

2021 Virginia Construction Code

CHAPTER 17 SPECIAL INSPECTIONS AND TESTS

SECTION 1704

SPECIAL INSPECTIONS AND TESTS, CONTRACTOR RESPONSIBILITY AND STRUCTURAL OBSERVATION

1704.1 General.

Special inspections and tests, statements of special inspections, responsibilities of contractors, submittals to the *building official* and *structural observations* shall meet the applicable requirements of this section.

1704.2 Special inspections.

Where application is made for *construction* as described in this section, the *owner* shall employ one or more special inspectors to provide inspections and tests during *construction* on the types of work listed under Section 1705. All individuals or agents performing special inspection functions shall operate under the direct supervision of a *registered design professional* (RDP) in responsible charge of special inspection activities, also known as the "special inspector." The special inspector shall ensure that the individuals under their charge are performing only those special inspections or laboratory testing that are consistent with their knowledge, training and certification for the specified inspection or laboratory testing.

Exceptions:

1. The building official shall be permitted to waive special inspections and tests.
2. Special inspections and tests are not required for:
 - 2.1. One story *buildings* under 20 feet (6096 mm) in height which do not exceed 5,000 square feet (465 m²) in *building area*; or
 - 2.2. Alterations to Group U structures which do not increase loads in accordance with Sections 603.7.3 and 603.7.4 of the *Virginia Existing Building Code*.
3. Unless otherwise required by the building official, special inspections and tests are not required for occupancies in Group R-3, R-4 or R-5 and occupancies in Group U that are accessory to a residential occupancy including those listed in Section 312.1.
4. Special inspections and tests are not required for portions of structures designed and constructed in accordance with the cold-formed steel light-frame *construction* provisions of Section 2211.1.2 or the conventional light-frame *construction* provisions of Section 2308.
5. The contractor is permitted to employ the approved agencies where the contractor is also the *owner*.

1704.2.1 Special inspector qualifications.

Prior to the start of the construction, the *approved agencies* shall provide written documentation to the *building official* demonstrating the competence and relevant experience or training of the *special inspectors* who will perform the *special inspections* and tests during construction. Experience or training shall be considered to be relevant where the documented experience or training is related in complexity to the same type of special inspection or testing activities for projects of similar complexity and material qualities. These qualifications are in addition to qualifications specified in other sections of this code.

The *registered design professional in responsible charge* and engineers of record involved in the design of the project are permitted to act as an *approved agency* and their personnel are permitted to act as *special inspectors* for the work designed by them, provided they qualify as *special inspectors*.

1704.2.2 Access for special inspection.

The construction or work for which *special inspection* or testing is required shall remain accessible and exposed for *special inspection* or testing purposes until completion of the required *special inspections* or tests.

1704.2.3 Statement of special inspections.

The permit applicant shall submit a statement of special inspections prepared by the RDP in responsible charge in accordance with Section 111.1. This statement shall be in accordance with Section 1704.3.

Exception: 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*.

1704.2.4 Report requirement.

Approved agencies shall keep records of *special inspections* and tests. The *approved agency* shall submit reports of *special inspections* and tests to the *building official* and to the *registered design professional in responsible charge*. Reports shall indicate that work inspected or tested 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

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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 tests, and correction of any discrepancies noted in the inspections or tests, shall be submitted at a point in time agreed upon prior to the start of work by the *owner* or the *owner's* authorized agent to the *building official*.

1704.2.5 Special inspection of fabricated items.

Where fabrication of structural, load-bearing or lateral load-resisting members or assemblies is being conducted on the premises of a fabricator's shop, *special inspections* of the *fabricated items* shall be performed during fabrication, except where the fabricator has been *approved* to perform work without *special inspections* in accordance with [Section 1704.2.5.1](#).

1704.2.5.1 Fabricator approval.

Special inspections during fabrication are not required where the work is done on the premises of a fabricator *approved* to perform such work without *special inspection*. Approval shall be based on review of the fabricator's written fabrication procedures and quality control manuals that provide a basis for control of materials and workmanship, with periodic auditing of fabrication and quality control practices by an *approved agency* or the *building official*. At completion of fabrication, the *approved fabricator* shall submit a *certificate of compliance* to the *owner* or the *owner's* authorized agent for submittal to the *building official* as specified in [Section 1704.5](#) stating that the work was performed in accordance with the *approved construction documents*.

1704.3 Statement of special inspections.

Where *special inspections* or tests are required by [Section 1705](#), the *registered design professional in responsible charge* shall prepare a statement of *special inspections* in accordance with [Section 1704.3.1](#) for submittal by the applicant in accordance with [Section 1704.2.3](#).

Exception: 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*.

1704.3.1 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 inspections* or tests 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 inspections* or tests for seismic or wind resistance as specified in [Sections 1705.12](#), [1705.13](#) and [1705.14](#).
5. For each type of *special inspection*, identification as to whether it will be continuous *special inspection*, periodic *special inspection* or performed in accordance with the notation used in the referenced standard where the inspections are defined.

1704.3.2 Seismic requirements in the statement of special inspections.

Where [Section 1705.13](#) or [1705.14](#) specifies *special inspections* or tests for seismic resistance, the statement of *special inspections* shall identify the *designated seismic systems* and *seismic force-resisting systems* that are subject to the *special inspections* or tests.

1704.3.3 Wind requirements in the statement of special inspections.

Where [Section 1705.12](#) specifies *special inspection* for wind resistance, the statement of *special inspections* shall identify the *main wind force-resisting systems* and wind-resisting components that are subject to *special inspections*.

1704.4 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 force-resisting component listed in the statement of *special inspections* shall submit a written statement of responsibility to the *building official* and the *owner* or the *owner's* authorized agent prior to the commencement of work on the system or component. The contractor's statement of responsibility shall contain acknowledgement of awareness of the special requirements contained in the statement of *special inspections*.

1704.5 Submittals to the building official.

In addition to the submittal of reports of *special inspections* and tests in accordance with [Section 1704.2.4](#), reports and certificates shall be submitted by the *owner* or the *owner's* authorized agent to the *building official* for each of the following:

1. *Certificates of compliance* for the fabrication of structural, load-bearing or lateral load-resisting members or assemblies on the premises of an *approved fabricator* in accordance with [Section 1704.2.5.1](#).
2. *Certificates of compliance* for the seismic qualification of nonstructural components, supports and attachments in

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accordance with [Section 1705.14.2](#).

3. *Certificates of compliance* for designated seismic systems in accordance with [Section 1705.14.3](#).
4. Reports of preconstruction tests for shotcrete in accordance with [ACI 318](#).
5. *Certificates of compliance* for open web steel joists and joist girders in accordance with [Section 2207.5](#).
6. Reports of material properties verifying compliance with the requirements of [AWS D1.4](#) for weldability as specified in Section 26.6.4 of [ACI 318](#) for reinforcing bars in concrete complying with a standard other than [ASTM A706](#) that are to be welded.
7. Reports of mill tests in accordance with Section 20.2.2.5 of [ACI 318](#) for reinforcing bars complying with [ASTM A615](#) and used to resist earthquake-induced flexural or axial forces in the special moment frames, special structural walls or coupling beams connecting special structural walls of seismic force-resisting systems in structures assigned to Seismic Design Category B, C, D, E or F.

1704.6 Structural observations.

Where required by the provisions of [Section 1704.6.1](#), the owner or the owner's authorized agent shall employ a registered design professional to perform structural observations. The structural observer shall visually observe representative locations of structural systems, details and load paths for general conformance to the approved construction documents. Structural observation does not include or waive the responsibility for the inspections in [Section 110](#) or the special inspections in [Section 1705](#) or other sections of this code. Prior to the commencement of observations, the structural observer shall submit to the building official a written statement identifying the frequency and extent of structural observations. At the conclusion of the work included in the permit, the structural observer shall submit to the building official a written statement that the site visits have been made and identify any reported deficiencies that, to the best of the structural observer's knowledge, have not been resolved.

1704.6.1 Structural observations for structures.

Structural observations shall be provided for those structures where one or more of the following conditions exist:

1. The structure is classified as Risk Category III or IV.
2. The structure is a high-rise building.
3. The structure is assigned to Seismic Design Category E, and is greater than two stories above the grade plane.
4. Such observation is required by the registered design professional responsible for the structural design.
5. Such observation is specifically required by the building official.