

**45-DAY EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
DIVISION OF THE STATE ARCHITECT – STRUCTURAL SAFETY (DSA-SS)**

**REGARDING PROPOSED CHANGES TO
THE CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGreen CODE)
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11**

2013 CALGreen Intervening Code Cycle

These proposed regulations will amend the 2013 edition of the California Green Building Standards Code (CALGreen Code) for application by DSA-SS to public elementary and secondary schools, and community colleges.

(The State agency shall draft the regulations in plain, straightforward language, avoiding technical terms as much as possible and using a coherent and easily readable style. The agency shall draft the regulation in plain English. A notation shall follow the express terms of each regulation listing the specific statutes authorizing the adoption and listing specific statutes being implemented, interpreted, or made specific. (PART 1 – ADMINISTRATIVE CODE))

LEGEND FOR EXPRESS TERMS

1. Existing California amendments or code language being modified are in italics when they appear in the model code text: All such language appears in *italics*, modified language is underlined.
2. New California amendments: All such language appears underlined and in italics.
3. Repealed text: All such language appears in ~~strikeout~~.

EXPRESS TERMS

The Division of the State Architect – Structural Safety (DSA-SS) proposes to amend the 2013 edition of the California Green Building Standards Code (CGBSC) as shown on the following pages. Adopt new text as follows:

**CHAPTER 1
ADMINISTRATION**

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**SECTION 105
DIVISION OF THE STATE ARCHITECT**

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105.1.1 Application - Public elementary and secondary schools and community colleges. New building construction and related site work on a new or existing site.

Notes for existing sites:

1. ~~Requirements for site work related to Grading and Paving (Section 5.106.10) only applies to areas adjacent to the new building construction.~~
2. ~~Requirements for Bicycle Parking (Section 5.106.4.2) can be met using a location anywhere on the existing campus and may include the existing bicycle parking. Provide documentation of existing amenities.~~

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Notation

Authority: Education Code Sections 17280--17317 and 81130--81147.

Reference(s): Education Code Sections 17310 and 81142.

**CHAPTER 3
GREEN BUILDING**

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**SECTION 306 [DSA-SS]
VOLUNTARY MEASURES**

306.1 Purpose. For public schools and community colleges, Appendix A.5, Nonresidential Voluntary Measures is provided as a guideline to further encourage building practices that improve public health, safety and general welfare by promoting the use of building concepts which minimize the building's impact on the environment, promote a more sustainable design and high-performance education facilities.

306.1.1 The optional provisions of Appendix A5, Divisions A5.1 through A5.5, outline means of achieving enhanced construction levels by incorporating additional measures that exceed the mandatory code.

306.1.2 The measures outlined in Chapter 5, Section 5.410.2 for Commissioning and Section 5.410.4 for Testing and Adjusting are not adopted as mandatory standards by the DSA; however, are referenced here as optional verification practices that are encouraged and recommended to ensure performance, comfort, system durability, reliability, indoor air quality, and efficiency.

**CHAPTER 5
NONRESIDENTIAL MANDATORY MEASURES**

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**DIVISION 5.1
PLANNING AND DESIGN**

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5.106.4.2 Bicycle parking. [DSA-SS] For public schools and community colleges, comply with Sections 5.106.4.2.1 and 5.106.4.2.2.

5.106.4.2.1 Student ~~Short-term~~ bicycle parking. Provide permanently anchored bicycle racks conveniently accessed within 200 feet of the student entrance readily visible to passers-by, for 5 percent of the student population based on the total occupant load of the campus with a minimum of one four two-bike capacity racks per new building.

5.106.4.2.2 Staff ~~Long-term~~ bicycle parking. Provide permanent, secure bicycle parking conveniently accessed with a minimum of two staff bicycle parking spaces per new building, for 5 percent of the employees, based on the total number of motorized vehicle parking capacity in the staff parking lot, with a minimum of one space. Acceptable bicycle parking facilities shall be convenient from the street or staff parking area and shall meet one of the following:

1. Covered, lockable enclosures with permanently anchored racks for bicycles;
2. Lockable bicycle rooms with permanently anchored racks; or
3. Lockable, permanently anchored bicycle lockers.

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Notation

Authority: Education Code Sections 17280--17317 and 81130--81147.

Reference(s): Education Code Sections 17310 and 81142.

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**DIVISION 5.3
WATER EFFICIENCY AND CONSERVATION**

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**SECTION 5.303
INDOOR WATER USE**

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5.303.2 Reserved Water Reduction. Plumbing fixtures shall meet the maximum flow rate values shown in table 5.303.2.3

Exception: buildings that demonstrate 20 percent overall water use reduction. In this case, a calculation demonstrating a 20% reduction in the building “water use baseline” as established in Table 5.303.2.2 shall be provided

5.303.2.1 Areas of addition or alteration.

For those occupancies within the authority of the California Building Standards Commission as specified in Section 103, the provisions of Section 5.303.2 and Section 5.303.3 shall apply to new fixtures in additions or areas of alteration to the building.

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**TABLE 5.303.2.2
WATER USE BASELINE³**

Fixture Type	Baseline Flow-rate²	Duration	Daily uses	Occupants²
Showerheads	<u>2.0</u> 2.5 gpm @ 80 psi	5 min.	1	X ^{2a}
Lavatory faucets, residential	2.2 gpm @ 60 psi	.25 min.	3	X
Lavatory Faucets Nonresidential	0.5 gpm @ 60 psi	.25 min.	3	X ^{2b}
Kitchen Faucets	2.2 gpm @ 60 psi	4 min.	1	X
Replacement Aerators	2.2 gpm @ 60 psi			X
Wash Fountains	2.2 [rim space (in.) / 20 gpm @ 60 psi]			X
Metering Faucets	0.25 gallons/cycle	.25 min.	3	X
Metering Faucets for Wash Fountains	0.25 [rim space (in.) / 20 gpm @ 60 psi]	.25 min.		X
Gravity tank type Water Closets	<u>1.28</u> 1.6 gallons/flush	1 flush	1 male ⁺ 3 female	X
Flushometer Tank Water Closets	<u>1.28</u> 1.6 gallons/flush	1 flush	1 male ⁺ 3 female	X
Flushometer Valve Water Closets	<u>1.28</u> 1.6 gallons/flush	1 flush	1 male ⁺ 3 female	X
Electromechanical Hydraulic Water Closets	<u>1.28</u> 1.6 gallons/flush	1 flush	1 male ⁺ 3 female	X
Urinals	<u>0.5</u> 1.0 gallons/flush	1 flush	2 male	X

Fixture “Water Use” = Flow rate x Duration x Occupants x Daily uses

1. The daily use number shall be increased to three if urinals are not installed in the room.
2. Refer to Table A, Chapter 4, California Plumbing Code, for occupant load factors.
 - a. Shower use by occupants depends on the type of use of a building or portion of a building, e.g., total

occupant load for a health club, but only a fraction of the occupants in an office building as determined by the anticipated number of users.

b. Nonresidential kitchen faucet use is determined by the occupant load of the area served by the fixture.

3. Use Worksheet WS-1 to calculate base line water use.

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[Editorial changes: This table is being repealed and the fixture types are being moved out of the table and into individual code sections with minor amendments]

**TABLE 5.303.2.3
WATER REDUCTION FIXTURE FLOW RATES**

FIXTURE TYPE	MAXIMUM FLOW RATE
Kitchen faucets	1.8 gpm @ 60 psi
Wash fountains	1.8 [rim space (in.)/20 gpm @ 60 psi]
Metering faucets	0.20 gallons/cycle
Metering faucets for wash fountains	.20 [rim space (in.)/20 gpm @ 60 psi]

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5.303.3.4 Faucets and Fountains

5.303.3.4.1 Non-residential lavatory faucets. Non-residential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi.

5.303.3.4.2 Kitchen faucets. Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.

5.303.3.4.3 Wash fountains. Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute/20 [rim space (inches) at 60 psi].

5.303.3.4.4 Metering faucets. Metering faucets shall not deliver more than 0.20 gallons per cycle.

5.303.3.4.5 Metering faucets for wash fountains. Metering faucets for wash fountains shall have a maximum flow rate of not more than 0.20 gallons per minute/20 [rim space (inches) at 60 psi].

Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.

5.303.4 Wastewater reduction. ~~[N]~~ Each building shall reduce by 20 percent wastewater by one of the following methods:

- ~~1. [BSC, DSA-SS] The installation of water conserving fixtures (water closets, urinals) meeting the criteria established in Section 5.303.2 or 5.303.3.~~

Notation

Authority: Education Code Sections 17280--17317 and 81130--81147.

Reference(s): Education Code Sections 17310 and 81142.

**DIVISION 5.4
MATERIAL CONSERVATION AND RESOURCE EFFICIENCY**

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**DIVISION 5.5
ENVIRONMENTAL QUALITY**

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**SECTION 5.504
POLLUTANT CONTROL**

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5.504.4.4 Carpet systems.

All carpet installed in the building interior shall meet at least one of the following testing and product requirements:

1. Carpet and Rug Institutes' ...
2. Compliant with the VOC-emission limits ...
3. NSF/ANSI 140 ...
4. Scientific Certifications ...
5. Compliant with the ~~California~~ Collaborative for High Performance Schools California (CA-CHPS) Criteria Interpretation for ~~EQ 2.2~~ EQ 7.0 and EQ 7.1 (formerly EQ 2.2) dated July 2012 and listed in the CHPS High Performance Product Database.

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5.504.4.6 Resilient flooring systems. For 80 percent of floor area receiving resilient flooring, installed resilient flooring shall meet at least one of the following:

1. Certified under the Resilient Floor ...
2. Compliant with the VOC-emission limits ...
3. Compliant with the ~~California~~ Collaborative for High Performance Schools California (CA-CHPS) Criteria Interpretation for ~~EQ 2.2~~ EQ 7.0 and EQ 7.1 (formerly EQ 2.2) dated July 2012 and listed in the CHPS High Performance Product Database; or
4. ~~Products Compliant with CDPH criteria as~~ certified under UL GREENGUARD Gold (formerly the Greenguard Children's & Schools Program).

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Notation

Authority: Education Code Sections 17280--17317 and 81130--81147.

Reference(s): Education Code Sections 17310 and 81142.

**APPENDIX A5
NONRESIDENTIAL VOLUNTARY MEASURES**

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**DIVISION A5.4
MATERIALS CONSERVAION AND RESOURCE EFFIENCY**

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**SECTION A5.410
BUILDING MAINTENANCE AND OPERATION**

~~**A5.410.3 Commissioning [DSA-SS].** For new buildings 10,000 square feet and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements. Commissioning shall be performed in accordance with this section by trained personnel with experience on projects of comparable size and complexity. Commissioning requirements shall include:~~

- ~~1. Owner's or owner representative's project requirements~~
- ~~2. Basic design~~
- ~~3. Commissioning measures shown in the construction documents~~
- ~~4. Commissioning plan~~
- ~~5. Functional performance testing~~
- ~~6. Documentation and training~~
- ~~7. Commissioning report~~

~~Exceptions:~~

- ~~1. Dry storage warehouses of any size~~
- ~~2. Areas under 10,000 square feet used for offices or other conditioned accessory spaces within dry storage warehouses~~
- ~~3. Tenant improvements un 10,000 square feet as described in Section 303.1.1.~~

~~All building systems and components covered by Title 24, Part 6, as well as process equipment and controls, and renewable energy systems shall be included in the scope of the commissioning requirements.~~

~~**A5.410.3.1 Owner's or owner representative's Project Requirements (OPR).** The expectations and requirements of the building appropriate to its phase shall be documented before the design phase of the project begins. At a minimum, this documentation shall include the following:~~

- ~~1. Environmental and sustainability goals.~~
- ~~2. Energy efficiency goals.~~
- ~~3. Indoor environmental quality requirements.~~

4. ~~Project program, including facility functions and hours of operation, and need for after house operation.~~
5. ~~Equipment and systems expectations.~~
6. ~~Building occupant and operation and maintenance O&M personnel expectations.~~

~~**A5.410.3.2 Basis of Design (BOD).** A written explanation of how the design of the building systems meets the OPR shall be completed at the design phase of the building project. The Basis of Design document shall cover the following systems:~~

1. ~~Heating, ventilation, air conditioning (HVAC) systems and controls.~~
2. ~~Indoor lighting system and controls.~~
3. ~~Water heating system.~~
4. ~~Renewable energy systems.~~
5. ~~Landscape irrigation systems.~~

~~**A5.410.2.3 Commissioning plan.** Prior to permit issuance a commissioning plan shall be completed to document how the project will be commissioned. The commissioning plan shall include the following:~~

1. ~~General project information~~
2. ~~Commissioning goals~~
3. ~~Systems to be commissioned. Plans to test systems and components shall include:~~
 - a. ~~An explanation of the original design intent.~~
 - b. ~~Equipment and systems to be tested, including the extent of tests.~~
 - c. ~~Functions to be tested.~~
 - d. ~~Conditions under which the test shall be performed.~~
 - e. ~~Measurable criteria for acceptable performance.~~
4. ~~Commissioning team information.~~
5. ~~Commissioning process activities, schedules and responsibilities. Plans for the completion of commissioning shall be included.~~

~~**A5.410.3.4 Functional performance testing.** Functional performance tests shall demonstrate the correct installation and operation of each component, system, and system-to-system interface in accordance with the approved plans and specifications. Functional performance testing reports shall contain information addressing each of the building components tested, the testing methods utilized, and include any readings and adjustments made.~~

~~**A5.410.3.5 Documentation and training.** A systems manual and systems operations training are required, including Occupational Safety and Health Act (OSHA) requirements in California~~

Code of Regulations (CCR), Title 8, Section 5142, and other related regulations.

~~A5.410.3.5.1 Systems manual.~~ Documentation of the operational aspects of the building shall be completed within the systems manual and delivered to the building owner or representative. The systems manual shall include the following:

- ~~1. Site Information, including facility description, history and current requirements.~~
- ~~2. Site contact information.~~
- ~~3. Basic operations and maintenance, including general site operating procedures, basic troubleshooting, recommended maintenance requirements, site events log~~
- ~~4. Major Systems.~~
- ~~5. Site Equipment Inventory and Maintenance Notes.~~
- ~~6. A copy of all special inspection verifications required by the enforcing agency or this code.~~
- ~~7. Other resources and documentation, if applicable.~~

~~A5.410.3.5.2 Systems operations training.~~ A program for training of the appropriate maintenance staff for each equipment type and/or system shall be developed and documented in the commissioning report and shall include the following:

- ~~1. System/Equipment overview (what it is, what it does and what other systems and/or equipment it interfaces).~~
- ~~2. Review and demonstration of servicing/preventive maintenance.~~
- ~~3. Review of the information in the systems manual.~~
- ~~4. Review of the record drawings on the system/equipment.~~

~~A5.410.3.6 Commissioning report.~~ A report of commissioning process activities undertaken through the design and construction phases of the building project shall be completed and provided to the owner or representative.

~~A5.410.4 Testing and adjusting [DSA-SS].~~ Testing and adjusting of systems shall be required for buildings less than 10,000 square feet.

~~A5.410.4.1 Reserved~~

~~A5.410.4.2 Systems.~~ Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing, and adjusting and balancing shall include the following, as applicable to the project:

- ~~1. HVAC systems and controls.~~
- ~~2. Indoor and outdoor lighting and controls.~~

3. ~~Water heating systems.~~
4. ~~Renewable energy systems.~~
5. ~~Landscape irrigation systems.~~

~~**A5.410.4.3 Procedures.** Perform testing and adjusting procedures in accordance with manufacturer's specifications and applicable national standards on each system.~~

~~**A5.410.4.3.1 HVAC balancing.** In addition to testing and adjusting, before a new space-conditioning system serving a building or space is operated for normal use, balance the system in accordance with the procedures defined by the Testing Adjusting and Balancing Bureau National Standards, the National Environmental Balancing Bureau Procedural Standards; or Associated Air Balance Council National Standards or as approved by the enforcing agency.~~

~~**A5.410.4.4 Reporting.** After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.~~

~~**A5.410.4.5 Operation and maintenance (O & M) manual.** Provide the building owner or representative with detailed operating and maintenance instructions and copies of guaranties/warranties for each system, O & M instructions shall be consistent with OSHA requirements in CCR, Title 8, Section 5142 and other related regulations.~~

~~**A5.410.4.5.1 Inspections and reports.** Include a copy of all inspection verifications and reports required by the enforcing agency.~~

Notation

Authority: Education Code Sections 17280--17317 and 81130--81147.

Reference(s): Education Code Sections 17310 and 81142.