



DSA-103 rev 9/7/2016

# Listing of Structural Tests & Special Inspections - 2013 CBC

INCREMENT #

DSA File No.: 27-37

Application No.: 01-117290

Date Submitted: 12/21/2017

Revised:

Revised:

School Name	Pacific Grove Adult Education	District	Pacific Grove Unified School District
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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.

**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.**

**NOTE:** This form is also available for projects submitted for review under the 2007 and 2010

Note: References are to the 2013 edition of the California Building Code (CBC) unless otherwise noted.

REQUIRED	TEST OR SPECIAL INSPECTION	TYPE 1	PERFORMED BY 2	CODE REFERENCE AND NOTES
-	<b>SOILS</b>			
	<b>1. GENERAL:</b>			Table 1705A.6
X	a. Verify that: • site has been prepared properly prior to placement of controlled fill and/or excavations for foundations, • foundation excavations are extended to proper depth and have reached proper material, and • materials below footings are adequate to achieve the design bearing capacity.	Periodic	GE*	* By geotechnical engineer or his or her qualified representative. (See Appendix for exemptions.)
-	<b>2. COMPACTED FILLS:</b>			Table 1705A.6
X	a. Perform qualification testing of fill materials.	Test	LOR*	* Under the supervision of the geotechnical engineer.
X	b. Verify use of proper materials and inspect lift thicknesses, placement, and compaction during placement of fill.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
X	c. Test compaction of fill.	Test	LOR*	* Under the supervision of the geotechnical engineer.
+	<b>3. DRIVEN DEEP FOUNDATIONS (PILES):</b>			Table 1705A.7
+	<b>4. CAST-IN-PLACE DEEP FOUNDATIONS (PIERS):</b>			Table 1705A.7
+	<b>5. RETAINING WALLS:</b>			
+	<b>6. OTHER SOILS:</b>			
-	<b>CONCRETE</b>			Table 1705A.3
-	<b>7. CAST IN PLACE CONCRETE</b>			
	<b>Material Verification and Testing:</b>			
X	a. Verify use of required design mix.	Periodic	SI*	* To be performed by qualified batch-plant inspector and concrete sampling technician
	b. Test reinforcing steel.	Test	LOR	1913A.2 (1913.2.6*). ASTM A370. DSA IR 17-10
X	c. Perform slump, temperature, air content tests, and sample concrete.	Test	LOR	ASTM C172, ASTM C31.



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X	d. Test concrete (compression).	Test	LOR	ACI 318 Section 5.6 and 1905A.1.2 (1913.3.1*). ASTM C39.
<b>Inspection:</b>				
X	e. Batch plant inspection	Continuous	SI	1705A.3.2; If approved by DSA, batch plant inspection may be reduced to periodic if plant complies with 1705A.3.3, Item 1, and requires first batch inspection, weighmaster, and batch tickets.
X	f. Batch plant inspection – design complies with 1705A.3.3 item 2	Periodic	SI	1705A.3.3, Item 2. Requires first batch inspection, weighmaster, and batch tickets.
	g. Not used.			
	h. Welding of reinforcing steel.	Provide special inspection per STEEL, category 19.1(d) & (e) and/or 19.2(g) & (h) below.		
	i. Not used.			
+	<b>8. PRESTRESSED CONCRETE (in addition to Cast in Place Concrete tests and inspections):</b>			
+	<b>9. PRECAST CONCRETE (in addition to Cast in Place Concrete tests and inspections):</b>			
+	<b>10. SHOTCRETE (in addition to Cast in Place Concrete tests and inspections):</b>			
-	<b>11. POST-INSTALLED ANCHORS:</b>			
X	a. Inspect installation of post-installed anchors	Periodic	SI*	Table 1705A.3 (See Appendix for exemptions.) * May be performed by the project inspector when specifically approved by DSA.
X	b. Test post-installed anchors.	Test	LOR	1913A.7 (1913.2.11*). ASTM E488. (See Appendix for exemptions.)
+	<b>12. OTHER CONCRETE:</b>			
+	<b>MASONRY</b> TMS 402-11/ACI 530-11/ASCE 5-11 Table 1.19.3			
-	<b>STEEL, ALUMINUM</b> Table 1705A.2.1			
-	<b>17. STRUCTURAL STEEL, COLD-FORMED STEEL, AND ALUMINUM USED FOR STRUCTURAL PURPOSES</b>			
<b>Material Verification:</b>				
X	a. Verify that all materials are appropriately marked and that: • Mill certificates indicate material properties that comply with requirements, • Material sizes, types and grades comply with requirements.	Periodic	*	* By special inspector or qualified technician when performed off-site.
X	b. Test unidentified materials	Test	LOR	2203A.1 (2203.1*). ASTM A370.
X	c. Examine seam welds of HSS shapes	Periodic	SI	DSA IR 17-3.
<b>Inspection:</b>				
	d. Not used.			
X	e. Verify and document steel fabrication per DSA approved construction documents.	Periodic	SI	Not applicable to cold-formed steel, except for trusses (1705A.2.2.4).
-	<b>19. WELDING:</b> DSA IR 17-3, AWS D1.1 and AWS D1.8 for structural steel, AWS D1.2 for Aluminum, AWS D1.3 for cold-formed steel, AWS D1.4 for reinforcing steel. (See Appendix for exemptions.)			
<b>Verification of Materials, Equipment, Welders, etc:</b>				
X	a. Verify weld filler material identification markings per AWS designation listed on the DSA approved documents and the WPS.	Periodic	SI	
X	b. Verify weld filler material manufacturer's certificate of compliance.	Periodic	SI	
X	c. Verify WPS, welder qualifications and equipment.	Periodic	SI	DSA IR 17-3.
-	<b>19.1 SHOP WELDING:</b>			
X	a. Inspect groove, multi-pass fillet welds > 5/16", plug and slot welds	Continuous	SI	Per AISC 360 (and AISC 341 as applicable). DSA IR 17-3.



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X	b. Inspect single-pass fillet welds $\leq 5/16"$	Periodic	SI	Per AISC 360 (and AISC 341 as applicable). DSA IR 17-3.
	c. Inspect welding of stairs and railing systems.	Periodic	SI	1705A.2.2.1 Per AISC 360 (and AISC 341 as applicable). DSA IR 17-3.
	d. Verification of reinforcing steel weldability	Periodic	SI	1705A.3.1; verify carbon equivalent reported on mill certificates. DSA IR 17-3.
	e. Inspect welding of reinforcing steel.	Continuous	SI	1705A.2.2.1.2, 1705A.2.2.5 and Table 1705A.2.1 Item 5b. AWS D1.4. DSA IR 17-3.
-	<b>19.2 FIELD WELDING:</b>			
X	a. Inspect groove, multi-pass fillet welds $> 5/16"$ , plug and slot welds	Continuous	SI	Per AISC 360 (and AISC 341 as applicable). DSA IR 17-3.
X	b. Inspect single-pass fillet welds $\leq 5/16"$	Periodic	SI	Per AISC 360 (and AISC 341 as applicable). DSA IR 17-3.
	c. Inspect end-welded studs (ASTM A-108) installation (including bend test)	Periodic	SI	Per AISC 360 (and AISC 341 as applicable), 2213A.2 (2212.6.2*). DSA IR 17-3.
X	d. Inspect floor and roof deck welds	Periodic	SI	Per AISC 360 (and AISC 341 as applicable). DSA IR 17-3.
X	e. Inspect welding of structural cold-formed steel	Periodic	SI*	* May be performed by the project inspector when specifically approved by DSA. DSA IR 17-3. 1705A.2.2.1.1 and 1705A.2.2.5
	f. Inspect welding of stairs and railing systems	Periodic	SI*	* May be performed by the project inspector when specifically approved by DSA. DSA IR 17-3. 1705A.2.2.1.1 and 1705A.2.2.5
	g. Verification of reinforcing steel weldability	Periodic	SI	1705A.3.1; verify carbon equivalent reported on mill certificates. DSA IR 17-3.
	h. Inspect welding of reinforcing steel.	Continuous	SI	1705A.2.2.1.2, 1705A.2.2.5 and Table 1705A.2.1 Item 5b. AWS D1.4. DSA IR 17-3.
+	<b>WOOD</b>			
-	<b>OTHER</b>			



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**List of required verified report(s):**

- 1 All Structural Testing: Laboratory Verified Report - Form DSA-291
- 2 Concrete Batch Plant Inspection: Laboratory Verified Report - Form DSA-291, or, for independently contracting SI, Special Inspection Verified Report - Form DSA-292
- 3 Shop Welding Inspection: Laboratory Verified Report - Form DSA-291, or, for independently contracting SI, Special Inspection Verified Report - Form DSA-292

**KEY to Columns**

1 Type -	2 Performed By -
<b>Continuous</b> – Indicates that a continuous special inspection is required	<b>GE</b> – Indicates that the special inspection is to be performed by a registered geotechnical engineer or his or her authorized representative
<b>Periodic</b> – Indicates that a periodic special inspection is required	<b>LOR</b> – Indicates that the test or inspection is to be performed by a testing laboratory accepted in the DSA Laboratory Evaluation and Acceptance (LEA) Program. See section 4-335, 2013 CCR Title 24, Part 1.
<b>Test</b> – Indicates that a test is required	<b>SI</b> – Indicates that the special inspection is to be performed by a special inspector
<div style="display: inline-block; background-color: red; color: white; padding: 5px; margin-right: 20px;">COMPILE</div> <div style="display: inline-block; background-color: red; color: white; padding: 5px;">PRINT</div>	

*David Peartree*  
Name of Architect or Engineer in general responsible charge

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

*[Signature]*  
Signature of Architect or Structural Engineer

12/21/17  
date



**IDENTIFICATION STAMP**  
DIV OF THE STATE ARCHITECT

APP. # 01-117298

AC N/A F/LS N/A SS [Signature]

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## Appendix: Work Exempt from DSA Requirements for Special Inspection or Structural Testing

Exempt items given in IR A-22 or the 2013 CBC (including DSA amendments) and those items identified below with an "X" by the design professional are NOT subject to DSA requirements for structural tests and special inspections. The project inspector shall verify all construction complies with the approved construction documents.

Exempted by Design Prof.	
<b>Soils:</b>	
X	1. Deep foundations acting as a cantilever footing designed based on minimum allowable pressures per 2013 CBC Table 1806A.2 and having no geotechnical report for the following types of structures: free standing sign, scrolling message sign, scoreboard, covered walkway or shade structure with dead load less than 5 psf and other light-weight structures of which the apex is less than 8' above the highest adjacent grade.
X	2. Shallow foundations meeting the exception item #1 criteria specified in 2013 CBC Section 1803A.2.
(Optional) List details for applicable exempt items:	
<b>Concrete/Masonry:</b>	
X	1. Post-installed anchors for the following: 1) exempt non-structural components (e.g., mechanical, electrical, plumbing equipment) given in ASCE 7-10, Section 13.1.4 (and modified by CBC Section 1616A.1.18) or 2) interior nonstructural wall partitions meeting criteria listed in exempt item 3 for "Welding."
X	2. Concrete batch plant inspection is not required for the following, provided they are <b>Identified</b> on the approved construction documents and the licensed weighmaster and batch ticket requirements of Section 1705A.3.3 are implemented: 1) site flatwork, 2) unenclosed site structures, including but not limited to lunch or car shelters, bleachers, solar structures, flag or light poles, or retaining walls less than 4'-0" above the top of foundation not supporting a surcharge and free standing nonbearing non-shear walls up to 6'-0" above adjacent grade, 3) controlled low-strength material backfill, 4) single-story relocatable buildings less than 2,160 square feet.

Exempted by Design Prof.	
<b>Welding:</b>	
X	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.
X	2. Handrails, guardrails, and modular or relocatable ramps associated with walking surfaces less than 30" above adjacent grade (excluding post base connections); fillet welds cannot be ground flush.
X	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.
X	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).
X	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).
X	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).





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<b>X</b>	3. Masonry retaining walls less than 4'-0" above the top of foundation not supporting a surcharge and free standing nonbearing non-shear masonry walls up to 6'-0" above adjacent grade do not require mortar or masonry core testing or DSA special inspection. For non-bearing non-shear masonry walls not exceeding total wall height of 12' above wall base, mortar test shall be permitted to be limited to those at the beginning of masonry work for each mix design. Core sampling and testing is not required for non-bearing non-shear masonry walls, not exceeding total wall height of 12' above wall base, built with single-wythe hollow unit concrete masonry that attaches opposite face shells using webs cast as single unit, when designed using an f'm not exceeding 1,500 psi (10.34 MPa).
<b>X</b>	4. Epoxy shear dowels in site flatwork.
(Optional) List details for applicable exempt items:	

<b>X</b>	7. Any support for exempt non-structural components given in ASCE 7-10, Section 13.1.4 (and modified by CBC Section 1616A.1.18) meeting the following: 1) when supported on a floor/roof, <400# and resulting composite center of mass (including component's center of mass) <= 4' above supporting floor/roof, 2) when hung from a wall or roof/floor, <20# for discrete units or <5 plf for distributed systems.
(Optional) List details for applicable exempt items:	