy of load-bearing soils, the effect of moisture variation on soil-bearing capacity, compressibility, liquefaction and expansiveness.

IBC 1803.3.1 Scope of investigation. The scope of the geotechnical investigation including the number and types of borings or soundings, the equipment used to drill or sample, the in-situ testing equipment and the laboratory testing program shall be determined by a **registered design professional**.

IBC 1803.4 Qualified representative. The investigation procedure and apparatus shall be in accordance with generally accepted engineering practice. The **registered design professional** shall have a fully qualified representative on site during all boring or sampling operations.

IBC 1803.5 Investigated conditions. Geotechnical investigations shall be conducted as indicated in Sections 1803.5.1 through 1803.5.12.

IBC 1803.5.1 Classification. Soil materials shall be classified in accordance with ASTM D2487.

IBC 1803.5.3 Expansive soil. In areas likely to have expansive soil, the **building official** shall require soil tests to determine where such soils do exist.

Soils meeting all four of the following provisions shall be considered expansive, except that tests to show compliance with Items 1, 2 and 3 shall not be required if the test prescribed in Item 4 is conducted:

1. Plasticity index (PI) of 15 or greater, determined in accordance with ASTM D 4318.
2. More than 10 percent of the soil particles pass a No. 200 sieve (75 μ m), determined in accordance with ASTM D 422.
3. More than 10 percent of the soil particles are less than 5 micrometers in size, determined in accordance with ASTM D 422.

4. Expansion index greater than 20, determined in accordance with ASTM D 4829.

Past development has indicated that soils having either a high or moderate shrink swell potential exist throughout various areas of the county. This potential for shrink swell soils has also been confirmed through the Soil Survey of Spotsylvania County, Virginia issued in August, 1985, a survey made by the Soil Conservation Service in cooperation with the Virginia Polytechnic Institute and State University. These expansive soils have the characteristics of absorbing water and swelling, or shrinking and cracking when drying. The significant volume changes brought about by expansion/shrinkage can cause serious damage to buildings and other structures.

For all construction requiring special inspections, Spotsylvania County Special Inspections Program shall require a soil investigation and report to be performed. This report shall become an integral part of the construction documents submitted to the county during the application process.

IBC 1803.5.4 Ground-water table. A subsurface soil investigation shall be performed to determine whether the existing ground-water table is above or within 5 feet (1524 mm) below the elevation of the lowest floor level where such floor is located below the finished ground level adjacent to the foundation.

Exception: A subsurface soil investigation to determine the location of the ground-water table shall not be required where waterproofing is provided in accordance with Section 1805.

IBC 1803.6 Reporting. Where geotechnical investigations are required, a written report of the investigations shall be submitted to the building official by the owner or authorized agent at the time of permit application. This geotechnical report shall include, but need not be limited to, the following information:

1. A plot showing the location of soil investigations.
2. A complete record of the soil boring and penetration test logs and soil samples.
3. A record of the soil profile.
4. Elevation of the water table, if encountered.
5. Recommendations for foundation type and design criteria, including but not limited to: bearing capacity of natural or compacted soil; provisions to mitigate the effects of expansive soils; mitigation of the effects of liquefaction, differential settlement and varying soil strength; and the effects of adjacent loads.
6. Expected total and differential settlement.
7. Deep foundation information in accordance with Section 1803.5.5.
8. Special design and construction provisions for foundations of structures founded on expansive soils, as necessary.

9. Compacted fill material properties and testing in accordance with Section 1803.5.8.

7. Inspection of Sprayed Fire-Resistant Materials

IBC 1704.12 Sprayed fire-resistant materials. Special inspections for sprayed fire-resistant materials applied to floor, roof and wall assemblies and structural members shall be in accordance with Sections 1704.12.1 through 1704.12.6. Special inspections shall be based on the fire-resistance design as designated in the approved construction documents. The tests set forth in this section shall be based on samplings from specific floor, roof and wall assemblies and structural members. Special inspections shall be performed after the rough installation of electrical, automatic sprinkler, mechanical and plumbing systems and suspension systems for ceilings, where applicable.

IBC 1704.12.1 Physical and visual tests. The special inspections shall include the following tests and observations to demonstrate compliance with the listing and the fire-resistance rating:

1. Condition of substrates.
2. Thickness of application.
3. Density in pounds per cubic foot (kg/m^3).
4. Bond strength adhesion/cohesion.
5. Condition of finished application.

IBC 1704.12.2 Structural member surface conditions. The surfaces shall be prepared in accordance with the approved fire-resistance design and the written instructions of approved manufacturers. The prepared surface of structural members to be sprayed shall be inspected before the application of the sprayed fire-resistant material.

IBC 1704.12.3 Application. The substrate shall have a minimum ambient temperature before and after application as specified in the written instructions of approved manufacturers. The area for application shall be ventilated during and after application as required by the written instructions of approved manufacturers.

IBC 1704.12.4 Thickness. No more than 10 percent of the thickness measurements of the sprayed fire-resistant materials applied to floor, roof and wall assemblies and structural members shall be less than the thickness required by the approved fire-resistance design, but in no case less than the minimum allowable thickness required by Section 1704.12.4.1

IBC 1704.12.4.1 Minimum allowable thickness. For design thicknesses 1 inch (25mm) or greater, the minimum allowable individual thickness shall be the design thickness minus $\frac{1}{4}$ inch (6.4 mm). For design thicknesses less than 1 inch (25 mm), the minimum allowable individual thickness shall be the design thickness minus 25 percent. Thickness shall be determined in accordance with ASTM E 605. Samples of the sprayed fire-resistant materials shall be selected in accordance with Sections 1704.12.4.2 and 1704.12.4.3.

IBC 1704.12.4.2 Floor, roof and wall assemblies. The thickness of the sprayed fire-resistant material applied to floor, roof and wall assemblies shall be determined in accordance with ASTM E 605, making not less than four measurements for each 1,000 square feet (93 m²) of the sprayed area in each story or portion thereof.

IBC 1704.12.4.2.1 Cellular decks. Thickness measurements shall be selected from a square area, 12 inches by 12 inches (305 mm by 305 mm) in size. A minimum of four measurements shall be made, located symmetrically within the square area.

IBC 1704.12.4.2.2 Fluted decks. Thickness measurements shall be selected from a square area, 12 inches by 12 inches (305 mm by 305 mm) in size. A minimum of four measurements shall be made, located symmetrically within the square area, including one each of the following: valley, crest and sides. The average of the measurements shall be reported.

IBC 1704.12.4.3 Structural members. The thickness of the sprayed fire-resistant material applied to structural members shall be determined in accordance with ASTM E 605. Thickness testing shall be performed on not less than 25 percent of the structural members on each floor.

IBC 1704.12.4.3.1 Beams and girders. At beams and girders thickness measurements shall be made at nine locations around the beam or girder at each end of a 12-inch (305 mm) length.

IBC 1704.12.4.3.2 Joists and trusses. At joists and trusses, thickness measurements shall be made at seven locations around the joist or truss at each end of a 12-inch (305 mm) length.

IBC 1704.12.4.3.3 Wide-flanged columns. At wide-flanged columns, thickness measurements shall be made at 12 locations around the column at each end of a 12-inch (305 mm) length.

IBC 1704.12.4.3.4 Hollow structural section and pipe columns. At hollow structural sections and pipe columns, thickness measurements shall be made at a minimum of four locations around the column at each end of a 12-inch (305 mm) length.

IBC 1704.12.5 Density. The density of the sprayed fire-resistant material shall not be less than the density specified in the approved fire-resistant design. Density of the sprayed fire-resistant material shall be determined in accordance with ASTM E 605. The test samples for determining the density of the sprayed fire-resistant materials shall be selected as follows:

1. From each floor, roof and wall assembly at the rate of not less than one sample for every 2,500 square feet (232 m²) or portion thereof of the sprayed area in each story.

2. From beams, girders, trusses and columns at the rate of not less than one sample for each type of structural member for each 2,500 square feet (232 m²) of floor area or portion thereof in each story.

IBC 1704.12.6 Bond strength. The cohesive/adhesive bond strength of the cured sprayed fire-resistant material applied to floor, roof and wall assemblies and structural members shall not be less than 150 pounds per square foot (psf) (7.18 kN/m²). The cohesive/adhesive bond strength shall be determined in accordance with the field test specified in ASTM E 736 by testing in-place samples of the sprayed fire-resistant material selected in accordance with Sections 1704.12.6.1 through 1704.12.6.3.

IBC 1704.12.6.1 Floor, roof and wall assemblies. The test samples for determining the cohesive/adhesive bond strength of the sprayed fire-resistant materials shall be selected from each floor, roof and wall assembly at the rate of not less than one sample for every 2,500 square feet (232 m²) of the sprayed area in each story or portion thereof.

IBC 1704.12.6.2 Structural members. The test samples for determining the cohesive/adhesive bond strength of the sprayed fire-resistant materials shall be selected from beams, girders, trusses, columns and other structural members at a rate of not less than one sample for each type of structural member for each 2,500 square feet (232 m²) of floor area or portion thereof in each story.

IBC 1704.12.6.3 Primer, paint and encapsulant bond tests. Bond tests to qualify a primer, paint or encapsulant shall be conducted when the sprayed fire-resistant material is applied to a primed, painted or encapsulated surface for which acceptable bond-strength performance between these coatings and the fire-resistant material has not been determined. A bonding agent approved by the SFRM manufacturer shall be applied to a primed, painted or encapsulated surface where the bond strengths are found to be less than required values.

Completion of Sprayed Fire-Resistant Materials

Upon completion of the sprayed fire-resistant material construction, the **Special Inspector** shall submit a completion letter to the **Architect of Record (AR)** and **Registered Design Professional in Responsible Charge**. After review and approval by the **AR** and **Registered Design Professional in Responsible Charge**, the **Special Inspector** shall submit the completion letter to Spotsylvania County Special Inspections Department. In addition, the **Special Inspector** shall indicate the date of completion on the **Final Report of Special Inspections**.

8. Inspection of Mastic and Intumescent Fire-Resistant Coatings

IBC 1704.13 Mastic and intumescent fire-resistant coatings. Special inspections for mastic and intumescent fire-resistant coatings applied to structural elements and decks shall be in accordance with AWCI 12-B (The Association of the Wall and Ceiling Industries International). Special inspections shall be based on the fire-resistance design as designated in the approved construction documents.

Completion of Mastic and Intumescent Fire-Resistant Coatings

Upon completion of mastic and intumescent fire-resistant construction, the **Special Inspector** shall submit a completion letter to the **Architect of Record (AR)** and **Registered Design Professional in Responsible Charge**. After review and approval by the **AR** and **Registered Design Professional in Responsible Charge**, the **Special Inspector** shall submit the completion letter to Spotsylvania County Special Inspections Department. In addition, the **Special Inspector** shall indicate the date of completion on the **Final Report of Special Inspections**.

9. Inspection of Exterior Insulation and Finish Systems

IBC 1704.14 Exterior insulation and finish systems (EIFS). Special inspections shall be required for all EIFS applications.

Exceptions:

1. Special inspections shall not be required for EIFS applications installed over a water-resistive barrier with a means of draining moisture to the exterior.
3. Special inspections shall not be required for EIFS applications installed over masonry or concrete walls.

IBC 1704.14.1 Water-resistive barrier coating. A water-resistive barrier coating complying with ASTM E 2570 requires special inspection of the water-resistive barrier coating when installed over a sheathing substrate.

Completion of Exterior Insulation and Finish Systems

Upon completion of the EIFS construction, the **Special Inspector** shall submit a completion letter to the **Architect of Record** and **Registered Design Professional in Responsible Charge**. After review and approval by the **Architect of Record** and **Registered Design Professional in Responsible Charge**, the **Special Inspector** shall submit the completion letter to Spotsylvania County Special Inspections Department. In addition, the **Special Inspector** shall indicate the date of completion on the **Final Report of Special Inspections**.

10. Inspection of Special Cases

IBC 1704.15 Special cases. Special inspections shall be required for proposed work that is, in the opinion of the building official, unusual in its nature, such as, but not limited to, the following examples:

1. Construction materials and systems that are alternatives to materials and systems prescribed by this code.
2. Unusual design applications of materials described in this code.
3. Materials and systems required to be installed in accordance with additional manufacturer's instructions that prescribe requirements not contained in this code or in standards referenced by this code.

Note: The Building Official shall identify any special cases requiring additional special inspection before issuance of the building permit.

Completion of Special Case Construction

Upon completion of any construction, deemed by the **Building Official** as being special case, the **Special Inspector** shall submit a completion letter to the **Architect of Record** and **Registered Design Professional in Responsible Charge**. After review and approval by the **Architect of Record** and **Registered Design Professional in Responsible Charge**, the **Special Inspector** shall submit the completion letter to Spotsylvania County Special Inspections Department. In addition, the **Special Inspector** shall indicate the date of completion on the **Final Report of Special Inspections**.

11. Inspection of Smoke Control Systems

IBC 1704.16 Special inspection for smoke control. Smoke control systems shall be tested by a special inspector.

IBC 1704.16.1 Testing scope. The test scope shall be as follows:

1. During erection of ductwork and prior to concealment for the purposes of leakage testing and recording of device location.
2. Prior to occupancy and after sufficient completion for the purposes of pressure difference testing, flow measurements, and detection and control verification.

IBC 1704.16.2 Qualifications. Special inspection agencies for smoke control shall have expertise in fire-protection engineering, mechanical engineering and certification as air balancers.

Completion of Smoke Control Systems

Upon completion of the smoke control systems, the **Special Inspector** shall submit a completion letter to the **Architect of Record** and **Registered Design Professional in Responsible Charge**. After review and approval by the **Architect of Record** and **Registered Design Professional in Responsible Charge**, the **Special Inspector** shall submit the completion letter to Spotsylvania County Special Inspections Department and the **Fire Marshall's Office**. In addition, the **Special Inspector** shall indicate the date of completion on **the Final Report of Special Inspections**.

REFERENCED DOCUMENTS

The following documents have been referenced during the formulation of the Spotsylvania County Special Inspections Program:

- The most current edition of the VUSBC.
- The most current edition of the IBC published by the International Code Council.
- Special Inspections: Implementation in Fairfax County; October 1, 2003.
- Hampton Roads Regional Special Inspection Guidelines and Procedures; June 1, 2005.
- National Practice Guidelines for Special Inspections by CASE (Council of American Structural Engineers); 2001.
- Model Program for Special Inspection: Based on IBC Chapter 17 by the International Code Council; 2005.

APPENDIX A

Statement of Special Inspections

Schedule of Special Inspections

Final Report of Special Inspections

Statement of Special Inspections Discrepancy Notice

SPOTSYLVANIA COUNTY SPECIAL INSPECTIONS PROGRAM

STATEMENT OF SPECIAL INSPECTIONS

Project Name: _____ **Permit Number:** _____

Project Address: _____ **Seismic Design Category:** _____

Permit Applicant: _____ **VUSBC Edition:** _____
_____ **Group:** _____
_____ **Construction Type:** _____

Building Owner: _____
Name Company

Owner's Address: _____

Architect of Record: _____
Name & License Company

Structural Engineer of Record: _____
Name & License Company

Geotechnical Engineer of Record: _____
Name & License Company

Special Inspector: _____
Name & License Company

General Contractor: _____
Name & License Company

**Registered Design Professional
in Responsible Charge:** _____
Name & License Company

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 Inspection Services 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.

The Special Inspector shall keep records of all inspections and shall furnish inspection reports to the building official, the registered design professional in responsible charge, the owner and the general contractor. All discrepancies shall be brought to the immediate attention of the General Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the building official and to the registered design professional in responsible charge prior to the completion of that phase of the work.

A Final Report of Special Inspections documenting completion of all required Special Inspections and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Occupancy.

All fees and costs related to the performance of special professional services shall be the responsibility of the owner.

Reviewed by Registered Design Professional in Responsible Charge:

Registered Design Professional
In Responsible Charge Seal

Signature & Date

Owner's Authorization:

Building Safety Department's Acceptance:

Signature & Date

Signature & Date

PROJECT NAME: PERMIT NUMBER:		APPLICABLE TO THIS PROJECT			
		Y/N	EXTENT/REFERENCE	AGENT	DATE COMPLETED
MATERIAL/ACTIVITY	TYPE OF INSPECTION				
EARTHWORK (SOILS)					
Site preparation (building)	Field inspection of proper excavation depth and have reached proper material, removal of deleterious material, etc.		Field review, IBC 1705.6, Soils report		
Fill material (building)	Classification and testing of fill materials		Field review, IBC 1705.6, Soils report		
Fill placement (building)	Field inspect subgrade prior to placement of compacted fill, verify proper preparation		Field review, IBC 1705.6, Soils report		
Fill placement (building)	Continuous verification of fill materials and maximum lift thickness		Field review, IBC 1705.6, Soils report		
Fill compaction (building)	Continuous In-place dry density tests		Field review, IBC 1705.6, Soils report		
Foundation subgrade	Field inspect subgrade prior to placement of concrete, verify bearing capacity		Field review, IBC 1705.6, Soils report		
DRIVEN DEEP FOUNDATION ELEMENTS					
Materials, sizes & lengths	Continuous verification with documents		IBC 1705.7, Soils report		
Test element capacities	Determine capacities on a continuous basis, Conduct additional tests as required		IBC 1705.7, Soils report		
Element installation	Continuous observation of driving operations Maintain complete & accurate records		IBC 1705.7, Soils report		
Element survey (include tip & butt elevs.), element locations & plumbness, Type & size of hammer	Continuous observation. Record # of blows per ft.of penetration, determine req'd penetr. to achieve design cap., document damage		IBC 1705.7, Soils report		
Steel elements	Additional inspections in accordance with IBC Section 1705.2		IBC 1705.7, Soils report		
Concrete elements & concrete filled elements	Additional inspections in accordance with IBC Section 1705.3		IBC 1705.7, Soils report		
Specialty elements	Additional inspections in accordance with the RDP in responsible charge		Approved construction documents & specifications		

PROJECT NAME:			APPLICABLE TO THIS PROJECT		
PERMIT NUMBER:					DATE
MATERIAL/ACTIVITY	TYPE OF INSPECTION	Y/N	EXTENT/REFERENCE	AGENT	COMPLETED
CAST-IN-PLACE FOUNDATION ELEMENTS					
Element installation	Continuous observation of drilling operations Maintain complete & accurate records		IBC 1705.8, Soils report		
Element survey, element locations & plumbness	Continuous observation. Record diameters, bell diameters, lengths, embedment into bedrock & adequate end-bearing strata capacity. Record concret or grout volumes.		IBC 1705.8, Soils report		
Concrete elements	Additional inspections in accordance with IBC Section 1705.3		IBC 1705.8, Soils report		
CONCRETE					
Materials	Review product supplied versus certificates of compliance and mix design		Submittal & field review IBC 1904.2.2, 1910.2, 1910.3 ACI 318:Ch. 4, 5.2 - 5.4		
Reinforcing steel	Rebar inspection and Field inspection of placement		Field Review, IBC 1910.4, ACI 318:3.5, 7.1 - 7.7		
Reinforcing steel welding	Verify weldability of reinforcing steel other than ASTM A706		Field Review, AWS D1.4, ACI 318:3.5.2		
Anchors where allowable loads have been increased	Inspection prior to and during placement of concrete		IBC 1908.5, 1909.1 ACI 318:8.1.3,21.2.8		
Formwork, shoring & reshoring	Field inspection of installation		Field Review, ACI 318:6.1.1		
Concreting operations & placement including shotcrete	Continuous field inspection of placement, proper application techniques		Field Review, ACI 318:5.9-10, IBC 1910.6, 1910.7, 1910.8		
When sampling fresh concrete to fabricate strength test specimens	Continuous slump test, air content test and determine concrete temperature		Field Review, IBC 1910.10, ASTM C172, C31, ACI 318:5.6,5.8		
Concrete curing	Field inspection of curing temperature and techniques		Field Review, ACI 318:5.11-13, IBC 1910.9		
Concrete strength	Evaluation of in-situ concrete strength		Lab.Testing, ACI 318:6.2		
Anchors in hardened concrete	Field inspection of installation		IBC 1909.1, ACI 318:3.8.6,8.1.3,21.1.8		

PROJECT NAME: PERMIT NUMBER:		APPLICABLE TO THIS PROJECT			
		Y/N	EXTENT/REFERENCE	AGENT	DATE COMPLETED
MATERIAL/ACTIVITY	TYPE OF INSPECTION				
PRESTRESSED CONCRETE					
Prestressing forces	Continuous inspection during application of prestressing forces		ACI 318:18.20		
Grouting of bonded prestressing tendons in the seismic force resisting system	Continuous inspection during grouting of bonded prestressing tendons		ACI 318:18.18.4		
PRECAST CONCRETE					
Erection and installation	Field inspection of in-place precast		ACI 318:Ch. 16		
MASONRY (LEVEL 1)					
Site prepared mortar proportions	Verify as masonry construction begins		Field review, ACI 530.1; Art. 2.6A		
Construction of mortar joints	Verify as masonry construction begins		Field review, ACI 530.1; Art. 3.3B		
Rebar, connectors & anchor location	Verify as masonry construction begins		Field review, ACI 530.1; Art. 3.4, 3.6A		
Prestressing technique	Verify as masonry construction begins		Field Review, ACI 530.1; Art. 3.6B		
Grade and size of prestressing tendons and anchorages	Verify as masonry construction begins		Field Review, ACI 530.1; Art. 2.4B, 2.4H		
Size & location of struct. elements	Review submittals & inspection of materials		Field Review, ACI 530.1; Art 3.3F		
Type, size & location of anchors	Inspection of anchorages		Field Review, ACI 530; Sec. 1.16.4.3, 1.17.1		
Specified size, grade & type of reinf.	Review submittals & inspection of materials		Field Review, ACI 530; Sec. 1.16, ACI 530.1; Art. 2.4, 3.4		
Welding of reinforcing bars	Continuous inspection of welding process		Field Review, ACI 530; Sec. 2.1.7.7.2, 3.3.3.4(c)		
Masonry protection during cold weather (below 40° F) or hot weather (above 90° F)	Inspection of protection techniques		Field Review, IBC 2104.4, ACI 530.1; Art. 1.8C, 1.8D		
Prestressing force	Continuous Insp. of application, measurement		Field Review, ACI 530.1; Art. 3.6B		
Grout space is clean	Verify prior to grouting		Field Review, ACI 530.1; Art. 3.2D, 3.2F		

PROJECT NAME: PERMIT NUMBER:		APPLICABLE TO THIS PROJECT			
		Y/N	EXTENT/REFERENCE	AGENT	DATE COMPLETED
MATERIAL/ACTIVITY	TYPE OF INSPECTION				
MASONRY (LEVEL 1) (CONT.)					
Placement of rebar & connectors, prestressing tendons & anchors	Verify prior to grouting		Field Review, ACI 530; Sec. 1.16, ACI 530.1; Art. 3.4, 3.4E, 3.6A		
Proportions of site-prepared grout & Prestressing grout for bonded tendons.	Verify prior to grouting		Field Review, ACI 530.1; Art. 2.6B		
Construction of mortar joints	Verify prior to grouting		Field Review, ACI 530.1; Art 3.3B		
Grouting of prestressing bonded tendons	Continuous inspection of grout placement		Field Review, ACI 530.1; Art 3.5, 3.6C		
Preparation of grout specimens, mortar specimens and/or prisms	Periodic observation of preparations		Field Review, IBC 2105.2.2, 2105.3, ACI 530.1; Art. 1.4B.2a.3, 1.4B.2.b.3, 1.4B.2.c.3, 1.4B.3, 1.4B.4		
Inspection compliance	Verify compliance with req'd inspection provisions of the construction documents and the approved submittals		Field Review, ACI 530.1; Art. 1.5		
f'm & f'aac	Verify prior to construction		ACI 530.1; Art. 1.4B		
Self-consolidating grout	Continuous inspection of slump flow & VSI as delivered to the site		ACI 530.1; Art. 1.5B.1.b.3		
MASONRY (LEVEL 2)					
Proportions of the site-mixed mortar, grout and prestressing grout for bonded tendons	Verify from the beginning of masonry construction		Field review, ACI 530.1; Art. 2.1, 2.6A-C, 2.4G.1b		
Placement of masonry units and construction of mortar joints	Verify from the beginning of masonry construction		Field review, ACI 530.1; Art. 3.3B		
Placement of rebar, connectors and prestressing tendons & anchorages	Verify from the beginning of masonry		Field Review, ACI 530; Sec. 1.16, ACI 530.1; Art. 3.2E, 3.4, 3.6A		
Grout space prior to grouting	Continuous inspection during construction		Field Review, ACI 530.1; Art 3.2D, 3.2F		

PROJECT NAME: PERMIT NUMBER:		APPLICABLE TO THIS PROJECT			
		Y/N	EXTENT/REFERENCE	AGENT	DATE COMPLETED
MATERIAL/ACTIVITY	TYPE OF INSPECTION				
MASONRY (LEVEL 2) (CONT.)					
Placement of grout	Continuous inspection during construction		Field Review, ACI 530.1; Art. 3.5		
Placement of prestressing grout	Continuous inspection during construction		Field Review, ACI 530.1; Art. 3.6C		
Size & location of struct. elements	Review submittals & inspection of materials		Field Review, ACI 530.1; Art 3.3F		
Type, size & location of anchors	Continuous inspection of anchorages		Field Review, ACI 530; Sec. 1.16.4.3, 1.17.1		
Specified size, grade & type of reinf. anchor bolts, tendons & anchors	Review submittals & inspection of materials		Field Review, ACI 530; Sec. 1.15, ACI 530.1; Art. 2.4, 3.4		
Welding of reinforcing bars	Continuous inspection of welding process		Field Review, ACI 530; Sec. 2.1.7.7.2, 3.3.3.4(b), (c)		
Protection of masonry during cold weather (temp. below 40° F) or hot weather (temp. above 90° F)	Inspection of protection techniques		Field Review, ACI 530.1; Art. 1.8C, 1.8D,		
Prestressing force	Continuous inspection of application and measurement of prestressing force		Field Review, ACI 530.1; Art. 3.6B		
Preparation of grout specimens, mortar specimens and/or prisms	Continuous observation of preparations		Field Review, ACI 530.1; Art. 1.4B.2.9.3, 1.4B.2.b.3, 1.4B.2.c.3, 1.4B.3, 1.4B.4		
Inspection compliance	Verify compliance with req'd inspection provisions of the construction documents and the approved submittals		Field Review, ACI 530.1; Art. 1.5		
f'm & f'aac	Verify prior to construction & every 5000 square ft. during construction		ACI 530.1; Art. 1.4B		
Premixed or preblended mortar and grout	Verify proportions of materials as delivered to the site		ACI 530.1; Art. 1.5B		
Self-consolidating grout	Continuous inspection of slump flow & VSI as delivered to the site		ACI 530.1; Art. 1.5B.1.b.3		

PROJECT NAME: PERMIT NUMBER:		APPLICABLE TO THIS PROJECT			
		Y/N	EXTENT/REFERENCE	AGENT	DATE COMPLETED
MATERIAL/ACTIVITY	TYPE OF INSPECTION				
STRUCTURAL STEEL					
Fabricators of structural load bearing members & assemblies	In-plant inspection of detailed fabrication & quality control procedures**		IBC 1704.2.5, 1704.2.5.1		
AISC Certified	Verify fabricator certification		AISC 360, Ch. N		
Structural steel inspections	verify in accordance with the quality assurance inspection requirements of AISC 360.		AISC 360, Ch. N, IBC 1705.2.1		
Inspection of welds	Inspections required prior to welding, during welding and after welding		AISC 360, Ch. N, IBC 1705.2.1		
High-strength bolts (HSB)	Inspections required prior to bolting, during bolting and after bolting		AISC 360, Ch. N, IBC 1705.2.1		
Frame joint details: bracing and stiffening, member location & joint details at each connection	Inspection of joint details for compliance		Field review, IBC 1704.3.2		
Cold-formed steel trusses	Verify installation of temporary bracing and permanent individual truss member bracing.		Approved truss submittal, IBC 1705.2.2.2		
STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL					
Cold-formed steel deck	Material identification markings & Review certified mill test report		Submittal & field review, Applicable ASTM material standards		
Floor and roof deck welds	Periodic inspection of welding process		Field Review, IBC 1705.2.2.1.1, AWS D1.3		
Weldability of reinforcing steel other than ASTM A706	Review report of material properties & periodic inspection of welding process		Field review, IBC 1705.2.2.1.2, AWS D1.4, ACI 318:3.5.2		

PROJECT NAME: PERMIT NUMBER:		APPLICABLE TO THIS PROJECT			
		Y/N	EXTENT/REFERENCE	AGENT	DATE COMPLETED
MATERIAL/ACTIVITY	TYPE OF INSPECTION				
STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL (CONT.)					
Reinforcing steel resisting flexural & axial forces in intermediate and special moment frames, and boundary elements of special structural walls of concrete and shear reinforcement.	Continuous inspection of welding process		Field review, IBC 1705.2.2.1.2, AWS D1.4, ACI 318:3.5.2		
Shear reinforcement	Continuous inspection of welding process		Field review, IBC 1705.2.2.1.2, AWS D1.4, ACI 318:3.5.2		
Other reinforcing steel	Periodic inspection of welding process		Field review, IBC 1705.2.2.1.2, AWS D1.4, ACI 318:3.5.2		
WOOD					
Fabricators of prefabricated structural elements	In-plant inspection of detailed fabrication & quality control procedures**		IBC 1704.2.5		
Prefabricated structural elements	Review submittal and verify installation		IBC 1704.5.5		
High-load diaphragms designed in accordance with Table 2306.2	Verify sheathing grade & thickness, verify framing member size at adjoining panel edges, fastener diameter & length, number of fastener lines and fastener spacing.		IBC 1704.5.5.1		
Metal-plate connected wood trusses	Verify installation of temporary bracing and permanent individual truss member bracing.		Approved truss submittal, IBC 1705.5.2		

SPRAYED FIRE-RESISTANT MATERIALS					
Surface conditions	Field review of structural member surface conditions prior to application		IBC 1705.13.2		
Application	Field review of application operations		IBC 1705.13.3		
Thickness	Field review of applied thickness		IBC 1705.13.4, ASTM E 605		
Density	Field review of material density		IBC 1705.13.5, ASTM E 605		
Bond strength	Field review of cohesive/adhesive bond		IBC 1705.13.6, ASTM E 605		
MASTIC AND INTUMESCENT FIRE RESISTANT COATINGS					
Structural elements & decks	Field review of application/installation		IBC 1705.14, AWCI 12-B		
EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS)					
Application	Field review of application/installation		IBC 1705.15		
EIFS WATER-RESISTIVE BARRIER COATING					
Application over sheathing	Field review of application/installation		IBC 1705.15.1, ASTM E2570		
SPECIAL CASES					
Alternative Materials & Systems	As requested by Building Official		IBC 1705.1.1		
SEISMIC RESISTANCE					
Seismic Requirements	As required and specified by RDP		IBC 1705.11 & 1705.12		
SMOKE CONTROL					
Special inspection of smoke control systems (2 stages)	1. Leakage testing and recording of device location. 2. Pressure difference testing, flow measurements, & detection and control verification		IBC 1705.17		

INSPECTION AGENTS	FIRM	ADDRESS	TELEPHONE
Special Inspector			
Testing Laboratory			
Testing Laboratory			
Testing Laboratory			

* 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.

Additional special inspections are required for seismic resistance in accordance with section IBC 1705.11 & 1705.12. Yes No

If additional inspections are required for seismic resistance, the registered design professional in responsible charge shall include the required inspections in an attachment to this form, and a written statement of responsibility from the contractor is required in accordance with IBC Section 1704.4.

Reviewed by Registered Design Professional in Responsible Charge:

Registered Design Professional
 In Responsible Charge Seal

 Signature

 Date

Accepted by Building Safety Department:

 Signature

 Date

SPOTSYLVANIA COUNTY SPECIAL INSPECTIONS PROGRAM

FINAL REPORT OF SPECIAL INSPECTIONS

Permit Number: _____ **Project Name:** _____

Project Address: _____

Special Inspector: _____

Architect of Record: _____

Structural Engineer of Record: _____

**Registered Design Professional
in Responsible Charge:** _____

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

Pursuant to the requirements of the Spotsylvania County Special Inspections Program, the special inspections specified for this project and itemized in the County approved Statement of Special Inspections have been completed and have been found to be in compliance with the County approved construction documents.

All violations observed during the special inspections services have been brought to the attention of the Registered Design Professional in Responsible Charge for resolution and approved by the Building Official.

Submitted by Special Inspector:

Special Inspector Seal

Signature & Date

Type or print Name

Reviewed by Registered Design Professional in Responsible Charge:

RDP Seal

Signature & Date

Type or print Name

Acceptance by Building Official:

Signature & Date

Code Compliance Department

APPENDIX B

§ 54.1 – 402 Chart A – General Design

The purpose of this chart 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.

§ 54.1 – 402 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.

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☐	Assembly	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	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, modifications 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 required 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.