

**FINAL STATEMENT OF REASONS  
OF THE  
DIVISION OF THE STATE ARCHITECT-STRUCTURAL SAFETY**

**REGARDING PROPOSED CHANGES TO THE  
CALIFORNIA BUILDING CODE  
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2**

The Administrative Procedure Act (APA) requires that an Initial Statement of Reasons (ISOR) be available to the public upon request when rulemaking action is being undertaken. The following information required by the APA pertains to this particular rulemaking action:

**UPDATES TO THE INITIAL STATEMENT OF REASONS:**

(Government Code Section 11346.9(a) (1) requires an update of the information contained in the initial statement of reasons. If update identifies any data or any technical, theoretical or empirical study, report, or similar document on which the state agency is relying that was not identified in the initial statement of reasons, the state agency shall comply with Government Code Section 11347.1)

There are no revisions to the Initial Statement of Reasons, as shown below (pages 1 through 28). DSA-SS responses to public comments received during the 45 Day Comment Periods are provided, commencing on page 29.

**STATEMENT OF SPECIFIC PURPOSE AND RATIONALE:**

Division of the State Architect-Structural Safety (DSA-SS)

The purpose of this proposed action is to adopt the 2009 International Building Code and structural safety amendments for use as the 2010 California Building Code (2010 CBC), for application to K-12 public schools, community colleges, state essential services buildings

Division of the State Architect-Structural Safety/Community Colleges (DSA-SS/CC)

This action also adopts 2010 CBC provisions for application to California Community College (CCC) buildings. Pursuant to Education Code Section 81052 and 81053(a), the proposed regulations provide alternative building standards that the CCC may utilize in lieu of the Field Act. These building standards include, where appropriate, the building standards governing the construction of structures at the California State University (CSU). CSU buildings are constructed to the California Building Code base chapters. The legislative intent of SB 588 (Chapter 704, 2008) is that the CCC structures not constructed in accordance with the Field Act meet the same seismic safety performance levels as those constructed to the requirements of the Field Act.

Currently, Chapters 16A, 17A, 18A, 19A, 20, 21A, 22A and 23 of the 2007 CBC apply to CCC structures. For ease of use and to meet the intent of the legislation, those California provisions needed for seismic performance are continued as amendments in Chapters 16, 19, 20, 21, 22, and 23. CA amendments to the testing and inspection requirements in Chapter 17A and the soils and foundations requirements in Chapter 18A apply to both Field act and CCC projects so these chapters are adopted by both DSA-SS and DSA-SS/CC.

As part of the CCC regulation development effort, all California amendments were reviewed by DSA in consultation with DSA Advisory Board and a SB 588 Technical Group formed for this purpose. California amendments deemed not to impact seismic safety performance levels are considered for repeal. Those amendments identified as relating to seismic safety performance levels are retained. Finally, amendments are proposed when the model or referenced standards are unclear or contradictory. In these cases, provisions proposed for the most current national standards are used when possible.

**Chapter 1 – Scope and Administration  
Division I**

Section 1.1.5 – Editorial clarification.

Section 1.9.2.2 – Added administrative provisions applicable to CCC structures.

## **Chapter 1 – Scope and Administration**

### **Division II**

Section 102.4.1 – This amendment clarifies that substitutes references to the International Code with the California Building Standards Codes.

Section 106.1.1 – Existing amendment relocated from Section 1603A.3.1 (2007 CBC).

## **Chapter 14 – Exterior Walls**

Section 1405.1.1 – Editorial revision.

Section 1409.1 – This section was relocated from Section 1408.1 (2007 CBC). The prescriptive requirements being repealed are covered in TMS 402-08/ACI 530-08/ASCE 5-08.

Section 1408.3 (2007 CBC) – Redundant section, which points to requirements in Chapter 17A, is deleted.

## **Chapter 15 – Roof Assemblies and Rooftop Structures**

Section 1507.3.10 – Amendment retained.

Section 1507.7.8 – This section was relocated from Section 1507.7.7. Editorial changes to improve clarity.

Section 1511 – Amendment retained.

Section 1511.6 (2007 CBC) – This section is deleted because it is redundant. It repeats requirements in Section 104.11 and the roof systems testing requirements that are covered in Section 1504.3.1.

## **Chapter 16 – Structural Design**

Chapter 16 is amended to include provisions for construction of California community colleges. The base document for the express terms is Chapter 16 of the 2009 IBC. The California amendments currently applicable to community college buildings are contained in Chapter 16A of the 2007 CBC. For this adoption, new amendments to the 2009 IBC and existing (2007 CBC) amendments that are retained or retained with revision are presented in the express terms. Amendments that are repealed are presented in the Repealer section at the end of the Chapter 16 express terms. In order to maintain usability of this chapter for non-DSA projects, all California amendments applicable to community colleges are grouped in a new Section 1615.

Section 1601.1.1 – New amendment. Scope Provisions for Community College structures.

Section 1601.1.2 – New amendment. Provisions for identifying amendments applicable to Community College structures.

Section 1601.1.3 – New amendment. Provisions identifying references to other chapters.

Section 1601.1.4 – New amendment. Provisions directs user to Section 1615 for community college amendments.

Section 1601.2 - Editorial revision of 2007 CBC Section 1601.2. Section references are revised because California Chapter 1 in the 2007 CBC will be relocated to Chapter 1, Division 1 in the 2010 CBC.

Section 1601.3 - Editorial revision of 2007 CBC Section 1601.2. Section reference is revised because Appendix Chapter 1 in the 2007 CBC will be relocated to Chapter 1 Division 2 in the 2010 CBC.

Section 1604A.3.7.1 (2007 CBC) – Repealed existing amendment to avoid duplication with ASCE 7 Section 12.12.4.

Section 1615 – All technical amendments to Chapter 16 are in consolidated in Section 1615.

Section 1615.1.1 – Consolidates retained amendments from 2007 CBC Sections 1603A.1, 1603A.1.5.1, and 1604A.11.

Section 1615.2.1 – Relocated from 2007 CBC Section 1604A.3.7

Section 1615.2.1.1 - Relocated from 2007 CBC Section 1604A.3.7.2. Modified existing amendment. Reference for wood diaphragm aspect ratios is changed to American Forest & Paper Association Special Design Provisions for Wind and Seismic, 2008 (AF & PA SDPWS -2008) since equivalent table in Chapter 23 is deleted in the 2009 IBC. Prescriptive reference to ICC ES AC 43 deleted.

Section 1615.2.1.2 – Relocated from Table 1604A.3 (2007 CBC) – Retain amendment for thick veneer. Repealed prescriptive veneer wall deflection limit and reference Chapter 14 requirement.

Section 1615.2.1.3 – Relocated from Table 1604A.5 (2007 CBC) – Retain amendment for Occupancy Category IV structures. Clarify application for access and egress.

Section 1615.3.1 – New amendment necessary for consistency with Section 1615.1.9. Stability checks in Section 1615A.1.10 (2007 CBC) are deleted.

Section 1615.4 – Relocated from Section 1606A.3 (2007 CBC). Existing amendment retained.

Section 1615.5.1 – Existing amendments to Table 1607A.1 (footnotes m, n, p and q) retained.

Section 1615.5.2 - Relocated from Section 1607A.11.2.2 (CBC 2007). Existing amendment retained.

Section 1615.6 – Relocated from Section 1608A.3 (2007 CBC). Existing amendment retained.

Section 1615.7.1 – Relocated from Section 1609A.1.1.2 (CBC 2007). Existing amendment retained.

Section 1615.7.2 – Relocated from Section 1609A.1.3 (CBC 2007). Existing amendment retained.

Section 1615.8 – New amendment to accommodate existing retained provision from Section 1612A.3 (2007 CBC).

Section 1615.9.1 – Relocated from Section 1613A.1.2 (CBC 2007). Existing amendment retained.

Section 1615.9.2 – Definitions relocated from Section 1613A.2 (CBC 2007). Definition of “Next Generation Attenuation” (NGA) relations is added for use in Geotechnical/Geohazard reports. Definition of “Active Earthquake Fault” revised to reflect current California Geologic Survey practice. Other existing definitions retained. Editorial revisions

Section 1615.9.3 – New amendment to accommodate existing retained provision from Section 1613A.5.1 (2007 CBC).

Section 1615.9.4 – New amendment to accommodate existing retained provision from Section 1613A.5.6 (2007 CBC).

Section 1615.9.5 – New amendment . Requirement that design of anchorage and bracing elements in sprinkler systems be in accordance with the 2010 CBC are added, since equivalent provisions in NFPA 13 are not consistent with 2010 CBC.

Section 1615.9.6 – Section 1613.7 (2009 IBC) is not adopted to retain the minimum wall force requirements in ASCE 7-05 for high seismic areas.

Section 1615.10.1 – Relocated from Section 1614A.1.1 (CBC 2007). Existing amendment retained. This section is revised to clarify requirements for structural design criteria and peer review requirements in the 2007 CBC and ASCE 7-05.

Section 1615.10.2 – Relocated from Section 1614A.1.2 (CBC 2007). Existing amendment retained. This revision coordinates requirements with Section 4-317(e) of the Building Standards Administrative Code (Part 1, Title 24, C.C.R).

Section 1615.10.3 – Existing amendment retained (Section 1614A.1.3, 2007 CBC)

Section 1615.10.4 – Existing amendment retained (Section 1614A.1.4, 2007 CBC). Repealed items f., g., and h. are covered in ASCE 7-05 Section 12.12.4.

Section 1615.10.5 - Existing amendment retained (Section 1614A.1.4, 2007 CBC). Based on the relative potential impact of irregularities on structure performance, restore SDC D for horizontal irregularity and soft or weak story irregularity. Maintain current limits extreme soft story

Section 1615.10.6 – Existing amendment retained (Section 1614A.1.6, 2007 CBC)

Section 1615.10.7 – Existing amendment retained (Section 1614A.1.8, 2007 CBC)

Section 1615.10.8 – Existing amendment retained (Section 1614A.1.9, 2007 CBC)

Section 1615.10.9 – Existing amendment retained and revised (Section 1614A.1.10, 2007 CBC). Deleted requirements for stability check (overturning and sliding) in this section are picked-up by the model code in Section 1605A.1.1.

Section 1615.10.10 – This section clarifies conditions under which nonstructural components may be exempt from anchorage and bracing design requirements. It is consistent with provisions proposed for ASCE 7-10.

Section 1615.10.11 – Existing amendment retained (Section 1614A.1.11, 2007 CBC)

Section 1615.10.12 – New amendment clarifies the use of power actuated fasteners and is consistent with ASCE 7-10.

Section 1615.10.13 - Existing amendment retained (Section 1614.12, 2007 CBC). Requirements for suspended ceiling systems has been clarified and revised to make it consistent with ASCE 7-10.

Section 1615.10.14 – New amendment clarifies the seismic design of electrical distribution systems in a manner consistent with ASCE 7-10.

Section 1615.10.15 – New amendment clarifies the seismic design of ductwork in a manner consistent with ASCE 7-10.

Section 1615.10.16 – New amendment clarifies the seismic design of piping systems in a manner consistent with ASCE 7-10.

Section 1615.10.17 – Existing amendment retained (Section 1614A.1.15, 2007 CBC)

Section 1615.10.18 – Existing amendment retained (Section 1614A.1.16, 2007 CBC)

Section 1615.1.19 – This amendment is added to permit the use of Next Generation Attenuation (NGA) relations for ground motions.

Section 1615.10.20 – New amendment clarifies the scaling of ground motions in a manner consistent with ASCE 7-10.

Section 1615.10.21 – New amendment clarifies the use of site-specific ground motions in a manner consistent with ASCE 7-10.

Section 1615.10.22 – Existing amendment retained (Section 1614A.1.18, 2007 CBC)

Section 1615.10.23 – Existing amendment retained (Section 1614A.1.19, 2007 CBC)

Section 1615.10.24 – Existing amendment retained (Section 1614A.1.23, 2007 CBC). Editorial changes.

Section 1615.10.25 – New amendment revised to permit the use of Next Generation Attenuation (NGA) relations for ground motions.

Section 1615.1.26 – This new amendment corrects ground motion scaling issues that can occur when the requirements of ASCE 7-05 Section 21.4 are applied.

Repealed Sections in Chapter 16.

Section 1602A.1 (2007 CBC) – Repealed existing definition. Amendment unrelated to seismic safety performance.

Section 1603A.1 (2007 CBC) – Existing amendment relocated to Chapter 1, Division 2, Section 106.1.

Table 1604A.3 (2007 CBC) – Repeal existing prescriptive veneer wall deflection limit for thin veneer. Amendment for thick veneer (greater than 1 inch) retained and relocated to Section 1615.2.1.2.

Section 1604A.3.8 (2007 CBC) – Amendment is deleted to avoid duplication with Section 104.11.

Table 1604A.5 (2007 CBC) – Existing amendment clarified and relocated to Section 1615.2.1.3.

Section 1605A.2.1.1 (2007 CBC) – This amendment is repealed, since local jurisdictions are not modifying the  $f_2$  factor for snow loads.

Section 1605A.3.2 (2007 CBC) – Existing amendment on nonstructural component anchorage is repealed. Covered in ASCE 7-05 Section 13.4.2.

Table 1607A.1 (2007 CBC) – Footnote “o” requiring 50 psf live load for classrooms repealed. Amendment unrelated to seismic safety performance. Remaining existing amendments retained and relocated to Section 1615.5.1 .

Section 1607A.11.2.2 (CBC 2007) – Existing amendment retained, relocated to 1615.5.2.

Section 1607A.13 (2007 CBC) – Existing amendment is repealed. Amendment unrelated to seismic safety performance.

Section 1609A.1.1 and 1609A.6 (2007 CBC) – California amendment is no longer necessary because it has been incorporated into model code. Deleted California amendments are not shown; only new model code amendments are shown to avoid confusion.

Section 1609A.4 (2007 CBC) – With availability of Google maps and other internet tools, a detailed verification submittal is no longer necessary.

Section 1612A.3 (2007 CBC) - Existing amendment retained and relocated to Section 1615.8.

Section 1613A.1 (2007 CBC) – Existing amendment repealed. Amendments are now located in Section 1615.9.1.

Section 1613A.1.1 (2007 CBC) – This section is deleted since requirements in the section duplicate alternative system requirements in the code.

Section 1613A.2 (2007 CBC) – Existing definitions are relocated in Section 1615.9.2. Definition “Soil-Structure Resonance” is deleted because it is no longer used in the code.

Section 1613A.5.6 (2007 CBC) – Existing amendments retained, relocated to Section 1615.9.4.

Section 1613.5.6.2 (2007 CBC) – Amendments repealed. Systems listed may be used since superstructure remains essentially elastic.

Section 1614A.1.13 (2007 CBC) – Deleted requirements are redundant because of the amendments to ASCE 7-05 in Sections 1615.1.10, 1615.14, 1615.15 and 1615.1.16.

Section 1614A.1.14 (2007 CBC) – Deleted requirements are consolidated into ASCE 7-05 Section 13.6.7 amendments in Section 1615.1.15.

Section 1614A.1.20 (2007 CBC) Amendment repealed. Inspection and replacement programs in ASCE 7 Section 17.2.4.8 are adequate.

Section 1614A.1.21 (2007 CBC) – Requirements moved to Section 1708A.5.

Section 1614A.1.22 (2007 CBC) – Amendment repealed. Instrumentation is not mandatory for buildings under DSA-SS jurisdiction.

Sections 1614A.1.24 (2007 CBC), 1614.1.26 (2007 CBC) through 1614A.1.31 (2007 CBC) – These sections are deleted. Base isolation is not commonly used for CCC structures and the model code provisions are deemed adequate for seismic safety performance.

## **Chapter 16A – Structural Design**

Section 1601A.1 – Section references are revised because California Chapter 1 in the 2007 CBC will be relocated to Chapter 1, Division 1 in the 2010 CBC.

Section 1602A.2 – Section reference is revised because Appendix Chapter 1 in the 2007 CBC will be relocated to Chapter 1 Division 2 in the 2010 CBC.

Section 1603A.1 – Editorial correction of reference to the California Administrative Code (Part 1, Title 24, C.C.R.).

Section 1603A.1.5 - Structural irregularities (defined in ASCE-7 section 12.3) can result in restrictions on building height, prohibition of certain configurations, increased design forces, additional analytical requirements, restriction of permissible analytical procedures, greater building separations, or additional detailing requirements for certain structural elements. It is often not evident whether one or more irregularities are applicable to a structure, because many of them require structural analysis to determine their applicability. This information is useful for building officials, plan checkers, peer reviewers, and for structural engineers in future building additions and/or alterations.

Section 1603A.1.10 – This editorial change relocates amendment on construction procedures to the appropriate section.

Section 1603A.3.1 – Live and snow load posting requirements are relocated to Chapter 1, Division 2.

Table 1604A.3 – Veneer wall deflection limit is revised to be consistent with Section 1405.10.

Section 1604A.3.7 – Reference for wood diaphragm aspect ratios is changed to American Forest & Paper Association Special Design Provisions for Wind and Seismic, 2008 (AF & PA SDPWS -2008) since equivalent table in Chapter 23 is deleted in the 2009 IBC.

Table 1604A.5 – This amendment clarifies those structures necessary for egress of an Occupancy Category IV structure are also Occupancy Category IV.

Section 1605A.1.1 - This amendment is necessary for consistency with Section 1615A.1.10.

Section 1605A.3.2 – ASCE 7-05 Section 13.4.2 is revised in Section 1615A.1.14 of this code, making the amendment unnecessary.

Section 1605A.4 – Existing amendment deleting exception is retained.

Table 1607A.1 – Editorial change, renumber item.

Section 1607A.22.2.2(2007 CBC) – Editorial change. Amendment relocated to Section 1607.11.5.

Section 1607A.11.5 – Editorial change, amendment relocated from CBC 2007 Section 1607A.11.2.2.

Section 1607A.13 – Editorial change. Refer to Table 1604A.3.

Section 1609A.1.1.3 – Editorial change. Amendment relocated from CBC 2007 Section 1609A.1.1.2.

Section 1609A.4 – With availability of Google maps and other internet tools, a detailed verification submittal is no

longer necessary.

Section 1609A.6.2 – Editorial clarification, the importance factor variable was undefined. Reference is made to the appropriate table in ASCE 7.

Section 1612A.3 – Existing amendment retained.

Section 1613A.1 – Existing amendment retained

Section 1613A.2 – Definition of “Next Generation Attenuation” (NGA) relations is added for use in Geotechnical/Geohazard reports. Definition of “Active Earthquake Fault” revised to reflect current California Geologic Survey practice. Definition “Soil-Structure Resonance” is deleted because it is no longer used in the code. Other existing definitions retained. Editorial revisions.

Section 1613A.5 – Existing amendment retained

Section 1613A.5.6 – Editorial changes made to the 2009 IBC made by ICC. Existing amendments retained.

Section 1613A.6.2 – Existing amendment retained

Section 1613A.6.3 – Requirements that design of anchorage and bracing elements in sprinkler systems be in accordance with the 2010 CBC are added, since equivalent provisions in NFPA – 13 are not consistent with 2010 CBC.

Section 1613A.6.4 – This section is deleted for consistency with Chapter 21A.

Section 1613.6.8 (2009 IBC) – Deleted redundant requirement that is covered in Section 1615A.1.18.

Section 1613.7 (2009 IBC) – This section is deleted to retain the minimum wall force requirements in ASCE 7-05 for high seismic areas.

Section 1615A.1.1 – This section is revised to clarify requirements for structural design criteria and peer review requirements in the 2007 CBC and ASCE 7-05.

Section 1615A.1.2 – Existing amendment retained. This revision coordinates requirements with Section 4-317(e) of the Building Standards Administrative Code (Part 1, Title 24, C.C.R).

Section 1615A.1.4 – Repealed items f., g., and h. are covered in ASCE 7-05 Section 12.12.4.

Section 1615A.1.9 – This proposal is based on modification to ASCE 7-10 proposed by SEAOC to eliminate affect of minimum diaphragm shear on amplified loads for collector design, since minimum shear is not tied to “R” factor.

Section 1615A.1.10 (2007 CBC) – Existing amendment retained. Deleted requirements for stability check (overturning and sliding) in this section is picked-up by the model code in Section 1605A.1.1.

Section 1615A.1.12 – This section clarifies conditions under which nonstructural components may be exempt from anchorage and bracing design requirements. It is consistent with provisions proposed for ASCE 7-10.

Section 1615A.1.14 – This section clarifies nonstructural anchorage requirements and makes them consistent with provisions proposed for ASCE 7-10.

Section 1615A.1.15 – This section clarifies the used of power actuated fasteners and is consistent with ASCE 7-10.

Section 1615A.1.16 (Section 1614.12, 2007 CBC) – This section on suspended ceiling systems has been clarified and revised to make it consistent with ASCE 7-10.

Section 1615A.1.19 – This section clarifies the seismic design of piping systems in a manner consistent with ASCE 7-10.

Section 1615A.1.20 – This section clarifies the seismic design of electrical distribution systems in a manner consistent with ASCE 7-10.

Section 1615A.1.21 – This section clarifies the seismic design of ductwork in a manner consistent with ASCE 7-10.

Section 1615A.1.22 – This section clarifies the seismic design of piping systems in a manner consistent with ASCE 7-10.

Section 1615A.1.25 – This amendment is added to permit the use of Next Generation Attenuation (NGA) relations for ground motions.

Section 1615A.1.26 – This section clarifies the scaling of ground motions in a manner consistent with ASCE 7-10.

Section 1615A.1.27 – This section clarifies the use of site-specific ground motions in a manner consistent with ASCE 7-10.

Section 1615A.1.31 – This section is revised to allow determination of seismic separations using different analysis approaches.

Section 1615A.1.32 – This section clarifies the use of site-specific ground motions in a manner consistent with ASCE 7-10.

Section 1615A.1.33 – This section is revised to permit linear analysis of base isolated buildings.

Section 1615A.1.34 – Design review provisions in Section 1614A.1.29 (2007 CBC) repealed, and design review provisions of the ASCE 7 incorporated in section 1615A.1.1. Amendment added to permit linear analysis of base isolated buildings.

Section 1615A.1.35 – This section is revised for consistency between analysis requirements in ASCE 7-05 Chapter 18 and the materials chapters of the 2010 CBC.

Section 1615A.1.36 – This section corrects ground motion scaling issues that can occur when the requirements of ASCE 7-05 Section 21.4 are applied.

#### Repealed Sections in Chapter 16A.

Section 1604A.3.7.1 – This section is deleted to avoid duplication with ASCE 7 Section 12.12.4.

Section 1605A.2.1.1 – This amendment is repealed, since local jurisdictions are not modifying the  $f_2$  factor for snow loads.

Sections 1609A.1.1 and 1609A.6 (2007 CBC) – California amendments are no longer necessary because they have been incorporated into model code..

Section 1613A.1.1 – This section is deleted since requirements in the section duplicate alternative system requirements in the code.

Section 1614A.1.13 (2007 CBC) – Deleted requirements are redundant because of the amendments to ASCE 7-05 in Sections 1615A.1.7, 1615A.18 and 1615A.1.19.

Section 1614A.1.14 (2007 CBC) – Deleted requirements are consolidated into ASCE 7-05 Section 13.6.7 amendments in Section 1615A.1.18.

Section 1614A.1.20 (2007 CBC) Amendment repealed. Inspection and replacement programs in ASCE 7 Section 17.2.4.8 are adequate.

Section 1614A.1.21 (2007 CBC) – Requirements moved to Section 1708A.5.

Section 1614A.1.22 (2007 CBC) – Amendment repealed. Instrumentation not mandatory for buildings under DSA-SS jurisdiction.

Sections 1614A.1.24 (2007 CBC), 1614A.1.27 (2007 CBC), 1614A.1.28 and 1614A.1.31 (2007 CBC) – These

sections are deleted, in conjunction with an amendment to Section 1614A.1.26 (2007 CBC), to permit design of buildings with base isolators and dampers without non-linear response history analysis in areas where site spectral acceleration at one second ( $S_1$ ) is less than 0.6g.

## **Chapter 17A - Structural Tests and Special Inspections**

Section 1701A.1 – This section is revised to include community college projects (DSA-SS/CC).

Section 1702A.1 – Definition of “Project Inspector” is added. This term is referenced in multiple sections of this chapter.

Section 1704A.1 – Existing amendments retained.

Section 1704A.1.2 – Exception repealed, since Project Inspector is now defined.

Sections 1704A.2.1 and 1704A.2.2 – Since fabricators are not approved by DSA, the exception to special inspection requirements for approved fabricators and the section on fabricator approval are deleted.

Section 1704A.3.1.4 – Existing amendments relocated from Section 1705A.3.1.1 (2007 CBC) are retained. Repealed portions are picked-up by model code. Welder qualification is required by AWS. Added a clarification that welding inspectors are to keep daily records.

Section 1704A.4 – Portions of existing amendment requiring special inspections for nonstructural slabs, patios, driveways, and sidewalks repealed.

Section 1704A.4.2 – Existing amendment retained. Editorial changes.

Section 1704A.4.3 – This section, relocated from Section 1704A.4.4 (2007 CBC) is revised to clarify the process for waiver of continuous batch plant inspection. The requirement for affidavit is repealed. The minimum concrete strength is revised for consistency with Table 1808A.8.1. Added a clarification that the qualified lab technician is to check the first batch of the day.

Section 1704A.4.4 – This section, relocated from Section 1704A.4.5 (2007 CBC) is revised. Repeal Item 2 (2007 CBC), which is redundant. Clarify that the inspector is to keep daily reports.

Section 1704A.4.5 – This section, relocated from Section 1704A.4.6 (2007 CBC) is revised. Repeal the redundant reference to special inspection prior to concrete placement. Clarify that observation by the registered design professional is not required prior to every concrete placement.

Section 1704A.4.6 – Existing amendment retained, relocated from Section 1704A.4.7 (2007 CBC)

Table 1704A.4 (CBC 2007) – California amendments in this table (Items # 3 and # 12) have been incorporated in model code in Table 1704.4 (Items # 3 & 4) and therefore are not being carried forward to 2010 CBC.

Section 1704A.5 – Existing amendment retained.

Table 1704A.5.1 – Existing amendment retained.

Section 1704A.5.2 – Existing amendment retained.

Section 1704A.5.3 – Existing amendment retained.

Table 1704A.5.3 – Add references for special inspection of post-installed anchors in masonry.

Section 1704A.6.4 – Added limitations to the types of timber connections that require continuous special inspection.

Section 1704A.7 – Clarifications of the role of the geotechnical engineer during the placement of fill. Clarifies that tested materials must be in conformance with the plans and specifications, rather than the recommendations of the geotechnical report.

Section 1704A.8.1 – Revised nomenclature to be consistent with terminology of the IBC. Deleted amendments is

redundant.

Section 1704A.9.1 – Redundant amendment. Design requirement picked up by section picked-up by IBC in Section 1810A.3.9.5.

Section 1704A.17 – Clarification for consistency with requirements of Section 1913A.

Section 1705A.3 – Continuing existing amendment.

Section 1707A.4 – Exception is deleted since gypsum board shear walls are not permitted by DSA. This is consistent with Section 1707A.3.

Section 1707A.6 – Existing amendment retained.

Section 1707A.9 – This amendment provides equivalent inspection requirements for dampers and isolators.

Section 1708A – Note this section has been complete revised in the model code.

Sections 1708A.1.1 & 1708A.1.2 (2007 CBC) – California amendments are picked-up by model code.

Section 1708A.1.3 – Model Code Errata.

Section 1708A.1.4 – Testing requirement for damping devices which are not addressed in the model code is added.

Section 1708A.3 – Exception deleted, since Seismic Design Category C is not permitted by DSA.

Section 1708A.5 – Testing requirements for damping system, which are not currently addressed in the code, are added. Also, prototype and production testing requirements for Isolator units and damping devices, which are currently in the 2007 CBC Section 1614A.1.21 and 1614A.1.31 are consolidated into this section.

Section 1710A.2 – Existing amendment retained (Section 1709A.2, 2007 CBC).

Section 1710A.3 – Existing amendment retained (Section 1709A.3, 2007 CBC).

#### Repealed Sections in Chapter 17A.

Section 1704A.3.2.1 – Existing amendment repealed. Redundant requirements

Section 1704A.4.2 – This amendment is deleted since requirements for welded rebar are now covered by Section 1704A.3.1.

Section 1704A.16 – Requirements for reinforced gypsum inspection is deleted since it is considered an alternative system in accordance with the Chapter 19A.

### **Chapter 18A – Soils and Foundations**

Note: This chapter was revised in its entirety in the 2009 IBC.

Section 1801A.1 – This section is revised to include community college projects (DSA-SS/CC).

Section 1803A.1 – Amendment relocated from Section 1802A.1 (2007 CBC). Reference to California Geological Survey (CGS) is deleted since the enforcement agency can choose a consultant other than CGS and in certain cases may not require any consultant.

Section 1803A.2 - Amendment relocated from Section 1802A.2 (2007 CBC).

Section 1803A.3 - Amendment relocated from Section 1802A.4.1 (2007 CBC).

Section 1803A.5.4 - Deletion of exception continued, relocated from Section 1802A.2.3, 2007 CBC.

Section 1803A.6.1.1 – Existing amendment retained, with editorial clarification to Exception 1.

Section 1803A.6.1.2 – Existing amendment retained, with editorial clarifications. Deleted requirements are covered by model code Sections 1803A.5.11 and 1803A.5.12.

Section 1803A.6.2 – Existing amendment retained. Section is revised to require Next Generation Attenuation (NGA) relations for site specific ground motion analysis, which are the most current accepted procedures and will be the basis of future building code.

Section 1803A.6.2.1 – Existing amendment retained.

Section 1803A.6.2.2 – Existing amendment retained. Delete reference to advisors. The enforcement agency may in some cases choose not retain advisors.

Section 1803A.7 – Existing amendment retained, relocated from Section 1802A.7, 2007 CBC. Editorial revisions for clarity.

Section 1805A.2 - Existing amendment relocated from Section 1807A.2 (2007 CBC).

Section 1807A.1.1 – Section is revised to make it consistent with requirements in Section 1803A.5.12.

Section 1807A.1.3 – Deleted provisions are not permitted in Seismic Design Categories D, E, and F, which are the only design categories permitted by DSA.

Section 1807A.1.4 – Existing amendments retained.

Section 1807A.1.5 – Existing amendments retained.

Section 1807A.1.6 – Existing amendments retained.

Section 1807A.2 – Amendments relocated from Section 1806A.

Section 1807A.2.2 – Section is revised for consistency with requirements in Section 1803.5.12. Deleted existing amendments are redundant since lateral soil pressure is provided by the geotechnical engineer.

Section 1807A.2.4 – Existing amendments retained, relocated from Section 1806A.2, 2007 CBC.

Section 1808A.2 – Existing amendments retained, relocated from Section 1805A.4.1, 2007 CBC. Editorial changes made to existing provisions for clarity.

Section 1808A.8 – Existing amendment deleting exception retained.

Table 1808A.8.1 – Deleted conditions not permitted by DSA.

Section 1808A.8.5 – Concrete cover requirements in defined in Table 1808.8.2 and ACI 318-08 Section 7.5.2.1 added tolerance requirement for concrete cover, which removed the rationale for existing amendment.

Section 1808A.8.6 – Existing amendments retained, which maintain column confinement requirements for piles just below cap and free standing piles in accordance with ACI 318-08.

Section 1809A.3 – Existing amendment retained, relocated from Section 1805A.1 (CBC 2007)

Section 1809A.7 – Existing amendment retained.

Section 1809A.8 – Existing amendment retained.

Section 1809A.9 – Existing amendment retained.

Section 1809A.10 – Existing amendment retained.

Section 1809A.12 – Existing amendment retained.

Section 1809A.14 – Existing amendment retained. Provision for alternative to prescriptive provisions, which are permitted on a case by case basis, is codified.

Section 1810A.3.1.5.1 – Seismic requirements for helical piles are added. ICC AC 358, which is the basis of helical piles provisions in 2009 IBC, limited helical foundations to Seismic Design Categories A, B, and C. When helical foundation requirements were adopted in 2009 IBC, restriction for Seismic Design Categories D, E, and F were omitted accidentally.

Section 1810.3.2.1.2 – Amendment maintains minimum reinforcement requirements for deep foundations.

Section 1810A.3.2.4 - Existing amendment retained.

Section 1810A.3.8.3.2 – Requirements for Seismic Design Category C are deleted since Seismic Design Category C are not permitted by Section 1613A.

Section 1810A.3.8.3.3 - Existing amendment retained.

Section 1810A.3.9.4.2.1 – Clarifies that the reduction in spiral reinforcement is limited to the buried portion of the pier.

Section 1810A.3.10.4 – Alternative system submittal requirement in the code is removed by explicitly providing requirements for use of micropiles in Seismic Design Categories D, E or F.

Section 1810A.4.1.5 - Existing amendment retained. Timber piles are not permitted by DSA.

Section 1810A.4.7 – Revision in model code to design requirements for enlarged pile made them equivalent to other cast-in-place concrete, which removed the rationale for original amendments.

#### Repealed Sections in Chapter 18A.

Section 1802A.2.8 (2007 CBC) – California amendment for high sulfate soils have been incorporated into the model code in Chapter 19A.

Section 1810A.2.23.2.4 (CBC 2007) – California amendment is picked-up by model code in Section 1810A.2.4.1.

Section 1805A.6 (CBC 2007) – Amendment is being deleted since it duplicates provisions in Chapters 19, 22, and 23.

Section 1806A.1 (2007 CBC) – Amendment is being deleted since it duplicate requirements in Section 1807A.2

#### **Chapter 19 – Concrete**

Chapter 19 is amended to include provisions for construction of California community colleges. The base document for the express terms is Chapter 16 of the 2009 IBC. The California amendments currently applicable to community college buildings are contained in Chapter 19A of the 2007 CBC. For this adoption, new amendments to the 2009 IBC and existing (2007 CBC) amendments that are retained or retained with revision are presented in the express terms. Amendments that are repealed are presented in the Repealer section at the end of the Chapter 19 express terms. In order to maintain usability of this chapter for non-DSA projects, all California amendments applicable to community colleges are grouped in Section 1916.

Section 1901.1.1 – Revisions to scope Provisions to apply to Community College structures.

Section 1901.1.2 – Provisions for identifying amendments applicable to Community College structures added.

Section 1901.1.3 – Provisions identifying references to other chapters added.

Section 1901.1.4 – New section directs user to DSA-SS/CC amendments in Section 1916.

Section 1916.1 – Amendments applicable to DSA-SS/CC consolidated in this Section.

Section 1916.1.1 – Existing amendment retained (Section 1903A.2, 2007 CBC).

Section 1916.1.2 – Existing amendments retained (Section 1903A.3, 2007 CBC).

Section 1916.1.3 – Existing amendments retained (Section 1903A.5, 2007 CBC).

Section 1916.1.4 – Discontinuous steel fibers had not yet been tested for use in high seismic regions; therefore they are prohibited in this section.

Section 1916.1.5 – Existing amendments retained (Section 1916A.1, 2007 CBC).

Sections 1916.1.6 – Contents of Sections 1916A.2 & 1916A.2 are consolidated into Section 1916.6. When tests of reinforcement are waived, certified mill test reports are required. Also, reference to 2500 psi concrete is deleted since it is not permitted anymore.

Section 1916.1.7 – Existing amendments retained (Section 1916A.3, 2007 CBC).

Section 1916.1.8 – Existing amendments retained (Section 1916A.5, 2007 CBC).

Section 1916.1.9 – Existing amendments retained (Section 1916A.6, 2007 CBC).

Section 1916.1.10 – Existing amendments retained (Section 1916A.7, 2007 CBC).

Section 1916.11 – Existing amendments retained and revised (Section 1916A.8, 2007 CBC). This section provides revised requirements for post-installed concrete anchor, incorporating concepts currently contained in DSA IR 19-1 and OSHPD CAN 2-1916A.8.

Section 1916.2.1 - Existing amendment retained (Section 1905A.2, 2007 CBC). Editorial revisions to eliminate duplicative requirement.

Section 1916.2.2 - Existing amendment retained (Section 1906A.2, 2007 CBC).

Section 1916.3.1 - Existing amendment retained (Section 1905A.6.2.1, 2007 CBC)

Section 1916.3.2.1 - Existing amendment retained (Section 1906A.3.1, 2007 CBC)

Section 1916.3.2.2 - Existing amendment retained (Section 1906A.3.2, 2007 CBC)

Section 1916.3.3.1 - Existing amendment retained (Section 1906A.4, 2007 CBC)

Section 1916.3.3.2 - Existing amendment retained (Section 1906A.4.1, 2007 CBC)

Section 1916.4.1 - Existing amendment retained (Section 1908A.1.12, 2007 CBC)

Section 1916.4.2 - Existing amendment retained (Section 1908A.1.27, 2007 CBC)

Section 1916.4.3 - Existing amendment retained (Section 1908A.1.28, 2007 CBC). Editorial change to title.

Section 1916.4.4 – (ACI 318 Section 21.4) The proposed amendment covers intermediate precast shear walls (most commonly tilt-up construction), specifying that the requirements for special concrete walls are triggered for wall piers (narrow shear wall elements). This change is needed to ensure that adequate confinement and shear strength is provided for seismic loads. The requirement is not triggered if the wall piers do not materially contribute to lateral strength.

Section 1916.4.4 - Existing amendment retained (Section 1908A.1.28, 2007 CBC).

Section 1916.4.5 – Existing amendment retained (Section 1908A.1.37, 2007 CBC).

Section 1916.4.6 – Existing amendment retained (Section 1908A.1.38, 2007 CBC).

Section 1916.4.7 – Existing amendment retained (Section 1908A.1.41, 2007 CBC).

Section 1916.4.8 – Existing amendment retained (Section 1908A.1.42, 2007 CBC).

Section 1916.4.9 – Existing prohibition against plan concrete retained.

Section 1916.4.10 – Existing amendment retained (Section 1908A.1.47, 2007 CBC). Section 1615A revised ACE 7-05 Sections 13.4.1 and 13.4.2, making deleted exceptions unnecessary. Section D.3.3.7 added to address issues with sill bolt capacity in wood frame construction when applying Appendix D, and is based on tests conducted by SEAOC.

Section 1916.5.1 – Preconstruction sample panel is required, to verify that shotcrete can be adequately placed. Existing amendment retained (Section 1913A.10.2, 2007 CBC).

Section 1916.5.2 – Existing amendment retained (Section 1913A.1, 2007 CBC).

Section 1916.5.3 – Existing amendment retained (Section 1913A.7, 2007 CBC).

Section 1916.5.4 – Existing amendment retained (Section 1913A.12, 2007 CBC).

Section 1916.5.5 – Existing amendment retained (Section 1913A.12, 2007 CBC).

Section 1916.6 – Existing amendment retained (Section 1917A.1, 2007 CBC).

#### Repealed Sections in Chapter 19.

Section 1903A.4 (2007 CBC) - Amendment is repealed. Covered in ACI 318 R 3.5.2

Section 1905A.1.1 (2007 CBC) – Section repealed for consistency with Table 1808A.8.1. Requirement for prior approval of high strength concrete repealed, since it is unrelated to seismic safety performance.

Section 1905A.8 (2007 CBC) – This requirement is not necessary because of changes in construction practice.

Section 1905A.10.1 (2007 CBC) - Amendment is repealed, since it is unrelated to seismic safety performance.

Section 1905A.12 (2007 CBC) - Amendment is repealed, since it is unrelated to seismic safety performance.

Section 1907A.5.1 (2007 CBC) – Addition of tolerances for concrete cover in ACI 318 Section 7.5.2.1 removed the original rationale for this amendment.

Section 1907A.7.1 (2007 CBC) - Tolerances for concrete cover in ACI 318 Section 7.5.2.1 removed the original rationale for this amendment.

Section 1908A.1.1 (2007 CBC) – (ACI 318 Section 8.11.5) Amendment is repealed, since it is unrelated to seismic safety performance.

Section 1908A.1.2 (2007 CBC) - (ACI 318 Section 8.11.6) Amendment is repealed, since it is unrelated to seismic safety performance.

Section 1908A.1.3 (2007 CBC) - (ACI 318 Section 8.11) Amendment is repealed, since it is unrelated to seismic safety performance.

Section 1908A.1.4 (2007 CBC) - (ACI 318 Section 10.5.3) Amendment is repealed, since it is unrelated to seismic safety performance.

Section 1908A.1.5 (2007 CBC) - (ACI 318 Section 12.14.3) Amendment is repealed, since it is unrelated to seismic safety performance.

Section 1908A.1.6 (2007 CBC) – (ACI 318 Section 13.5.3.3) ACI 318-08 revised this section to eliminate the rationale for this amendment.

Section 1908A.1.7 (2007 CBC) - (ACI 318 Section 14.2.6) Amendment is repealed, since it is unrelated to seismic safety performance.

Section 1908A.1.8 (2007 CBC) – (ACI 318 Section 14.3.5) Redundant section deleted.

Section 1908A.1.9 (2007 CBC) – (ACI 318 Section 14.3.8) Redundant section deleted.

Section 1908A.1.10 (2007 CBC) - (ACI 318 Section 14.5) Amendment is repealed, since it is unrelated to seismic safety performance.

Section 1908A.1.11 (2007 CBC) - (ACI 318 Section 14.6.1) Amendment is repealed, since it is unrelated to seismic safety performance.

Section 1908A.1.13 (2007 CBC) – (ACI 318 Section 15.2.1) Simplification provided by this section, which were intended for hand calculations, is no longer necessary since most of calculations are now done by the computer software. If soil pressures are calculated by neglecting vertical effect of earthquake as permitted by exception to ASCE 7 Section 12.4.2.2, this simplification will give incorrect results.

Section 1908A.1.14 (2007 CBC) – (ACI 318 Section 15.2.2) California amendments adopted by 2009 IBC in Section 1605A.1.1.

Section 1908A.1.15 (2007 CBC) – (ACI 318 Section 15.8.3.2) Amendment repeal, redundant pointers.

Section 1908A.1.16 (2007 CBC) – (ACI 318 Section 16.3) Amendment is repealed, since it is unrelated to seismic safety performance.

Section 1908A.1.17 (2007 CBC) – (ACI 318 Section 16.) Prescriptive requirements are unnecessary for seismic safety performance. Structural panel design and detailing deferred to section 21.4 and 21.9, as applicable.

Section 1908A.1.18 (2007 CBC) – (ACI 318 Section 16) This amendment is no longer necessary. All requirements for precast walls in ACI 318 Chapter 16 apply to site-cast precast wall panels based on definition of precast wall in ACI 318 Section 2.2.

Section 1908A.1.19 (2007 CBC) – (ACI 318 Section 17.5.1) Amendment is repealed, since it is a prescriptive alternative to code.

Section 1908A.1.20 (2007 CBC) – (ACI 318 Section 18.2.3) Amendment is repealed, since it is unrelated to seismic safety performance.

Section 1908A.1.21 (2007 CBC) – (ACI 318 Section 18.2.4) Amendment is repealed, since it is unrelated to seismic safety performance.

Section 1908A.1.22 (2007 CBC) – (ACI 318 Section 18.2) Amendment is repealed, since it is unrelated to seismic safety performance.

Section 1908A.1.23 (2007 CBC) – (ACI 318 Section 18.2) Amendment is repealed, since it is unrelated to seismic safety performance.

Section 1908A.1.24 (2007 CBC) – (ACI 318 Section 18.9.2.2) This section is deleted because requirements in this section are not fully consistent with other code provisions and uniform force method in the ACI 318-08 made this provision unnecessary. In addition, Structural Integrity requirements are covered in new code Section 1614A.

Section 1908A.1.25 (2007 CBC) - (ACI 318 Section 18.9.2) Amendment is repealed, since it is unrelated to seismic safety performance.

Section 1908A.1.26 (2007 CBC) - (ACI 318 Section 18.12) Amendment is repealed, since it is unrelated to seismic safety performance.

Section 1908A.1.30 (2007 CBC) – (ACI 318 Section 21.2.1) Deleted requirements in this section is picked-up by ACI 318-08.

Section 1908A.1.33 (2007 CBC) – (ACI 318 Section 21.3) Deleted requirements in this section is picked-up by ACI 318-08.

Section 1908A.1.34 (2007 CBC) – (ACI 318 Section 21.4.4.1) ACI 318 Section 21.6.4.5, which limits maximum tie spacing to 6", is considered to provide adequate protection, hence this amendment is deleted.

Section 1908A.1.35 (2007 CBC) – (ACI 318 Section 21.4.4) ACI 318 Section 21.6.4.5, which limit maximum tie spacing to 6" , is considered to provide adequate protection, hence this amendment is deleted.

Section 1908A.1.36 (2007 CBC) – (ACI 318 Section 21.5.4) Deleted pointer.

Section 1908A.1.47 (2007 CBC) – (ACI 318 Appendix D) Deleted requirements in this section is picked-up by Section 1916.4.10

Section 1909A.1 (2007 CBC) – Prohibition against plain concrete now located in Section 1916.4.9.

Section 1913A.1 - Existing amendment retained, relocated to Section 1916.5.1

Section 1913A.7 - Existing amendment retained, relocated to Section 1916.5.3

Section 1913A.10.2 – Existing amendment retained, relocated to Section 1916.5.2.

Section 1913A.11 (2007 CBC) – California amendment has been incorporated in model code Section 1913A.5.

Section 1914.1 - Existing amendment repealed. Reinforced gypsum concrete is not permitted by code.

## **Chapter 19A – Concrete**

Section 1901A.1 – Existing amendments retained, editorial changes.

Section 1903A.2 – Existing amendments retained

Section 1903A.3 – Since durability is dependent on components of cementitious materials & is required for verification of compliance with ACI 318-08 Table 4.4.2, reporting requirement for them is added

Section 1903A.4 – Existing amendments retained, relocated from 1903A.5 (2007 CBC)

Section 1903A.5 – Existing amendments retained, relocated from 1903A.3 (2007 CBC)

Section 1903A.6 – Discontinuous steel fibers had not yet been tested for use in high seismic regions; therefore they are prohibited in this section.

Section 1903A.7 – Existing amendments retained, relocated from 1903A.4 (2007 CBC)

Section 1905A.1.1 – Section is revised to make it consistent with Table 1808A.8.1.

Section 1905A.2 - Existing amendment retained, editorial revisions to eliminate duplicative requirement.

Section 1905A.6.2 - Existing amendment retained

Section 1905A.8 – This requirement is not necessary because of changes in construction practice.

Section 1905A.10.1 - Existing amendment retained.

Section 1906A - Existing amendments retained.

Section 1907A.5.1 - Existing amendments retained.

Section 1907A.7.1 – Addition of tolerances for concrete cover in ACI 318 Section 7.5.2.1 removed the original rationale for this amendment.

Section 1908A.1.1– (ACI 318 Section 2.2) Definition of “Design Displacement” - word “basis” is deleted to make code consistent with ASCE 7 terminology.

Section 1908A.1.2 - (ACI 318 Section 8.13.5) Existing amendment retained.

Section 1908A.1.3 - (ACI 318 Section 8.13.6) Existing amendment retained.

Section 1908A.1.4 - (ACI 318 Section 8.13) Existing amendment retained.

Section 1908A.1.5 - (ACI 318 Section 10.5.3) Existing amendment retained.

Section 1908A.1.7 - (ACI 318 Section 14.2.6) Existing amendment retained.

Section 1908A.1.14 - (ACI 318 Section 16.11) Existing amendment retained, incorporating Section 1908A.1.16 (2007CBC). Duplicative requirements deleted.

Section 1908A.1.15 - (ACI 318 Section 17.5.1) Existing amendment retained.

Section 1908A.1.16 – (ACI 318 Section 18.2.3) Existing amendment retained and relocated. Reference updated

Section 1908A.1.17 – (ACI 318 Section 18.2.4) Existing amendment retained and relocated. Reference updated

Section 1908A.1.18 – (ACI 318 Section 18.2) Existing amendment retained and relocated.

Section 1908A.1.20 – (ACI 318 Section 18.21.5) Existing amendment retained and relocated.

Section 1908A.1.21 – (ACI 318 Section 18.23) Existing amendment retained and relocated.

Section 1908A.1.22 – (ACI 318 Section 21.1.1) Existing amendment retained and relocated.

Section 1908A.1.23 – (ACI 318 Section 21.4) relocate existing model code provision.

Section 1908A.1.23 – (ACI 318 Section 21.4) The proposed amendment covers intermediate precast shear walls (most commonly tilt-up construction), specifying that the requirements for special concrete walls are triggered for wall piers (narrow shear wall elements). This change is needed to ensure that adequate confinement and shear strength is provided for seismic loads. The requirement is not triggered if the wall piers do not materially contribute to lateral strength.

Section 1908A.1.24 – (ACI 318 Section 21.9.2.2) Existing amendment retained and relocated.

Section 1908A.1.25 – (ACI 318 Section 21.9.4) Existing amendment retained and relocated.

Section 1908A.1.26 – (ACI 318 Section 21.9) relocate existing model code provision.

Section 1908A.1.27 – (ACI 318 Section 21.10) relocate existing model code provision.

Section 1908A.1.28 – (ACI 318 Section 21.11.4) Existing amendment retained and relocated.

Section 1908A.1.29 – (ACI 318 Section 21.11.7) Existing amendment retained and relocated.

Section 1908A.1.30 – (ACI 318 21.12.1.1) This section is modified to make it consistent with amendments in Chapter 16A and 23A.

Section 1908.1.7 – (ACI 318 Section 22.6) This section is deleted because it is in conflict with Section 1909A.

Section 1908.1.8 – (ACI 318 Section 22.10) This section is deleted because it is in conflict with Section 1909A.

Section 1908A.1.31 – (ACI 318 Appendix D) Section 1615A revised ACE 7-05 Sections 13.4.1 and 13.4.2, making deleted exceptions unnecessary. Section D.3.3.7 added to address issues with sill bolt capacity in wood frame construction when applying Appendix D, and is based on tests conducted by SEAOC.

Section 1908A.1.32 – (ACI 318 Appendix D) relocate existing model code provision.

Section 1908A.1.47 (2007 CBC) – (ACI 318 Appendix D) Deleted requirements in this section is picked-up by Section 1908A.1.31.

Section 1909A – This section is deleted for consistency with Section 1908A.1.22.

Section 1911A.1.1 – This section provides criteria for the use of power actuated fasteners.

Sections 1912A.1.1– This section provides criteria for the use of specialty cast-in-place concrete inserts, which generally do not conform to requirements for cast-in-place bolts.

Section 1913A.1 - Existing amendment retained.

Section 1913A.3 – Aggregate size gradation for shotcrete in shear walls is specified to ensure good performance of shear walls during seismic loading.

Section 1913A.5 – Section modified to require a preconstruction sample panel.

Section 1913A.7 - Existing amendment retained.

Section 1913A.10.2 – Editorial change.

Section 1913A.11 - Existing amendment retained and relocated.

Section 1913A.12 - Existing amendment retained and relocated.

Section 1914A.1 - Existing amendment retained.

Sections 1916A.2 – Contents of Sections 1916A.2 & 1916A.4 (2007 CBC) are consolidated into Section 1916A.2. When tests of reinforcement are waived, certified mill test reports are required. Also, reference to 2500 psi concrete is deleted since it is not permitted anymore.

Section 1913A.3 - Existing amendment retained.

Section 1913A.4 - Existing amendment retained and relocated.

Section 1913A.5 - Existing amendment retained and relocated.

Section 1913A.6 - Existing amendment retained and relocated.

Section 1916A.7 – This section provides requirements for post-installed concrete anchor, incorporating concepts currently contained in DSA IR 19-1 and OSHPD CAN 2-1916A.8.

Section 1917A.3 – This section codifies current practice for concrete strengthening for gravity frame members using externally bonded Fiber Reinforced Polymer (FRP).

#### Repealed Sections in Chapter 19A.

Section 1908A.1.6 (2007 CBC) – (ACI 318 Section 13.5.3.3) ACI 318-08 revised this section to eliminate the rationale for this amendment.

Section 1908A.1.8 (2007 CBC) – (ACI 318 Section 14.3.5) Redundant section deleted.

Section 1908A.1.9 (2007 CBC) – (ACI 318 Section 14.3.8) Redundant section deleted.

Section 1908A.1.13 (2007 CBC) – (ACI 318 Section 15.2.1) Simplification provided by this section, which were intended for hand calculations, is no longer necessary since most of calculations are now done by the computer software. If soil pressures are calculated by neglecting vertical effect of earthquake as permitted by exception to ASCE 7 Section 12.4.2.2, this simplification will give incorrect results.

Section 1908A.1.14 (2007 CBC) – (ACI 318 Section 15.2.2) California amendments adopted by 2009 IBC in Section 1605A.1.1.

Section 1908A.1.15 (2007 CBC) – (ACI 318 Section 15.8.3.2) Requirement equivalent to this section is adopted by IBC in Section 1613A.7.

Section 1908A.1.16 (2007 CBC) – (ACI 318 Section 16.3.3)

Section 1908A.1.18 (2007 CBC) – (ACI 318 Section 16) This amendment is no longer necessary. All requirements for precast walls in ACI 318 Chapter 16 apply to site-cast precast wall panels based on definition of precast wall in ACI 318 Section 2.2.

Section 1908A.1.23 (2007 CBC) – (ACI 318 Section 18.6) Simplification provided by this section, which were intended for hand calculations, is no longer necessary since most of calculations are now done by the computer software. In addition, changes in ACI 318-08, which changed concrete strength at which prestress can be applied, make this incorrect.

Section 1908A.1.24 (2007 CBC) – (ACI 318 Section 18.9.2.2) This section is deleted because requirements in this section are not fully consistent with other code provisions and uniform force method in the ACI 318-08 made this provision unnecessary. In addition, Structural Integrity requirements are covered in new code Section 1614A.

Section 1908A.1.25 (2007 CBC) - (ACI 318 Section 18.9.2) This section is delete because it is redundant.

Section 1908A.1.26 (2007 CBC) - (ACI 318 Section 18.12) This section is delete because it is redundant

Section 1908A.1.30 (2007 CBC) – (ACI 318 Section 21.2.1) Deleted requirements in this section is picked-up by ACI 318-08.

Section 1908A.1.33 (2007 CBC) – (ACI 318 Section 21.3) Deleted requirements in this section is picked-up by ACI 318-08.

Section 1908A.1.35 (2007 CBC) – (ACI 318 Section 21.4.4) ACI 318 Section 21.6.4.5, which limit maximum tie spacing to 6" , is considered to provide adequate protection, hence this amendment is deleted.

Section 1908A.1.34 (2007 CBC) – (ACI 318 Section 21.4.4.1) ACI 318 Section 21.6.4.5, which limits maximum tie spacing to 6" , is considered to provide adequate protection, hence this amendment is deleted.

Section 1908A.1.36 (2007 CBC) – (ACI 318 Section 21.5.4) Deleted pointer.

Section 1913A.11 (2007 CBC)– California amendment has been incorporated in model code Section 1913A.5.

Sections 1916A.2 & 1916A.4 – Contents of Sections 1916A.2 & 1916A.4 are consolidated into Section 1916A.2. When tests of reinforcement are waived, certified mill test reports are required. Also, reference to 2500 psi concrete is deleted since it is not permitted anymore.

## **Chapter 21 - Masonry**

Chapter 21 is amended to include provisions for construction of California community colleges. The base document for the express terms is Chapter 21 of the 2009 IBC. The California amendments currently applicable to community college buildings are contained in Chapter 21A of the 2007 CBC. For this adoption, new amendments to the 2009 IBC and existing (2007 CBC) amendments that are retained or retained with revision are presented in the express terms. Amendments that are repealed are presented in the Repealer section at the end of the Chapter 21 express

terms. In order to maintain usability of this chapter for non-DSA projects, all California amendments applicable to community colleges are grouped in Section 2114.

Section 2101.1.1 – Revisions to scope Provisions to apply to Community College structures.

Section 2101.1.2 – Provisions for identifying amendments applicable to Community College structures added.

Section 2101.1.3 – Provisions identifying references to other chapters added.

Section 2101.1.4 – New section directs user to DSA-SS/CC amendments in Section 2114.

Section 2114.1 – Amendments applicable to DSA-SS/CC consolidated in this Section

Section 2114.1.1 – This section consolidate existing prohibitions in various sections of Chapter 21A in the 2007 CBC with no change to current requirements.

Section 2114.2 – Existing amendment retained and revised (Section 2103A.8, 2007 CBC). The exception will permit use of class M mortar in addition to class mortar, since both can provide equivalent performance. Deleted section is redundant. Reference to ASTM C 144 is covered in ASTM C 270.

Section 2114.3.1 – Existing amendment retained (Section 2103.14.1, 2007 CBC).

Section 2114.3.2 – Existing amendment retained (Section 2103.14.2, 2007 CBC).

Section 2114.3.3 – Existing amendment retained (Section 2103.14.3, 2007 CBC).

Section 2114.4 – New exception codifies current practice, makes bed joint thickness compatible with construction tolerances.

Section 2114.5 – Existing amendment in retained, relocated (Section 2104A.1.2.4, 2007 CBC).

Section 2114.6.1 – General provisions for grouted masonry (Section 2104A.6.1, 2007 CBC) are retained with extensive changes. Existing provision of 2007 CBC Section 2104A.6.1.1.1 covering cleanliness of units is relocated. A requirement has been added that grouting procedures be described in construction documents.

Section 2114.6.2 – Existing amendment (Section 2104A.6.2, 2007 CBC). Deleted unenforceable provision.

Section 2114.7 – Existing amendment retained (Section 2104A.7, 2007 CBC).

Section 2114.8 - Existing amendments retained (Section 2105.2.1.1, 2007 CBC). Increase maximum value of  $f'_m$  to 3000 psi in recognition of improved masonry design and QA standards. Requirements for additional pre-construction testing when  $f'_m$  exceeds 1500 psi repealed.

Section 2114.9.1 – Existing amendment retained and relocated from Section 2105A.5 (2007 CBC). Clarification added mortar and grout tests are not required when prism test method is used.

Section 2114.9.2 – Amendments to Section 2105A.2.2.2.2 (2007 CBC) retained and moved to this section. Number of prisms required reduced from 5 to 3. This change is unrelated to seismic safety performance.

Section 2114.9.2.2 - Exception clarifies additional applications for prism tests, compatible with Section 2105A.3 (2007 CBC).

Section 2114.9.3 – Existing amendment retained Section 2105A.4 (2007 CBC). Editorial revisions for clarity. Minimum core diameter reduced to reduce the probability of hitting rebar. Requirement for compression testing repealed, since materials and workmanship can be determined from shear tests.

Section 2114.10 – Existing amendments retained and relocated from 2106A.5.3 (2007 CBC)

Section 2114.11.1 – Existing Amendments Sections 2107A.4 and 2107A.5 (2007 CBC) retained.

Section 2114.11.2- Existing Amendment Section 2107A.6 (2007 CBC) retained.

Section 2114.11.3 - Existing Amendment Section 2107A.9 (2007 CBC) retained. Reference to strength design section is deleted.

Section 2114.12 - Existing amendment Section 2110A.1 (2007 CBC) retained. Editorial clarification.

Section 2114.13 - Existing amendment Section 2114A (2007 CBC) retained.

Section 2114.14 – Existing amendment Section 2115A (2007 CBC) retained.

Repealed Sections in Chapter 21:

Section 2101.2.2 – Prohibition of AAC is now in Section 2114.1.1.

Section 2101.2.3 - Prohibition of Prestressed Masonry is now in Section 2114.1.1.

Section 2101.2.4 - Prohibition of Empirical Design is now in Section 2114.1.1. Section 2101A.2.5 (2007 CBC) - Amendment is repealed, since it is unrelated to seismic safety performance.

Section 2102A.1 (2007 CBC) – Amendment is repealed, since it is unrelated to seismic safety performance.

Section 2103A.3 (2007 CBC) - Prohibition of AAC is now in Section 2114.1.1.

Section 2103.8 (2007 CBC) – Deleted section is redundant. Reference to ASTM C 144 is covered in ASTM C 270.

Section 2103.11 - Prohibition of AAC is now in Section 2114.1.1.

Section 2103A.12.1 (2007 CBC) – Repeal restriction on water content, since grout slump per ASTM C476 is a better indication of workability.

Section 2103A.12.2 (2007 CBC)– Repeal restriction on coarse aggregate, since ASTM C 404 requirement is more stringent.

Section 2103A.12.3 (2007 CBC) - Repeal redundant reference to ASTM C 404, since reference to the standard is in ASTM C 476.

Section 2103.14.4 (2007 CBC) – Model code limitations on carbon black in ACI 530 Section 2.6 A.2 are more restrictive.

Section 2104A.2 (2007 CBC) – Amendments in this section for corbelled masonry are deleted, since revised provisions in the 2010 CBC (2009 IBC) Section 2104.2 is adequate.

Section 2104A.1.7 (2007 CBC) – Pointer deleted.

Section 2104A.6.1 (2007 CBC) – Detailed prescriptive requirements for reinforced grouted masonry and reinforced hollow-unit masonry (Sections 2104A.6.1.1 and 2104A.6.1.2, 2007 CBC) are repealed.

Section 2105A.2.1 (2007 CBC) – Prohibition of AAC is now in Section 2114.1.1.

Section 2105A.2.2.1.3 (2007 CBC) - Prohibition of AAC is now in Section 2114.1.1.

Section 2105A.2.2.2.1 (2007 CBC) – Item 3 repealed for compatibility with Section 2114.9.2.

Section 2105A.2.2.3 (2007 CBC) – Redundant section is deleted, since requirements are covered in ASTM C 1314.

Section 2105A.6 (2007 CBC) – Redundant section is deleted.

Section 2106A.5.4 (2007 CBC) - Amendment is repealed, since it is unrelated to seismic safety performance. Load path issues are covered in Chapter 16.

Section 2107A.1.1 (2007 CBC) – Design assumptions are deleted because they are not necessary for design.

Section 2107A.10 (2007 CBC) – Existing requirements is relocated to Section 2114.1.1.

Section 2107A.12 (2007 CBC) – Requirement is picked-up in the TMS 402 Section 2.3.3.4.

Section 2108A.1 (2007 CBC) - Prohibition of AAC in the exception (deleted in the 2007 CBC) is now in Section 2114.1.1.

Section 2108A.2 (2007 CBC) – Existing requirements is relocated to Section 2114.1.1.

Section 2109A - Prohibition of Empirical Design is now in Section 2114.1.1.

Section 2113A.5 (2007 CBC) – California amendments picked-up by 2009 IBC in Sections 2113.4 & 2113.5.

Section 2113A.9.1 (2007 CBC) – California amendments picked-up by 2009 IBC

## **Chapter 21A - Masonry**

Section 2101A.1 - Existing amendment retained.

Section 2101A.1.3 – This section consolidate existing prohibitions in various sections of Chapter 21A in the 2007 CBC with no change to current requirements.

Section 2101A.2.2 – Model code revised. Existing amendment retained.

Section 2101A.2.3 - Model code revised. Existing amendment retained.

Section 2101A.2.4 - Model code revised. Existing amendment retained.

Section 2101A.2.5 - Model code revised. Existing amendment retained.

Section 2103A.3 - Existing amendment retained.

Section 2103A.8 – This amendment will permit use of class M mortar in addition to class mortar, since both can provide equivalent performance. Deleted section is redundant. Reference to ASTM C 144 is covered in ASTM C 270.

Section 2103A.11 - Existing amendment retained.

Section 2103A.12.1 – Repeal restriction on water content, since grout slump per ASTM C476 is a better indication of workability.

Section 2103A.12.2 – Repeal restriction on coarse aggregate, since ASTM C 404 requirement is more stringent.

Section 2103A.12.3 - Repeal redundant reference to ASTM C 404, since reference to the standard is in ASTM C 476.

Section 2103A.14.1 – Existing amendment retained

Section 2103A.14.2 – Existing amendment retained

Section 2103A.14.3 – Existing amendment retained

Section 2104A.1.1 – This section codifies current practice, makes bed joint thickness compatible with construction tolerances.

Section 2104A.1.2 – Model code revised, existing amendment in Section 2104A.1.2.4 (2007 CBC) retained, relocated.

Section 2104A.1.7 – Existing amendment relocated from Section 2104A.1.2.7 (2007 CBC)

Section 2104A.2 (2007 CBC) – Amendments in this section for corbelled masonry are deleted, since revised provisions in the 2010 CBC (2009 IBC) Section 2104A.2 is adequate.

Section 2104A.5.1 – Existing amendment Section 2104A.6.1 (2007 CBC) for grouted masonry is retained.

Section 2104A.5.1.1 – Existing amendment Section 2104A.6.1.1 (2007 CBC) is retained with editorial changes. Pointers to other sections in the code, which are not necessary, have been deleted.

Section 2104A.5.1.2 – Existing amendment Section 2104A.6.1.2 (2007 CBC) is retained with editorial changes. Pointers to other sections in the code, which are not necessary, have been deleted. Existing provision for vertical barriers in hollow-unit construction in 2007 CBC Section 2104.6.1.2.4 relocated.

Section 2104A.5.2 – Existing amendment Section 2104A.6.2 (2007 CBC) is retained.

Section 2104A.6 – Existing amendment Section 2104A.7 (2007 CBC) is retained.

Section 2105A.2.1 Existing amendments retained. Increase maximum value of  $f'_m$  to 3000 psi in recognition of improved masonry design and QA standards.

Section 2105A.2.2 Existing amendments retained.

Section 2105A.2.2.1.3 - Existing amendments retained.

Section 2105A.2.2.1.4 – Existing amendment retained and relocated from Section 2105A.5 (2007 CBC). Clarification added mortar and grout tests are not required when prism test method is used.

Section 2105A.2.2.2. - Existing amendments retained.

Section 2105A.3 - Existing amendments retained.

Section 2105A.4 – Existing amendment retained. Editorial revisions for clarity. Minimum core diameter reduced to reduce the probability of hitting rebar. Requirement for compression testing repealed, since materials and workmanship can be determined from shear tests.

Section 2106A.1.1 – Existing amendments retained and relocated from Sections 2106A.5.3 and 2106A.5.4 (2007 CBC)

Section 2107A.1 – Editorial.

Section 2107A.4 – Existing Amendments Sections 2107A.4 and 2107A.5 (2007 CBC) retained.

Section 2107A.5 - Existing Amendment Section 2107A.6 (2007 CBC) retained.

Section 2107A.6 - Existing Amendment Section 2107A.9 (2007 CBC) retained. Reference to strength design section is deleted.

Section 2107A.7 - Relocate Section 2107.4 (2009 IBC).

Section 2107A.8 - Relocate Section 2107.5 (2009 IBC).

Section 2108A.1 - Existing amendment retained.

Section 2109A - Existing amendment retained.

Section 2110A - Existing amendment retained. Editorial clarification.

Section 2114A - Existing amendments retained.

Section 2115A - Existing amendments retained.

### Repealed Sections in Chapter 21A:

Section 2103A.14.4 – Repeal amendment. Model code limitations on carbon black in ACI 530 Section 2.6 A.2 are more restrictive.

Section 2105A.2.2.3 – Redundant section is deleted, since requirements are covered in ASTM C 1314.

Section 2105A.6 – Redundant section is deleted.

Section 2107A.1.1 (2007 CBC) – Design assumptions are deleted because they are commentary-type language.

Section 2107A.10 (2007 CBC) – Existing requirements is replaced by Section 2101A.1.3.

Section 2107A.12 (2007 CBC) – Requirement is picked-up in the TMS 402 Section 2.3.3.4.

Section 2108A.2 (2007 CBC) – Existing requirements is replaced by Section 2101A.1.3.

Section 2113A.5 (2007 CBC) – California amendments picked-up by 2009 IBC in Sections 2113A.4 & 2113A.5.

Section 2113A.9.1 (2007 CBC) – California amendments picked-up by 2009 IBC

### **Chapter 22 - Steel**

Chapter 22 is amended to include provisions for construction of California community colleges. The base document for the express terms is Chapter 22 of the 2009 IBC. The California amendments currently applicable to community college buildings are contained in Chapter 22A of the 2007 CBC. For this adoption, new amendments to the 2009 IBC and existing (2007 CBC) amendments that are retained or retained with revision are presented in the express terms. Amendments that are repealed are presented in the Repealer section at the end of the Chapter 22 express terms. In order to maintain usability of this chapter for non-DSA projects, all California amendments applicable to community colleges are grouped in Section 2211.

Section 2201.1.1 – Revisions to scope Provisions to apply to Community College structures.

Section 2201.1.2 – Provisions for identifying amendments applicable to Community College structures added.

Section 2201.1.3 – Provisions identifying references to other chapters added.

Section 2201.1.4 – New section directs user to DSA-SS/CC amendments in Section 1916.

Section 2211.1 – Amendments applicable to DSA-SS/CC consolidated in this Section

Section 2211.1.1 – Existing amendment retained (Section 2204A.1.1, 2007 CBC), revised to be consistent with requirements in AISC 341-10.

Section 2211.1.2 – New amendments consistent with requirements in AISC 341-10 improve quality of critical welds.

Section 2211.1.3 – Existing amendment (Section 2204A.1.2, 2007 CBC), completely revised to be consistent with requirements in AISC 341-10.

Section 2211.1.3 – Existing amendment retained (Section 2204A.2.2, 2007 CBC).

Section 2211.2.1 – Existing amendments retained (Section 2206A.4, 2007 CBC).

Section 2211.2.2 – Existing amendments retained (Section 2206A.6, 2007 CBC).

Section 2211.3 – Existing amendments retained and revised (Section 2209A.3, 2007 CBC). Redundant pointer to test requirement is deleted. Editorial clarifications. Reference to ICC ES AC-43 removed.

Section 2211.4.1.1 – Existing amendment retained (Section 2210A.3, 2007 CBC).

Section 2211.4.1.2 – Section is revised to be consistent with the California Administrative Code (Title 24, Part 1) Section 4-317(g).

Section 2211.4.2 – Existing amendment retained (Section 2210A.4, 2007 CBC).

Section 2211.4.3 – Existing amendment retained (Section 2210A.5, 2007 CBC). Editorial revision.

Sections 2211.5 – Existing amendments retained (Sections 2212A.2 and 2212A.3, 2007 CBC).

Repealed Sections in Chapter 22:

Section 2205.1.1 (2007 CBC) – Amendment repealed. Existing provisions in AISC 360 J1.8 determined to be adequate.

Sections 2205.2.1, 2205.2.2 (2007 CBC) – Existing amendments repealed, but intent remains unchanged. SDC A, B, and C are not permitted by DSA-SS/CC. Design by AISC 341 is required.

Section 2205A.3.1 (2007 CBC) – Existing amendments repealed. Composite structures must comply with the seismic provisions of ASCE 7.

Section 2211A (2007 CBC) – Amendments for light modular steel moment frames are repealed. Steel structures complying with DSA-SS/CC shall meet the requirements of model code. Section 2211A is retained in Chapter 22A of the 2010 CBC and so these design options are still available for community college buildings.

Section 2212A.1 (2007 CBC) – California amendments incorporated in the model code (2009 IBC).

Section 2212A.4 (2007 CBC) – Redundant test requirements (which is also covered in Section 2205A) is deleted.

**Chapter 22A - Steel**

Section 2204A.1.1 – Existing amendment retained, revised to be consistent with requirements in AISC 341-10.

Section 2204A.1.2 – New amendments consistent with requirements in AISC 341-10 improve quality of critical welds.

Section 2204A.1.3 – Existing amendment (Section 2204A.1.2, 2007 CBC), completely revised to be consistent with requirements in AISC 341-10.

Section 2204A.2.2 – Existing amendments retained.

Sections 2205A.2.1, 2205A.2.2 – Existing amendments retained.

Section 2206A.4 – Existing amendments retained.

Section 2206A.6 – Existing amendments retained.

Section 2209A.3 – Redundant pointers deleted.

Section 2210A.3.1 – Existing amendments retained.

Section 2210A.3.2 – Errata.

Section 2210A.3.3 – Section is revised to be consistent with the California Administrative Code (Title 24, Part 1) Section 4-317(g).

Section 2210A.4 – Existing amendments retained.

Section 2210A.6 – Editorial change.

Section 2210A.7 – Existing amendments retained.

Sections 2211A.1 and 2211A.2 – Existing amendments retained.

Sections 2212A.1 and 2212A.2 – Existing amendments retained.

Repealed Sections in Chapter 22A:

Section 2205A.1.1 (2007 CBC) – Amendment repealed. Existing provisions in AISC 360 J1.8 determined to be adequate.

Section 2212A.1 (2007 CBC) – California amendments incorporated in the model code (2009 IBC).

Section 2212A.4 (2007 CBC) – Redundant test requirements (which is also covered in Section 2205A) is deleted.

**Chapter 23 - Wood**

Section 2301.1.1 – Revisions to scope Provisions to include Community College structures.

Section 2301.1.2 – Provisions for identifying amendments applicable to Community College structures added.

Section 2301.1.3 – New provision identifying references to other chapters added.

Section 2301.2 – Exception deleted. Seismic design of log structures is not covered in ASCE 7 and the building code and wood design standards do not provide seismic coefficients for log structures.

Section 2303.1.3.1 – Existing amendment retained. References to other code sections are deleted since they had been causing confusion as to exclusive nature of those requirements. Construction documents shall satisfy all the code requirements.

Section 2303.4.1.4 – Existing amendment retained.

Section 2303.4.3.1 – Existing amendment retained and revised. Revisions to Section 2303.4.1 in 2009 IBC eliminated the basis for deleted parts of the amendment.

Section 2304.3.4 – Existing amendment retained and revised. Reference to other code sections are deleted since they had been causing confusion as to exclusive nature of those requirements. Construction documents shall satisfy all the code requirements.

Section 2304.4.1 – Existing amendment retained and revised. Reference to other code sections are deleted since they had been causing confusion as to exclusive nature of those requirements. Construction documents shall satisfy all the code requirements.

Section 2304.6.1 – Revision is necessary to provide the proper importance factors for Occupancy Category IV buildings. Not adopted for DSA-SS/CC, since it is unrelated to seismic safety performance.

Section 2304.9.1.1 – Existing amendment retained. Not adopted for DSA-SS/CC, since it is unrelated to seismic safety performance.

Section 2304.11.2.2 – Existing amendment retained. Not adopted for DSA-SS/CC, since it is unrelated to seismic safety performance.

Section 2304.11.2.4 – Existing amendment retained. Not adopted for DSA-SS/CC, since it is unrelated to seismic safety performance.

Section 2305.1.2 – Existing amendment retained and revised, relocated from Section 2305.1.7 (2007 CBC). 2009 IBC removed the duplicate requirements between code and SDPWS removing the basis for deleted amendments.

The use of shear walls and diaphragms that use staples for fasteners is not permitted. The design shear values for wood structural panel shear walls with staples are based on monotonic testing. Earthquakes load shear walls in a repeating

fully reversible manner. Tests reviewed by the Structural Engineers Association of California indicate that shear assemblies constructed with staples deteriorate badly under cyclical loading.

Prohibition on unblocked shear walls in the CBC 2007 Section 2305.3.3 is retained for high seismic region.

Section 2305.13 – Existing amendment retained, relocated from Section 2305.2.4.2 (2007 CBC).

Section 2305.1.4 – New provision. Current design provisions require calculation of the capacity of sill plate anchor bolts using the provisions of ACI 318 Appendix D, however, those methods result in shear capacities far smaller than historical values using provisions of earlier codes and standards. Recent experiments specifically focused on this connection have revealed that the actual capacities exceed those historically used and support a return to determining the sill bolt shear capacity based upon its capacity in the wood sill plate member. The experiment by SEAOC showed that concrete failure modes do not control the capacity of these connections when certain embedment, edge and end distances are maintained. Therefore, it is proposed that Section 2305.1.4 clearly state that the minimum design capacity be based upon the lateral design value of the bolt attaching a wood sill plate to concrete, as determined using AF&PA NDS.

Section 2305.2 – This section is not adopted for consistency with 2305.1.2 Item 4.

Section 2305.3 – This section is not adopted for consistency with 2305.1.2 Item 4.

Section 2306.3.1 – This section clarifies that structural sheathing should be installed directly to framing, since installation over other sheathing such as drywall degrades seismic performance.

Table 2306.3 – Existing amendment retained.

Section 2306.4 – This section is prohibited for consistency with Sections 1615.10.3 and 1615A.1.3.

Section 2306.7 – This section is prohibited for consistency with Sections 1615.10.3 and 1615A.1.3.

Section 2308.2.8 – Existing amendment retained.

## **Chapter 24 – Glass and Glazing**

Section 2403.1.1 - Labeling requirements in the model code is considered in adequate.

Section 2403.6 – Redundant requirements in this section is deleted.

Section 2406.1.5 – Redundant requirements in this section is deleted.

## **Chapter 25 – Gypsum Board and Plaster**

Section 2501.2 – Editorial revision to existing amendment.

Section 2503.2 – Editorial revision to existing amendment.

Section 2504.2 – Existing amendment retained.

Section 2505.3 – Existing amendment retained.

Section 2506.2.1.1 – Redundant requirements in this section is deleted. Section 2506.2.1 adequately covers the requirement.

Section 2507.3 – Existing amendment retained.

Section 2508.5.6 – Existing amendment retained.

## **Chapter 34 - Existing Structures**

Section 3401.1.2 – Editorial revisions.

Section 3401.1.3 – Adds provisions for establishing evaluation and rehabilitation requirements applicable to Community College structures.

Section 3415.1.2 – Editorial revisions.

Section 3415.1.3 - Adds provisions for establishing evaluation and rehabilitation requirements applicable to Community College structures.

Section 3415.3.2 – Existing amendments retained.

Section 3415.3.3 - Adds provisions for applicability of evaluation and rehabilitation requirements for Community College structures.

Section 3415.5, Table 3415.5 – For public school structures, refines seismic performance criteria for Occupancy Category I (agricultural-type structures) and Occupancy Category IV (essential structures).

For community college structures, seismic performance criteria for ordinary occupancies (Occupancy Category I, II, and III) and essential occupancies (Occupancy Category IV) are established. Performance objectives are comparable to those for state-owned structures, with the exception of the use of the BSE-2 ground motions in lieu of BSE-C ground motions for a level 2 analysis. BSE-2 was chosen to more closely align with the national standards and practice, and to take advantage of the deterministic cap on ground motions that is a feature of BSE-2.

Section 3416.1 – Adopt the model code definition of “Dangerous” for simplicity and consistency.

Section 3417.1.3 – Editorial revision.

Section 3417.1.4 – Existing amendments retained.

Section 3417.1.5 – Revision to clarify that the shear wall and diaphragm requirements are only applicable to light frame construction.

Section 3417.2 – Revision to include requirements for community college buildings. For community college buildings constructed in accordance with the Field Act, data collection requirements are reduced to reflect the higher quality control programs associated with Field Act construction. Editorial revision to indicate the levels specified are minimums.

Section 3417.1.10 – Editorial revision to incorporate DSA-SS/CC.

Section 3417.1.12 – Editorial revision to incorporate DSA-SS/CC.

Section 3421 – Editorial revision to incorporate DSA-SS/CC.

Section 3421.2 – Editorial revision to incorporate DSA-SS/CC.

#### Chapter 35 - Referenced Standards

References in this chapter are revised for consistency with amendments in all other Chapters.

#### **Appendix J – Grading**

Section J106.2 – This section codifies current DSA practice for earth retaining shoring design, construction, monitoring and inspection.

#### **TECHNICAL, THEORETICAL, AND EMPIRICAL STUDY, REPORT, OR SIMILAR DOCUMENTS:**

2009 IBC: International Building Code.

ACI 318-08: Building Code Requirements for Structural Concrete and Commentary.

TMS 402-08: Building Code Requirements for Masonry Structures.

TMS 602-08: Specification for Masonry Structures.

AF & PA SDPWS-2008: Special Design Provisions for Wind and Seismic.

### **CONSIDERATION OF REASONABLE ALTERNATIVES**

Health and Safety Code (H&SC) Section 18941 requires consistency with state and nationally recognized standards for building construction in view of the use and occupancy of each structure to preserve and protect the public health and safety.

The alternative to these proposed regulations would be to leave regulations as they are which will be inconsistent with H&SC 18941 requirements.

### **REASONABLE ALTERNATIVES THE AGENCY HAS IDENTIFIED THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS.**

There will be no adverse impact on small business.

### **FACTS, EVIDENCE, DOCUMENTS, TESTIMONY, OR OTHER EVIDENCE OF NO SIGNIFICANT ADVERSE IMPACT ON BUSINESS.**

The regulations proposed will have no overall cost impact on business, since they are equivalent to current requirements in the Code.

### **DUPLICATION OR CONFLICTS WITH FEDERAL REGULATIONS**

These regulations do not duplicate or conflict with federal regulations.

### **OBJECTIONS OR RECOMMENDATIONS MADE REGARDING THE PROPOSED REGULATION(S).**

(Government Code Section 11346.9(a) (3))

#### **45-DAY PUBLIC COMMENT PERIOD - COMMENTS RECEIVED BY DSA:**

##### **COMMENT #1**

**Commenter:** Mark K. Gilligan

**Subject:** Delete references to ICC-ES Acceptance Criteria and ICC-ES ESR's in all locations. Affected Sections - 1604A.3.7, 1615A.1.14, 1810A.3.1.5.1, 1916.1.11.2, 1916.1.11.4, 1916.11.5, 1911A.1.1, 1912A.1.1, 1916A.7.2, 1916A.7.4, 1916A.7.5, 1917A.3, and 2209A.3.

##### **Comment**

This well intentioned code change should be rejected because they create numerous legal difficulties.

ICC-ES Acceptance Criteria are not acceptable standards. ICC-ES AC's are developed in a closed process with limited public comment and are not developed using a consensus process. As a result ICC-ES does not consider them as acceptable reference standards for inclusion in the IBC.

ICC-ES ACs would also not meet the criteria for ANSI or ASTM standards because of the process. Thus it is suggested that ICC-ES's should be considered unacceptable for inclusion in the CBC ICC-ES AC's require that follow up inspections of manufacturers be performed by an organization accredited by IAS. IAS is a sister company to ICC-ES. Thus this creates a situation where the only way to comply with the code is to retain a client of IAS thus creating a monopoly. There is also the appearance of a conflict of interest.

ICC-ES AC's were written to be used by ICC-ES exclusively and contain provisions that would give ICC-ES the authority to unilaterally accept variations. For example Section 14.2.1 in Annex A of ICC-ES-AC 308 allows ICCES to approve alternate ways to satisfy the requirement for a Quality Assurance program. This effectively gives a private organization the right to accept deviations without governmental review.

ICC-ES has copyrighted their acceptance criteria and limits their use to the preparation of evaluation reports that are to be issued by ICC-ES. This in effect creates a monopoly for ICC-ES which is a private business.

The reference of ICC-ES ACs in the body of the CBC creates a potential copyright issue.

ICC-ES ESR's are proprietary reports and their being mentioned in the body of the code would effectively establish ICC-ES as a monopoly. Note that there are competitors to ICC-ES and these proposed regulations will likely have significant impact on them.

Adopting these proposed regulations where ICC-ES ESR's are specifically mentioned, effectively delegates to a private business the right to effectively modify the building regulations without proper governmental review. Acceptance criteria and evaluation reports can be modified without review by the building official, thus the allowable loads can be changed without governmental review. With the proposed code changes the agency would be required to accept the modified allowable values in the ESR's and would not be able to prevent their use by the engineer of record.

ICC-ES is paid by manufacturers to produce acceptance criteria and evaluation reports with much of the content being generated by the manufacturer of the products being addressed. In this situation even the most well intentioned individuals has the potential of developing biases because of their need to meet the needs of their client and to stay within budget. This is why there is a need for an independent third party review. This independent review will be subverted by the proposed regulations.

Evaluation reports are generated to assist the building official to deal with alternate means of code compliance and are not proof that the proprietary products comply with the intent of the code. In addition the technical data used to support the conclusions of the evaluation reports are considered proprietary information and are not available for review by third parties.

Instead of referencing ICC-ES ACs and ESRs alternates are:

- Treat these products as alternate means of compliance and perform reviews of the submitted products similar to provisions in Section 104.11 of the IBC. Require public disclosure of performance data used to justify the alternates. This is similar to current practice but should be considered short term solution.
- DSA and OSHPD to propagate standards and develop specific code language. This is not preferred because DSA and OSHPD will likely not have special expertise to develop standards and because when standards are ultimately developed there will be a tendency to retain idiosyncratic code provisions thus creating difficulties.
- Work with product manufacturers and standards propagating bodies to support the development of standards. Create disincentives for products for which there are no reference standards. Consider the imposition of an additional plan checking fee for all products proposed as alternate means of code compliance to be used to pay for the additional costs associated with reviewing these products. This is the preferred long term fix.

#### **DSA Response:**

The commenter proposes deletion of all references to International Code Council Evaluation Service (ICC-ES) Acceptance Criteria and all references to ICC-ES Evaluation Service Reports. The commenter did not identify non-conformance with any of the nine-point criteria.

Regarding the reference ICC-ES AC-43 in Section 2209A.3:

The reference currently exists in the 2007 CBC. This public comment does not address DSA's proposed nonsubstantial clarifying editorial modifications to the existing amendment. The amendment does not modify the existing reference to ICC-ES AC-43, which is permitted by DSA as an acceptable alternate to show conformance with code requirements for steel deck diaphragms. The change does not materially alter the requirements, rights, responsibilities, conditions, or prescriptions contained in the original text. At this time, DSA cannot propose substantive modifications to the existing amendment as requested, as Government Code §11346.45 requires the proposing state agency to include all parties affected by a proposed code change during the code change development process, which concluded in September 2009. DSA will take this comment under consideration during a subsequent rulemaking cycle.

Regarding Sections 1604A.3.7, 1615A.1.14, 1810A.3.1.5.1, 1916.1.11.2, 1916.1.11.4, 1916.11.5, 1911A.1.1, 1912A.1.1, 1916A.7.2, 1916A.7.4, 1916A.7.5, and 1917A.3:

References to ICC-ES Acceptance Criteria and Evaluation Reports complement, but do not replace, existing code

requirements. They are provided to identify options for code users that save time and effort, by identifying alternatives acceptable to DSA without going through the lengthy testing and analysis and/or the Alternative Means of Compliance Process for each project. The ICC documents that are directly referenced have been reviewed by DSA for conformance with the code requirements, are acceptable alternatives to DSA, and are widely accepted in the design, construction, and enforcement community.

The public interest in efficient and timely review is enhanced by the proposed amendments that reference the ICC-ES documents, since they reduce ambiguity by identifying acceptable alternatives. The existing code requirements are retained and the ability to use of other approval alternatives, should they become available, is maintained.

In the amendments, the ICC documents are identified only as acceptable alternatives, and do not replace or supplant existing code language. For example, 2009 IBC Section 1912, Anchorage to Concrete – Strength Design, specifies that expansion and undercut anchors be designed in Accordance with Appendix D of ACI 318. Other post-installed fastener types “...shall be in accordance with an approved procedure”. Appendix D of ACI 318 requires extensive qualification testing of post-installed anchors. These requirements are retained in the CBC without modification. The use by DSA of third-party evaluations by an accredited organization such as ICC-ES removes the need for DSA to evaluate the applicable test data for every use of post-installed anchors, a laborious and time-consuming task.

In response to the specific points raised by the commenter:

- ICC-ES is accredited by the American National Standards Institute (ANSI) under ISO/IEC Guide 65, General Requirements for Product Certification Systems. This is an appropriate accreditation for a product evaluation service.
- All proposed references to ICC-ES are complementary to existing code provisions. No code provisions have been replaced by reference to ICC-ES documents. Therefore, all code-permitted options for compliance with a specific requirement remain the same, and no monopoly is created.
- The proposed rulemaking adopts specific editions of ICC Acceptance Criteria, as listed in Chapter 35. Subsequent modifications of acceptance criteria are not automatically adopted. Therefore, no delegation of authority exists. The example commenter cites (Section 14.2.1 of ICC-ES AC308) does not provide authority to grant “deviations”. Rather, this section in the Acceptance Criteria offers an alternative to use of IAS for manufacturing quality assurance inspection. In fact, the provisions of Section 14.2.1 contradict the commenter’s second rationale that a “monopoly” between ICC and IAS exists.
- The ICC documents referenced are identified as acceptable alternatives, and do not replace any existing code language. While widely accepted in the design and construction communities, their use is not mandatory, nor do they supplant code requirements in any way. Therefore, no “monopoly” exists.
- Reference to a copyrighted document in the code does not constitute an infringement of copyright. All documents and standards referenced in the code are copyrighted.
- The ICC documents referenced are identified as acceptable alternatives, and do not replace any existing code language. Acceptance criteria from other listing agencies are permitted, providing the acceptance criteria as a minimum conforms to the requirements of the CBC. The use of ICC-ES criteria is not mandatory.
- The ICC documents that are directly referenced have been reviewed by DSA for conformance with the code requirements, are acceptable alternatives to DSA, and are widely accepted in the design, construction, and enforcement community. The proposed rulemaking adopts specific editions of ICC Acceptance Criteria, as listed in Chapter 35. Subsequent modifications of acceptance criteria are not automatically adopted. Evaluation reports must conform to the specified version of the acceptance criteria.
- Both the code and the acceptance criteria limit the use of manufacturers testing (For example, see Section 4.3 of ACI 355.2, Section 13.3 of ICC-ES AC308. Independent testing is a condition of approval.
- The purpose of evaluation reports is to provide the design professional and the code enforcement official with evidence that a product complies with code requirements. The ICC Acceptance Criteria

documents that are directly referenced have been reviewed by DSA for conformance with the code requirements, are acceptable alternatives to DSA, and are widely accepted in the design, construction, and enforcement community. They are currently accepted by DSA (refer to DSA IR A-5).

- Regarding the commenter's proposed alternatives:
  - a. The alternative means of compliance approach referred to by the commenter is not the process currently used by DSA. DSA currently accepts third-party evaluation reports. Without the use of third-party evaluations by an accredited organization, DSA would have to evaluate the applicable test data for every use of post-installed anchors, a laborious and time-consuming task. This alternative violates item 5 of the nine-point criteria.
  - b. The proposal that DSA propagate their own standards duplicates work performed by others, and would require additional staff with specific technical expertise. There is no evidence that the alternative criteria proposed in the amendments are technically deficient. In fact, in some cases exceed code requirements. The ICC-ES Acceptance Criteria and Evaluation Reports are currently widely used by DSA and many other jurisdictions.
  - c. The standards referenced are currently developed by ICC using input from domestic and international manufacturers. DSA does not have the resources to duplicate this process.
  - d. It is inappropriate for DSA to inhibit or the use of code-compliant components and materials.

## **COMMENT #2**

**Commenter:** Mark K. Gilligan

**Subject:** Keep exemptions 1 and 2 in Section 1707A.6

### **Comment**

By requiring special inspection of all veneer it means that the application of wood siding will require special inspection and the associated additional expenses. This does not seem to be justified by experience. The constant presence of the IOR should address the worse abuses and provide a cost effective way to address the concern.

Note that deleting exemption 1 will require special inspection for the application of stucco/plaster on one and two story buildings. Where stucco veneer has delaminated in an earthquake it is typically associated with high drift ratios which if they were to occur would indicate greater problems with the building.

### **DSA Response:**

The commenter opposes the deletion of Section 1707A.6, exemptions 1 and 2. The deletion of these exemptions was carried forward from the 2007 CBC without change. The text was shown in the express terms to show modifications made in the model code, and it was noted in the Initial Statement of Reasons (ISOR) that these are retained existing amendments. The requirements, rights, responsibilities, conditions, or prescriptions contained in the existing DSA amendment are not materially altered. At this time, DSA cannot propose substantive modifications to the existing amendment as requested, as Government Code §11346.45 requires the proposing state agency to include all parties affected by a proposed code change during the code change development process, which concluded in September 2009. DSA will take this comment under consideration during a subsequent rulemaking cycle.

## **COMMENT #3**

**Commenter:** Mark K. Gilligan

**Subject:** "Delete requirements for testing of reinforcing bars in Sections 1916.1.6 and 1916A.2 of the CBC."

### **Comment**

The cost of the tests of reinforcing bars is unreasonable. Experience by testing laboratories has shown that failures of the bars essentially do not occur. Thus requiring tests of reinforcing bars is a waste since there is not a problem that is solved by the test. In fact the only good the tests do is document that there is not a problem and that the testing is not necessary. If there were more failures then the testing would have some value since they could be

used to take corrective action.

The requirement for testing reinforcing bars is arbitrary and inconsistent since comparable testing is not required for rolled steel beams. In both cases the steel is produced using similar levels of quality control the primary difference is the shape it is rolled into.

Allowing the use of reinforcing steel that does not have a certified mill test report reduces our assurance that the steel will meet the requirements. Testing is limited in the ability to identify defects and thus to rely on testing alone is to accept greater ambiguity. Reinforcing steel that can be linked to a certified mill certificate provides more assurance that the material came from the same source and that it was manufactured under controlled conditions. Note that the mill report includes the results of a strength test.

The absence of mill certification since it is questionable as to the effectiveness of testing since it is hard to verify if all of the bars came from the same source.

The practice of DSA plan checkers requiring that the construction documents allow the use of reinforcing bars without certified mill reports, even when the structural engineer wishes to require all steel have a mill report, results in a situation where this regulation in conjunction with DSA policy forces the structural engineer to reduce the specified level of quality. Thus this provision actually has had the effect of reducing the specified level of quality.

Further the provisions for a waiver of material testing historically has not been an option since DSA staff have consistently withheld their approval even when so recommended by the structural engineer.

#### **DSA Response:**

This public comment does not address DSA's proposed nonsubstantial clarifying editorial modifications to the existing amendment. The amendment consolidates existing amendments, allowing the design engineer to waive rebar testing when certified mill test reports are provided. It editorially consolidates the existing requirements by moving Section 1916A.4 (2007 CBC) into Section 1916A.2. The change does not materially alter the requirements, rights, responsibilities, conditions, or prescriptions contained in the original text. At this time, DSA cannot propose substantive modifications to the existing amendment as requested, as Government Code §11346.45 requires the proposing state agency to include all parties affected by a proposed code change during the code change development process, which concluded in September 2009. DSA will take this comment under consideration during a subsequent rulemaking cycle.

#### **COMMENT #4**

**Commenter:** Mark K. Gilligan

**Subject:** "Delete proposed Section 1916.2.2 and last paragraph of 1905A.2"

#### **Comment**

This provision imposes a requirement and cost that is not justified by the need to protect the public and in fact does nothing to protect the public.

Given that the strength of concrete mixes is based on trial batches or historical results and is confirmed by tests of installed concrete there is no reason why a registered civil engineer needs to design the mix proportions. In practice mix designs are regularly prepared by concrete supplier technicians who are not registered without supervision by a registered engineer. The lack of problems with non-DSA and non-OSHPD projects indicates that this approach works.

Other mix requirements are specified by the EOR and no engineering judgment is needed by the concrete supplier. Thus this requirement adds cost for no benefit.

#### **DSA Response:**

This public comment does not address DSA's proposed nonsubstantial clarifying editorial modifications to the existing amendment. The modification deletes a duplicative requirement in the existing amendment that testing to verify concrete proportions of the mix design be performed in a lab acceptable to the enforcement agency. The

change does not materially alter the requirements, rights, responsibilities, conditions, or prescriptions contained in the original text. No modification was proposed to the existing responsibilities for concrete mix designs. DSA cannot propose substantive modifications to the existing amendment as requested, as Government Code §11346.45 requires the proposing state agency to include all parties affected by a proposed code change during the code change development process, which concluded in September 2009. DSA will take this comment under consideration during a subsequent rulemaking cycle.

**DETERMINATION OF ALTERNATIVES CONSIDERED AND EFFECT ON PRIVATE PERSONS.**

(Government Code Section 11346.9(a) (4))

The Division of the State Architect has determined that no alternative considered would be more effective in carrying out the purpose for which the regulation is proposed or would be as effective and less burdensome to affected private persons than the adopted regulations.

**REJECTED PROPOSED ALTERNATIVES THAT WOULD LESSEN THE ADVERSE ECONOMIC IMPACT ON SMALL BUSINESSES:**

(Government Code Section 11346.9(a) (5))

There are no rejected proposed alternatives to identify. This proposal will not have an adverse economic impact on small businesses.