

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS, 2022 CBC

General

Application Number: 01-121433	School Name: Linda Vista Elementary School	School District: Alum Rock Union School District
DSA File Number: 43-4	Increment Number:	Date Created: 2023-12-28 08:38:57

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 (2022 CBC).

****NOTE:** Undefined section and table references found in this document are from the CBC, or California Building Code.

KEY TO COLUMNS

1. TYPE	2. PERFORMED BY
<p>Continuous – Indicates that a continuous special inspection is required</p> <p>Periodic – Indicates that a periodic special inspection is required</p> <p>Test – Indicates that a test is required</p>	<p>GE (Geotechnical Engineer) – Indicates that the special inspection shall be performed by a registered geotechnical engineer or his or her authorized representative.</p> <p>LOR (Laboratory of Record) – Indicates that the test or special inspection shall be performed by a testing laboratory accepted in the DSA Laboratory Evaluation and Acceptance (LEA) Program. See CAC Section 4-335.</p> <p>PI (Project Inspector) – Indicates that the special inspection may be performed by a project inspector when specifically approved by DSA.</p> <p>SI (Special Inspection) – Indicates that the special inspection shall be performed by an appropriately qualified/approved special inspector.</p>

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

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Geotechnical Reports: Project does NOT have and does NOT require a geotechnical report

S1. GENERAL:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify that: <ul style="list-style-type: none"> • 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. • Materials below footings must not contain loose material, mud, organic silt, organic clays, or peat. 	See Notes	PI	Refer to specific items identified in the Appendix listing exemptions for limitations. Placement of controlled fill exceeding 12" depth under foundations and/or within the building envelope is not permitted without a geotechnical report.

S2. SOIL COMPACTION AND FILL:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Perform classification and testing of fill materials.	Test	LOR*	* Under the supervision of the geotechnical engineer.
<input checked="" type="checkbox"/>	b. Verify use of proper materials, densities and inspect lift thicknesses, placement and compaction during placement of fill.	Continuous	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input checked="" type="checkbox"/>	c. Compaction testing.	Test	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.

S3. DRIVEN DEEP FOUNDATIONS (PILES):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify pile materials, sizes and lengths comply with the requirements.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.

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	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	b. Determine capacities of test piles and conduct additional load tests as required.	Test	LOR*	* Under the supervision of the geotechnical engineer.
<input type="checkbox"/>	c. Inspect driving operations and maintain complete and accurate records for each pile.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	d. Verify locations of piles and their 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 record any pile damage.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	e. Steel piles.	Provide tests and inspections per STEEL section below.		
<input type="checkbox"/>	f. Concrete piles and concrete filled piles.	Provide tests and inspections per CONCRETE section below.		
<input type="checkbox"/>	g. For specialty piles, perform additional inspections as determined by the registered design professional in responsible charge.	*	*	* As defined on drawings or specifications.

S4. CAST-IN-PLACE DEEP FOUNDATIONS (PIERS):				
	Test or Special Inspection	Type	Performed By	Code References and Note
<input type="checkbox"/>	a. Inspect drilling operations and maintain complete and accurate records for each pier.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input type="checkbox"/>	b. Verify pier locations, diameters, plumbness and lengths. Record concrete or grout volumes.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input type="checkbox"/>	c. Concrete piers.	Provide tests and inspections per CONCRETE section below.		

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Test or Special Inspection	Type	Performed By	Code References and Notes
S5. RETAINING WALLS:			
Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/> a. Placement, compaction and inspection of backfill.	Continuous	GE*	1705A.6.1. * By geotechnical engineer or his or her qualified representative. (See section S2 above).
<input type="checkbox"/> b. Placement of soil reinforcement and/or drainage devices.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/> c. Segmental retaining walls; inspect placement of units, dowels, connectors, etc.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative. See DSA IR 18-2.
<input type="checkbox"/> d. Concrete retaining walls.	Provide tests and inspections per CONCRETE section below.		
<input type="checkbox"/> e. Masonry retaining walls.	Provide tests and inspections per MASONRY section below.		

S6. OTHER SOILS:			
Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/> a. Soil Improvements	Test	GE*	Submit a comprehensive report documenting final soil improvements constructed, construction observation and the results of the confirmation testing and analysis to CGS (California Geological Survey) for final acceptance. * By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/> b. Inspection of Soil Improvements	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/> c.			

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

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Exempt items given in DSA IR A-22 or the 2022 CBC (including DSA amendments) and those items identified below with a check mark 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:	
<input type="checkbox"/>	1. Deep foundations acting as a cantilever footing with a design based on minimum allowable pressures per CBC Table 1806A.2 and without a 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.
<input type="checkbox"/>	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 with depth not exceeding 12".

CONCRETE/MASONRY:	
<input type="checkbox"/>	1. Post-installed anchors for the following: A) exempt non-structural components (e.g., mechanical, electrical, plumbing equipment - see item 7 for "Welding" in the Appendix below) given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) or B) interior nonstructural wall partitions meeting criteria listed in exempt item 3 for "Welding" in the Appendix below
<input type="checkbox"/>	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.
<input type="checkbox"/>	3. Non-bearing non-shear masonry walls may be exempt from certain DSA masonry testing and special inspection items as allowed per DSA IR 21-1. Refer to construction documents for specific exemptions accordingly for each applicable wall condition shown in Appendix A of IR 21-1.
<input type="checkbox"/>	4. Epoxy shear dowels in site flatwork and/or other non-structural concrete.

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	CONCRETE/MASONRY:
<input type="checkbox"/>	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.

	WELDING:
<input type="checkbox"/>	1. Solid-clad and open-mesh fences, gates with maximum leaf span of 10', and gates with a maximum rolling section of 10' all having an apex height less than 8'-0" above lowest adjacent grade. When located above circulation or occupied space below, these gates/fences are not located within 1.5x gate/fence height (max 8'-0") to the edge of floor or roof.
<input type="checkbox"/>	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 shall not be ground flush.
<input type="checkbox"/>	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.
<input type="checkbox"/>	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 Sections S/A3, S/A4 and/or S/A5 of listing above).
<input type="checkbox"/>	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 Sections S/A3, S/A4 and/or S/A5 of listing above).
<input type="checkbox"/>	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 sections S/A3, S/A4 and/or S/A5 located in the Steel/Aluminum category of listing above).


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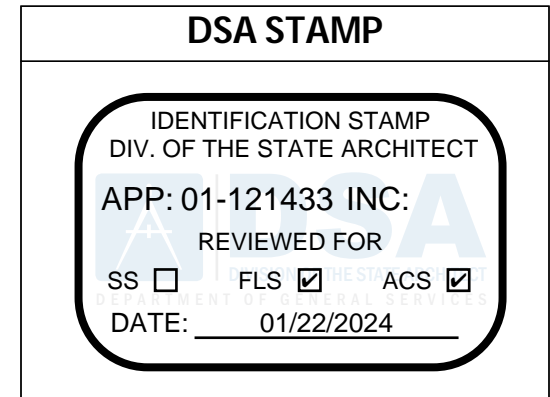
WELDING:	
<input type="checkbox"/>	7. Any support for exempt non-structural components given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) meeting the following: A) when supported on a floor/roof, <400# and resulting composite center of mass (including component's center of mass) $\leq 4'$ above supporting floor/roof, B) when hung from a wall or roof/floor, <20# for discrete units or <5 plf for distributed systems.

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Name of Architect or Engineer in general responsible charge: Brian Whitmore	
Name of Structural Engineer (When structural design has been delegated): 	
Signature of Architect or Structural Engineer: 	Date: 12/28/2023

Note: To facilitate DSA electronic mark-ups and identification stamp application, DSA recommends against using secured electronic or digital signatures.



DSA 103-22: LIST OF REQUIRED VERIFIED REPORTS, CBC 2022

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1. Structural Testing and Inspection: Laboratory Verified Report Form DSA 291
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