



# SPECIAL INSPECTION SCHEDULE

City of Olympia  
Community Planning and Development  
Building Division Bulletin (Bulletin #06-2016)

**Subject: SPECIAL INSPECTION REQUIREMENTS**  
(International Building Code, Chapter 17, Section 1705)

**PROJECT:** \_\_\_\_\_ **PERMIT:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**TESTING AGENCY:** \_\_\_\_\_ **PHONE:** \_\_\_\_\_

Structural Engineer of Record (EOR)

\_\_\_\_\_  
Structural Engineer of Record Name

\_\_\_\_\_  
Structural Engineer of Record Signature & Date

Structural Observation Required IBC 1704.6

\_\_\_\_\_  
Structural Observer's Name

\_\_\_\_\_  
Structural Observer's Signature & Date

Architect of Record

\_\_\_\_\_  
Architect of Record Name

\_\_\_\_\_  
Architect of Record Signature and Date

Owner or Owner's Authorized Agent in Charge of Submittals to the Building Official IBC 1704.5:

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature & Date

Contractor

\_\_\_\_\_  
Contractor Name

\_\_\_\_\_  
Contractor Signature & Date

**A completed and signed copy of pages 1 through 3 of this form shall be submitted to this department prior to building permit approval.**

**2015 International Building Code; Chapter 17:**

- 1. Structural Steel 1705.2.1
- 2. Cold form steel deck 1705.2.2
- 3. Open-web steel joists & girders 1705.2.3
- 4. Cold form steel trusses spanning 60 feet or greater 1705.2.4
- 5. Concrete construction 1705.3 & Table 1705.3
- 6. Shotcrete 1705.3
- 7. Welding of reinforcing bars 1705.3.1
- 8. Material Tests 1705.3.2
- 9. Masonry Construction 1705.4
- 10. Empirically designed masonry, glass unit & masonry in Risk Category IV 1705.4.1
- 11. Vertical masonry foundation elements 1705.4.2
- 12. Wood construction 1705.5
- 13. High Load Diaphragms 1705.5.1
- 14. Metal-plate connected wood trusses spanning 60 feet or greater 1705.5.2
- 15. Soils 1705.6 & Table 1705.6
- 16. Driven deep foundations 1705.7 & Table 1705.7
- 17. Cast in-place deep foundations 1705.8 & Table 1705.8
- 18. Special inspections for wind resistance 1705.11
- 19. Structural wood 1705.11.1
- 20. Special inspection for seismic resistance 1705.12
- 21. Special inspection for structural steel per 1705.12.1
- 22. Special inspection for structural wood per 1705.12.2
- 23. Special inspection for cold-formed steel per 1705.12.3
- 24. Designated seismic systems 1705.12.4
- 25. Architectural components 1705.12.5
- 26. Plumbing, mechanical & electrical components 1705.12.6
- 27. Storage racks 1705.12.7
- 28. Seismic isolation systems 1705.12.8

- 29. Cold-formed steel special bolted moment frames 1705.12.9
- 30. Testing for seismic resistance 1705.13
- 31. Sprayed fire-resistance materials 1705.14
- 32. Mastic & intusement fire-resistance costings 1705.15
- 33. Fire-resistance penetrations and joints 1705.17
- 34. Exterior insulation & finish systems (EIFS) 1705.16
- 35. SIP Panel Installations PER ESR-1882
- 36. Testing for smoke control 1705.18
- 37. Special inspection of fabricated items 1704.2.5
- 38. Submittals to the building official 1704.5
- 39. Structures over 75' in height located in Seismic Design Category D, 1704.6.1
- 40. Structures classified as Risk Category III or IV located in Seismic Design Category D, 1704.6.1

**A PRE-CONSTRUCTION MEETING IS REQUIRED. The City Building Inspector must be contacted in advance of any work noted below. It is the responsibility of the owner or owner's designee to notify the Special Inspection Agency AND schedule a building inspection in a timely manner. Copies of all inspection reports must be posted on site and summary letters submitted to development service department and the registered design professional. Unresolved nonconformances must be brought to the immediate attention of the City Building Inspector. Send summary letters and nonconformance reports to the Development Services Department.**

**TABLE 1705.3  
REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION**

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD <sup>a</sup>	IBC REFERENCE
1. Inspect reinforcement, including prestressing tendons, and verify placement.	—	X	ACI 318 Ch. 20, 25.2, 25.3, 26.5.1-26.5.3	1908.4
2. Reinforcing bar welding: a. Verify weldability of reinforcing bars other than ASTM A 706; b. Inspect single-pass fillet welds, maximum $\frac{5}{16}$ "; and c. Inspect all other welds.	—   X	X  X	AWS D1.4 ACI 318: 26.5.4	—
3. Inspect anchors cast in concrete.	—	X	ACI 318: 17.8.2	—
4. Inspect anchors post-installed in hardened concrete members. <sup>b</sup> a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads. b. Mechanical anchors and adhesive anchors not defined in 4.a	X		ACI 318: 17.8.2.4	—
5. Verify use of required design mix.	—	X	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6. Prior to concrete placement, 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: 26.4.5, 26.12	1908.10
7. Inspect concrete and shotcrete placement for proper application techniques.	X	—	ACI 318: 26.4.5	1908.6, 1908.7, 1908.8
8. Verify maintenance of specified curing temperature and techniques.	—	X	ACI 318: 26.4.7-26.4.9	1908.9
9. Inspect prestressed concrete for: a. Application of prestressing forces; and b. Grouting of bonded prestressing tendons.	X X	— —	ACI 318: 26.9.2.1 ACI 318: 26.9.2.3	—
10. Inspect erection of precast concrete members.	—	X	ACI 318: Ch. 26.8	—
11. Verify 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: 26.10.2	—
12. Inspect formwork for shape, location and dimensions of the concrete member being formed.	—	X	ACI 318: 26.10.1(b)	—

**TABLE 1705.6  
REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS**

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
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 compacted fill materials.	—	X
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	X	—
5. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.	—	X

**TABLE 1705.7  
REQUIRED SPECIAL INSPECTIONS AND TESTS OF DRIVEN DEEP FOUNDATION ELEMENTS**

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
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. Inspect 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 elevations and document any damage to foundation element.	X	—
5. For steel elements, perform additional special inspections in accordance with Section 1705.2.	—	—
6. For concrete elements and concrete-filled elements, perform tests and additional special inspections in accordance with Section 1705.3.	—	—
7. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge.	—	—

**TABLE 1705.8  
REQUIRED SPECIAL INSPECTIONS AND TESTS OF CAST-IN-PLACE DEEP FOUNDATION ELEMENTS**

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. Inspect 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 tests and additional special inspections in accordance with Section 1705.3.	—	—

## SECTION 1703 APPROVALS

### 1703.1 Approved Agency

An approved agency shall provide all information as necessary for the building official to determine that the agency meets the applicable requirements specified in Sections 1703.1.1 through 1703.1.3.

#### 1703.1.1 Independence

An approved agency shall be objective, competent and independent from the contractor responsible for the work being inspected. The agency shall also disclose to the building official and the registered design professional possible conflicts of interest so that objectivity can be confirmed.

#### 1703.1.2 Equipment

An approved agency shall have adequate equipment to perform required tests. The equipment shall be periodically calibrated.

### **1703.1.3 Personnel**

An approved agency shall employ experienced personnel educated in conducting, supervising and evaluating tests and special inspections.

### **1703.2 Written Approval**

Any material, appliance, equipment, system or method of construction meeting the requirements of this code shall be approved in writing after satisfactory completion of the required tests and submission of required test reports.

### **1703.3 Record of Approval**

For any material, appliance, equipment, system or method of construction that has been approved, a record of such approval, including the conditions and limitations of the approval, shall be kept on file in the building official's office and shall be available for public review at appropriate times.

### **1703.4 Performance**

Specific information consisting of test reports conducted by an approved agency in accordance with the appropriate referenced standards, or other such information as necessary, shall be provided for the building official to determine that the product, material or assembly meets the applicable code requirements.

#### **1703.4.1 Research and Investigation**

Sufficient technical data shall be submitted to the building official to substantiate the proposed use of any product, material or assembly. If it is determined that the evidence submitted is satisfactory proof of performance for the use intended, the building official shall approve the use of the product, material or assembly subject to the requirements of this code. The costs, reports and investigations required under these provisions shall be paid by the owner or the owner's authorized agent.

#### **1703.4.2 Research Reports**

Supporting data, where necessary to assist in the approval of products, materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.

### **1703.5 Labeling**

Products, materials or assemblies required to be labeled shall be labeled in accordance with the procedures set forth in Sections 1703.5.1 through 1703.5.4.

#### **1703.5.1 Testing**

An approved agency shall test a representative sample of the product, material or assembly being labeled to the relevant standard or standards. The approved agency shall maintain a record of the tests performed. The record shall provide sufficient detail to verify compliance with the test standard.

#### **1703.5.2 Inspection and Identification**

The approved agency shall periodically perform an inspection, which shall be in-plant if necessary, of the product or material that is to be labeled. The inspection shall verify that the labeled product, material or assembly is representative of the product, material or assembly tested.

### **1703.5.3 Label Information**

The label shall contain the manufacturer's identification, model number, serial number or definitive information describing the performance characteristics of the product, material or assembly and the approved agency's identification.

### **1703.5.4 Method of Labeling**

Information required to be permanently identified on the product, material or assembly shall be acid etched, sand blasted, ceramic fired, laser etched, embossed or of a type that, once applied, cannot be removed without being destroyed.

### **1703.6 Evaluation and Follow-up Inspection Services**

Where structural components or other items regulated by this code are not visible for inspection after completion of a prefabricated assembly, the owner or the owner's authorized agent shall submit a report of each prefabricated assembly. The report shall indicate the complete details of the assembly, including a description of the assembly and its components, the basis upon which the assembly is being evaluated, test results and similar information and other data as necessary for the building official to determine conformance to this code. Such a report shall be approved by the building official.

#### **1703.6.1 Follow-up Inspection**

The owner or the owner's authorized agent shall provide for special inspections of fabricated items in accordance with Section 1704.2.5.

#### **1703.6.2 Test and Inspection Records**

Copies of necessary test and special inspection records shall be filed with the building official.

## **SECTION 1704 SPECIAL INSPECTIONS AND TESTS, CONTRACTOR RESPONSIBILITY AND STRUCTURAL OBSERVATIONS**

### **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 and Tests**

Where application is made to the building official for construction as specified in Section 105, the owner or the owner's authorized agent, other than the contractor, shall employ one or more approved agencies to provide special inspections and tests during construction on the types of work specified in Section 1705 and identify the approved agencies to the building official. These special inspections and tests are in addition to the inspections by the building official that are identified in Section 110.

**Exceptions:**

1. Special inspections and tests are not required for construction of a minor nature or as warranted by conditions in the jurisdiction as approved by the building official.
2. Unless otherwise required by the building official, special inspections and tests are not required for Group U occupancies that are accessory to a residential occupancy including, but not limited to, those listed in Section 312.1.
3. 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 2211.7 or the conventional light-frame construction provisions of Section 2308.
4. 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 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 the 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 applicant shall submit a statement of special inspections in accordance with Section 1704.1 as a condition for permit issuance. This statement shall be in accordance with Section 1704.3.

**Exception:**

1. A statement of special inspections is not required for portions of structures designed and constructed in accordance with the cold-formed steel light-frame construction provisions of Section 2211.7 or the conventional light-frame construction provisions of Section 2308.



#### **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 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.

#### **Exceptions:**

1. Special inspections during fabrication are not required where the fabricator maintains approved detailed fabrication and quality control procedures that provide a basis for control of the workmanship and the fabricator's ability to conform to approved construction documents and this code. Approval shall be based upon review of fabrication and quality control procedures and periodic inspection of fabrication practices by the building official.
2. Special inspections are not required where the fabricator is registered and approved 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 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 agency. 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:**

1. 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 1705.11, 1705.12 and 1705.13.
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 1705.12 or 1705.13 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 1705.11 specifies special inspection for wind resistance, the statement of special inspections shall identify the main windforce-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 acknowledgment 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 a registered and 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 accordance with Section 1705.13.2.
3. Certificates of compliance for designated seismic systems in accordance with Section 1705.13.3.
4. Reports of preconstruction tests for shotcrete in accordance with Section 1908.5.
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 26.5.4 of ACI 318 for reinforcing bars in concrete complying with a standard other than ASTM A 706 that are to be welded; and
7. Reports of mill tests in accordance with Section 20.2.2.5 of ACI 318 for reinforcing bars complying with ASTM A 615 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 or 1704.6.2, the owner or the owner's authorized agent shall employ a registered design professional to perform structural observations. 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 Seismic Resistance**

Structural observations shall be provided for those structures assigned to Seismic Design Category D, E or F where one or more of the following conditions exist:

1. The structure is classified as Risk Category III or IV.
2. The height of the structure is greater than 75 feet (22 860 mm) above the base as defined in ASCE 7.
3. The structure is assigned to Seismic Design Category E, is classified as Risk Category I or II, and is greater than two stories above grade plane.
4. When so designated by the registered design professional responsible for the structural design.
5. When such observation is specifically required by the building official.

#### **1704.6.2 Structural Observations for Wind Requirements**

Structural observations shall be provided for those structures sited where  $V_{asd}$  as determined in accordance with Section 1609.3.1 exceeds 110 mph (49 m/sec), where one or more of the following conditions exist:

1. The structure is classified as Risk Category III or IV.
2. The building height is greater than 75 feet (22 860 mm).
3. When so designated by the registered design professional responsible for the structural design.
4. When such observation is specifically required by the building official.

### **SECTION 1705 REQUIRED SPECIAL INSPECTIONS AND TESTS**

#### **1705.1 General**

Special inspections and tests of elements and nonstructural components of buildings and structures shall meet the applicable requirements of this section.

##### **1705.1.1 Special Cases**

Special inspections and tests 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.

**See list of special inspections and tests of elements and nonstructural components of the buildings and elements on pages 2 and 3 of this document.**

This form has been approved for use by the Olympia Community Planning and Development (CPD) Department.



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Keith Stahley, Director,  
Community Planning and Development

12/1/2016  
Date

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