

DSA 103-19: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2019 CBC

Application Number: 04-120097 School Name: Diakronics, Inc. School District: Diakronics, Inc.
 DSA File Number: 04-120097 Pre Check Increment Number: 2021-05-11 13:37:57

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

1. GENERAL:	Table 1705A.6		
Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/> 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. * Materials below footings are adequate to achieve the design bearing capacity.	See Notes	PI	Refer to specific items identified in the Appendix listing exemptions for limitations. Placement of controlled fill exceeding 12" depth under foundations is not permitted without a geotechnical report.

2. SOIL COMPACTION AND FILL:	Table 1705A.6		
Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/> a. Verify use of proper materials, densities and inspect fill thickness, 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 type="checkbox"/> b. 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.

3. DRIVEN DEEP FOUNDATIONS (PILES):	Table 1705A.7		
Test or Special Inspection	Type	Performed By	Code References and Notes

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<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 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.			

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Table 1705A.3; ACI 318-14 Sections 26.12 & 26.13
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<input type="checkbox"/> a. Inspect shotcrete placement for proper application techniques.	Continuous	SI	1705A.19, Table 1705A.3 Item 7; 1908A.6, 1908A.7, 1908A.8, 1908A.9, 1908A.11, 1908A.12. See ACI 506.2-13 Section 3.4, ACI 508B-16.
<input type="checkbox"/> b. Sample and test shotcrete (f'c).	Test	LOR	1908A.5, 1908A.10.

11. POST-INSTALLED ANCHORS:			
Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/> a. Inspect installation of post-installed anchors	See Notes	SI*	1617A.1.19, Table 1705A.3 Item 4a (Continuous) & 4b (Periodic), 1705A.3.9 (See Appendix for exemptions), ACI 318-14 Sections 17.8 & 26.13. *May be performed by the project inspector when specifically approved by DSA.
<input type="checkbox"/> b. Test post-installed anchors.	Test	LOR	1910A.5. (See Appendix for exemptions.)

12. OTHER CONCRETE:			
Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/> a.			

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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.
<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.

4. CAST-IN-PLACE DEEP FOUNDATIONS (PIERS):	Table 1705A.6		
Test or Special Inspection	Type	Performed By	Code References and Notes

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Table 1705A.3; ACI 318-14 Sections 26.12 & 26.13
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7. CAST-IN-PLACE CONCRETE			
Test or Special Inspection	Type	Performed By	Code References and Notes
Material Verification and Testing:			
<input type="checkbox"/> a. Verify use of required design mix.	Periodic	SI	Table 1705A.3 Item 5, 1910A.1.
<input type="checkbox"/> b. Identify, sample, and test reinforcing steel.	Test	LOR	1910A.2; ACI 318-14 Section 26.6.1.2; DSA IR 17-10. (See Appendix for exemptions.)
<input type="checkbox"/> c. During concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	Test	LOR	Table 1705A.3 Item 6; ACI 318-14 Sections 26.5 & 26.12.
<input type="checkbox"/> d. Test concrete (f'c).	Test	LOR	1905A.1.15; ACI 318-14 Section 26.12.
Inspection:			
<input type="checkbox"/> e. Batch plant inspection: Eliminated	See Notes	SI	Default of "Continuous" per 1705A.3.3. If approved by DSA, batch plant inspection may be reduced to "Periodic" subject to requirements in Section 1705A.3.3.1, or eliminated per 1705A.3.3.2. (See Appendix for exemptions.)
<input type="checkbox"/> f. Welding of reinforcing steel.	Provide special inspection per STEEL, Category 19.1(d) & (e) and/or 19.2(g) & (h) below.		
8. PRESTRESSED / POST-TENSIONED CONCRETE (in addition to Cast-in-Place Concrete tests and inspections):			
Test or Special Inspection	Type	Performed By	Code References and Notes

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Table 1705A.2.1; AISC 360-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-16
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17. STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPOSES			
Test or Special Inspection	Type	Performed By	Code References and Notes
Material Verification and Testing:			
<input type="checkbox"/> a. Verify identification of all materials and: * Mill certificates indicate material properties that comply with requirements. * Material sizes, types and grades comply with requirements.	Periodic	-	Table 1705A.2.1 Item 3a-3c; 2202A.1; AISI S100-16 Section A3.1 & A3.2; AISI S240-15 Section A3 & A5; AISI S220-15 Sections A4 & A6. *By special inspector or qualified technician when performed on off-site.
<input type="checkbox"/> b. Test unidentified materials	Test	LOR	2201A.1.
<input type="checkbox"/> c. Examine seam welds of HSS shapes	Periodic	SI	DSA IR 17-3.
Inspection:			
<input type="checkbox"/> d. Verify and document steel fabrication per DSA approved construction documents.	Periodic	SI	Not applicable to cold-formed steel light-frame construction, except for trusses (1705A.2.4).
18. HIGH-STRENGTH BOLTS: RCSC 2014			
Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/> a. Verify identification markings and manufacturer's certificates of compliance conform to ASTM standards specified in the DSA-approved documents.	Periodic	SI	Table 1705A.2.1 Items 1a & 1b; 2202A.1; AISC S360-16 Section A3.3 & J3.1, and N3.2; RCSC 2014 Section 1.5 & 2.1; DSA IR 17-8 & DSA IR 17-9.

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<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.		

5. 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.3.1. * By geotechnical engineer or his or her qualified representative. (See Section 2 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 16-3.)
<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.		

6. OTHER SOILS:			
Test or Special Inspection	Type	Performed By	Code References and Notes

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Table 1705A.3; ACI 318-14 Sections 26.12 & 26.13
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Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/> a. Sample and test prestressing tendons and anchorages.	Test	LOR	1705A.3.4, 1910A.3
<input type="checkbox"/> b. Inspect placement of prestressing tendons.	Periodic	SI	1705A.3.4, Table 1705A.3 Items 1 & 9.
<input type="checkbox"/> c. Verify in-situ concrete strength prior to stressing of post-tensioning tendons.	Periodic	SI	Table 1705A.3 Item 11. Special inspector to verify specified concrete strength test prior to stressing.
<input type="checkbox"/> d. Inspect application of post-tensioning or prestressing forces and grouting of bonded prestressing tendons.	Continuous	SI	1705A.3.4, Table 1705A.3 Item 9; ACI 318-14 Section 26.13

9. PRECAST CONCRETE (in addition to Cast-in-Place Concrete tests and inspections):			
Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/> a. Inspect fabrication of precast concrete members.	Continuous	SI	ACI 318-14 Section 26.13.
<input type="checkbox"/> b. Inspect erection of precast concrete members.	Periodic	SI*	Table 1705A.3 Item 10. * May be performed by PI when specifically approved by DSA.

10. SHOTCRETE (in addition to Cast-in-Place Concrete tests and inspections):			
Test or Special Inspection	Type	Performed By	Code References and Notes

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Table 1705A.2.1; AISC 360-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-16
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<input type="checkbox"/> b. Test high-strength bolts, nuts and washers.	Test	LOR	Table 1705A.2.1 Item 1c; 2213A.1; RCSC 2014 Section 7.2; DSA IR 17-8.
Inspection of High-Strength Bolt Installation:			
<input type="checkbox"/> c. Bearing-type (snug tight) connections.	Periodic	SI	Table 1705A.2.1 Item 2a; 1705A.2.6; 2204A.2; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Section 9.1; DSA IR 17-9.
<input type="checkbox"/> d. Pretensioned and slip-critical connections.	-	SI	Table 1705A.2.1 Items 2b & 2c; 1705A.2.6; 2204A.2; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Sections 9.2 & 9.3; DSA IR 17-9. * Continuous or Periodic depends on the lightning method used.

19. WELDING:		1705A.2.5, Table 1705A.2.1 Items 4 & 5; 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; DSA IR 17-3 (See Appendix for exemptions.)	
Verification of Materials, Equipment, Welders, etc.:			
Test or Special Inspection	Type	Code References and Notes	
a. Verify weld filler material identification markings per AWS designation listed on the DSA-approved documents and the WPS.	Periodic	SI	DSA IR 17-3.
b. Verify weld filler material manufacturers certificate of compliance	Periodic	SI	DSA IR 17-3.
c. Verify WPS, welder qualifications and equipment.	Periodic	SI	DSA IR 17-3.

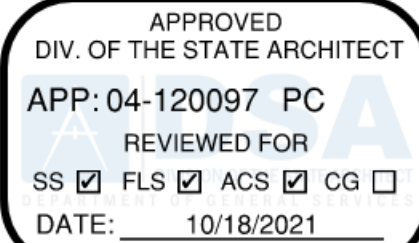
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DSA PRECHECK DRAWINGS



10/07/2021

STRUCTURAL ENGINEER OF RECORD



PROJECT-SPECIFIC APPROVALS

PRE-CHECK (PC) DOCUMENT
 Code: 2019 CBC
 A separate project application for construction is required.

THIS APPROVAL IS FOR ITEMS WITHIN CLOUDED AREAS ONLY. FOR OTHER INFORMATION NOT CONTAINED WITHIN CLOUDED AREAS, REFER TO ORIGINAL DSA APPROVED PLANS.

DO NOT USE THESE PLANS AS SUBSTITUTE FOR THE ORIGINAL DSA APPROVED PLANS

REV	DATE	DESCRIPTION	BY
02	10 SEP 21	UPDATED SHEET # OF 19 REMOVED REV CLOUD	DAK
01	13 MAY 21	DSA 103-19 LISTING OF STRUCTURAL TESTS AND SPECIAL INSPECTIONS (SOILS), 2019 CBC	DAK

DESIGNED BY: 2019 CBC DSA PRE-CHECK DRAWINGS	CHECKED BY: 2019 CBC DSA PRE-CHECK DRAWINGS
DRAWN BY: SHEET 2, DSA 103 SPECIAL INSPECTION FORM	DATE: 30 NOV 20
SCALE: 1/4" = 1'-0"	DO NOT SCALE DRAWING
PROJECT: SEASTMA	DATE: 10/18/2021
DESIGNED BY: SEASTMA	DATE: 10/18/2021
CHECKED BY: P2236	DATE: 10/18/2021
4682218	