## List of Required Structural Tests & Special Inspections - 2016 CBC

### INSTRUCTIONS:
Click a plus sign (+) before any category or subcategory to reveal additional tests and special inspections. A shaded box indicates a test or special inspection that may be required, depending on the scope of the construction and other issues. A shaded box can be clicked indicating your selection of that test. **Note:** A minus (-) on a category or subcategory heading indicates that it can be collapsed. However, any selections you may have made will be cleared. Click on the "COMPILE" button to show only the tests and inspections finally selected. For more information on use of this form, see DSA-103.INSTR.

### REQUIRED

**SOILS** (Indicate if project has geotechnical report):
- Project has a geotechnical report, or CDs indicate soils special inspection is required by GE.
- Project does NOT have and does NOT require a geotechnical report.

### CONCRETE

- **11. POST-INSTALLED ANCHORS:**
  - a. Inspect installation of post-installed anchors
    - See Notes
  - b. Test post-installed anchors.
    - Test

### MASONRY

- TMS 402-13/ACI 530-13/ASCE 5-13 Table 3.1.3 & TMS 602-13/ACI 530.1-13/ASCE 6-13 Table 5

### STEEL, ALUMINUM

- Table 1705A.2.1, AISC 303-10, AISC 360-10, AISC 341-10, AISC 358-10, AISI S100-07/S2-10

### WOOD

### OTHER

<table>
<thead>
<tr>
<th>REQUIRED</th>
<th>TEST OR SPECIAL INSPECTION</th>
<th>TYPE</th>
<th>PERFORMED BY</th>
<th>CODE REFERENCE AND NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>SOILS (Indicate if project has geotechnical report):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-</td>
<td>CONCRETE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-</td>
<td>11. POST-INSTALLED ANCHORS:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>x</td>
<td>a. Inspect installation of post-installed anchors</td>
<td>See Notes</td>
<td>SI* 1616A.1.19, Table 1705A.3 Item 4a (Continuous) &amp; 4b (Periodic) (See Appendix for exemptions). ACI 318-14 Sections 17.8 &amp; 26.13 * May be performed by the project inspector when specifically approved by DSA.</td>
<td></td>
</tr>
<tr>
<td>x</td>
<td>b. Test post-installed anchors.</td>
<td>Test</td>
<td>LOR 1910A.5 (1909.2.7*). (See Appendix for exemptions.)</td>
<td></td>
</tr>
<tr>
<td>+</td>
<td>MASONRY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+</td>
<td>STEEL, ALUMINUM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+</td>
<td>WOOD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+</td>
<td>OTHER</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**Note:** References are to the 2016 edition of the California Building Code (CBC) unless otherwise noted.

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**IMPORTANT:** This form is only a summary list of structural tests and some of the special inspections required for the project. Generally, the structural tests and special inspections noted on this form are those that will be performed by the Geotechnical Engineer of Record, Laboratory of Record, or Special Inspector. The actual complete test and inspection program must be performed as detailed on the DSA approved documents. The appendix at the bottom of this form identifies work NOT subject to DSA requirements for special inspection or structural testing. The project inspector is responsible for providing inspection of all facets of construction, including but not limited to, special inspections not listed on this form such as structural wood framing, high-load wood diaphragms, cold-formed steel framing, anchorage of non-structural components, etc., per Title 24, Part 2, Chapter 17A.

**NOTE:** This form is also available for projects submitted for review under the 2007, 2010, and 2013 CBC.
List of Required Structural Tests & Special Inspections - 2016 CBC

List of required verified report(s):

<table>
<thead>
<tr>
<th>No.</th>
<th>Post-Installed Anchors: Laboratory Verified Report - Form DSA-291, or, for independently contracting SI, Special Inspection Verified Report - Form DSA-292</th>
</tr>
</thead>
</table>

**KEY to Columns**

<table>
<thead>
<tr>
<th>1</th>
<th>Type -</th>
<th>2</th>
<th>Performed By -</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous</td>
<td>– Indicates that a continuous special inspection is required</td>
<td>GE</td>
<td>– Indicates that the special inspection is to be performed by a registered geotechnical engineer or his or her authorized representative</td>
</tr>
<tr>
<td>Periodic</td>
<td>– Indicates that a periodic special inspection is required</td>
<td>LOR</td>
<td>– Indicates that the test or special inspection is to be performed by a testing laboratory accepted in the DSA Laboratory Evaluation and Acceptance (LEA) Program. See CAC Section 4-335.</td>
</tr>
<tr>
<td>Test</td>
<td>– Indicates that a test is required</td>
<td>PI</td>
<td>– Indicates that the special inspection is to be performed by a project inspector</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SI</td>
<td>– Indicates that the special inspection is to be performed by an appropriately qualified/approved special inspector</td>
</tr>
</tbody>
</table>

**Scott Pullen**

Name of Architect or Engineer in general responsible charge

Name of Structural Engineer (When structural design has been delegated)

Signature of Architect or Structural Engineer date

++ In the CODE REFERENCE AND NOTES column indicates DSA-SS/CC sections that may be used by community colleges, per 2016 CBC Sec. 1.9.2.2.
Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

Exempt items given in IR A-22 or the 2016 CBC (including DSA amendments) and those items identified below with an "X" by the design professional are NOT subject to DSA requirements for the structural tests / special inspections noted. **Items marked as exempt shall be identified on the approved construction documents.** The project inspector shall verify all construction complies with the approved construction documents.

### Soils:

1. Deep foundations acting as a cantilever footing designed based on minimum allowable pressures per CBC Table 1806A.2 and having no geotechnical report for the following cases: A) free standing sign or scoreboard, B) cell or antenna towers and poles less than 35'-0" tall (e.g., lighting poles, flag poles, poles supporting open mesh fences, etc.), C) single-story structure with dead load less than 5 psf (e.g., open fabric shade structure), or D) covered walkway structure with an apex height less than 10'-0" above adjacent grade.

2. Shallow foundations, etc. are exempt from special inspections and testing by a Geotechnical Engineer for the following cases: A) buildings without a geotechnical report and meeting the exception item #1 criteria in CBC Section 1803A.2 supported by native soil (any excavation depth) or fill soil (not exceeding 12" depth per CBC Section 1804A.6), B) soil scarification/recompaction not exceeding 12" depth, C) native or fill soil supporting exterior non-structural flatwork (e.g., sidewalks, site concrete ramps, site stairs, parking lots, driveways, etc.), D) unpaved landscaping and playground areas, or E) utility trench backfill.

### Welding:

1. Solid-clad and open-mesh gates with maximum leaf span or rolling section for rolling gates of 10' and apex height less than 8'-0" above lowest adjacent grade. When located above circulation or occupied space below, these gates are not located within 1.5x gate/fence height (max 8'-0") to the edge of floor or roof.

2. Handrails, guardrails, and modular or relocatable ramps associated with walking surfaces less than 30' above adjacent grade (excluding post base connections per the 'Exception' language in Section 1705A.2.1); fillet welds cannot be ground flush.
### Concrete/Masonry:

1. Post-installed anchors for the following: A) exempt non-structural components (e.g., mechanical, electrical, plumbing equipment - see item 7 for "Welding") given in CBC Section 1616A.1.18 (which replaces ASCE 7-10, Section 13.1.4) or B) interior nonstructural wall partitions meeting criteria listed in exempt item 3 for "Welding."

2. Concrete batch plant inspection is not required for items given in CBC Section 1705A.3.3.2 subject to the requirements and limitations in that section.

3. Non-bearing non-shear masonry walls may be exempt from certain DSA masonry testing and special inspection items as allowed per IR 21-1.16. Refer to construction documents for specific exemptions accordingly for each applicable wall condition.

4. Epoxy shear dowels in site flatwork and/or other non-structural concrete.

5. Testing of reinforcing bars is not required for items given in CBC Section 1910A.2 subject to the requirements and limitations in that section.

### Structural Tests & Special Inspections:

3. Non-structural interior cold-formed steel framing spanning less than 15'-0", such as in interior partitions, interior soffits, etc. supporting only self weight and light-weight finishes or adhered tile, masonry, stone, or terra cotta veneer no more than 5/8" thickness and apex less than 20'-0" in height and not over an exit way. Maximum tributary load to a member shall not exceed the equivalent of that occurring from a 10'x10' opening in a 15' tall wall for a header or king stud.

4. Manufactured support frames and curbs using hot rolled or cold-formed steel (i.e., light gauge) for mechanical, electrical, or plumbing equipment weighing less than 2000# (equipment only) (connections of such frames to superstructure elements using welding will require special inspection as noted in selected item(s) for section 19, 19.1 and/or 19.2 of listing above).

5. Manufactured components (e.g., Tolco, B-Line, Afcon, etc.) for mechanical, electrical, or plumbing hanger support and bracing (connections of such components to superstructure elements using welding will require special inspection as noted in selected item(s) for section 19, 19.1 and/or 19.2 of listing above).

6. TV Brackets, projector mounts with a valid listing (see DSA IR A-5) and recreational equipment (e.g., playground structures, basketball backstops, etc.) (connections of such elements to superstructure elements using welding will require special inspection as noted in selected item(s) for section 19, 19.1 and/or 19.2 of listing above).

7. Any support for exempt non-structural components given in CBC Section 1616A.1.18 (which replaces ASCE 7-10, Section 13.1.4) meeting the following: A) when supported on a floor/roof, <400# and resulting composite center of mass (including component's center of mass) <= 4' above supporting floor/roof, B) when hung from a wall or rooffloor, <20# for discrete units or <5 plf for distributed systems.

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