

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

**REGARDING ADOPTION OF THE 2008 GREEN BUILDING STANDARDS CODE
FOR USE IN THE CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11**

**REGARDING ADOPTION OF AMENDMENTS TO THE 2010 CALIFORNIA BUILDING STANDARDS
CODE, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR), PARTS 2, 3, 4, 5 and 6 in TITLE 24
CCR, PART 11, CALIFORNIA GREEN BUILDING STANDARDS CODE**

The California Building Standards Commission (CBSC) proposes to adopt the 2010 edition of the *California Green Building Standards Code* (CGBSC) as shown on the following pages. Adopt new text as follows:

The DSA-SS proposes to adopt the 2010 edition of the *California Green Building Standards Code* (CGBSC) as follows:

- Amend and adopt as amended existing CGBS in Part 11.
- Adopt new CGBS in Part 11.

Legend for Express Terms:

1. **New California amendment (CA):** California language will appear underlined.
2. **Amended, adopted, or repealed language:** Amended, adopted, or repealed language will appear in double underline and ~~double~~ ~~strikeout~~.
3. **Rationale:** The justification for the change is shown after each section or series or related changes.
4. **Notation:** Authority and reference citations are provided at the end of each chapter.
5. Original CA amendment (CA): Original California amendment appears in ~~strikeout~~ and underline.

CHAPTER 1 - ADMINISTRATION

Adopting Agency		DSA SS
Adopt entire California Chapter		
Adopt entire Chapter as amended (amended Sections listed below)		
Adopt only those Sections that are listed below		
Chapter / Section		
101 GENERAL	<u>15-DAY AMENDMENT</u> NO CHANGES AMEND	<u>X</u>
101.4 Appendices	<u>15-DAY AMENDMENT</u> NO CHANGES AMEND	<u>X</u>
<u>101.6.4 Explanatory notes</u>	<u>15-DAY AMENDMENT</u> ADOPT AMEND	X
103 BUILDING STANDARDS COMMISSION	<u>15-DAY AMENDMENT</u> AMEND ADOPT	X
103.1	<u>15-DAY AMENDMENT</u> AMEND ADOPT	X
105 DIVISION OF THE STATE ARCHITECT	NO CHANGE	<u>X</u>
105.1	<u>15-DAY AMENDMENT</u> AMEND NO CHANGE	X
105.1.1 Application	<u>15-DAY AMENDMENT</u> AMEND	<u>X</u>

SECTION 101 - GENERAL

101.4 Appendices. Provisions contained in the appendices of this code ~~shall not apply~~ are not mandatory unless specifically adopted by a State agency or adopted by a ~~local enforcing agency, city, county, or city and county~~ city, county, or city and county in compliance with Health and Safety

Code Section 18938(b) for Building Standards Law, Health and Safety Code Section 17950 for State housing Law and Health and Safety Code Section 13869.7 for Fire Protection Districts. See Section 101.7 of this code.

15-DAY REASON: DSA-SS is amending 101.4 (Appendices) to ensure that the proposed building standards do not conflict with, overlap, or duplicate other building standards. Revisions are to coordinate with 15-day amendments proposed by the California Building Standards Commission (CBSC).

CBSC RECOMMENDATION: Based on criterion 1, CBSC proposes to restore the word "city".

CBSC RATIONALE: Consistency with Sections 101.7.1, item 1.

~~101.7 City, county, or city and county amendments, additions or deletions. It is the intent of the California Building Standards Commission, by adopting this code, This code is intended to set mandatory minimum Green Building Standards and include optional tier voluntary measures that may, at the discretion of any local government entity, city, county or city and county, be applied. It is the further intent of the California Building Standards Commission that all entities subject to this code view these standards as minimal Green Building Standards and that local government entities retain their discretion to exceed the standards established by this code. It is the further intent of the California Building Standards Commission to encourage state and local government entities, private entities and interested members of the public to provide the Commission with input regarding the efficacy of this code, in order to assist the Commission in preparing mandatory Green Building Standards during the next code cycle.~~

This code does not limit the authority of city, county, or city and county governments to make necessary changes to the provisions contained in this code pursuant to Section 101.7.1. The effective date of amendments, additions, or deletions to this code of for cities, counties, or city and counties filed pursuant to Section 101.8.1 shall be the date on which it is filed. However, in no case shall the amendments, additions or deletions to this code be effective any sooner than the effective date of this code.

Local modifications shall comply with Health and Safety Code Section 18941.5(b) for Building Standards Law, Health and Safety Code Section 17958.5 for State Housing Law or Health and Safety Code Section 13869.7 for Fire Protection Districts.

15-DAY REASON: DSA-SS is amending 101.7 (City, County, or City and County Amendments, Additions or Deletions) to remove the word 'tier' and add 'voluntary measures' to coordinate with other 15-day amendments and to ensure that the proposed building standards do not conflict with, overlap, or duplicate other building standards.

101.11 Effective use of this code. ...

~~5. Voluntary tier measures are contained in Appendix Chapters A4 and A5. A Checklist containing each Each green building measure, both required and voluntary is provided at the end of each appendix chapter. Each measure listed in the application matrix checklist has a section number which correlates with a section number in Chapters 4 through 8 to a section where more information about the specific measure is available.~~

15-DAY REASON: DSA-SS is amending 101.11 (Effective Use of This Code-item 5) to remove the word 'tier' to coordinate with other 15-day amendments and to ensure that the proposed building standards do not conflict with, overlap, or duplicate other building standards.

SECTION 105 - DIVISION OF THE STATE ARCHITECT

~~105.1.1 Application — New construction unless otherwise indicated in this code, for public elementary and secondary schools, and community colleges. Public elementary and secondary schools and community colleges. New construction on a new campus site or new construction on an existing site cleared of all existing structures. The Division of the State Architect Structural Safety (DSA-SS) is authorized by law to promulgate building standards and administrative regulations for application to public elementary and secondary schools, and community colleges.~~

15-DAY REASON: DSA-SS is amending 105.1.1 (Application-Public Elementary and Secondary Schools, and Community Colleges) for the reasons that the application needed further defining.

CHAPTER 3—GREEN BUILDING

Adopting Agency		DSA SS
Adopt entire California Chapter		
Adopt entire Chapter as amended (amended Sections listed below)		
Adopt only those Sections that are listed below		
Chapter / Section		
304 VOLUNTARY TIER MEASURES	<u>15-DAY AMENDMENT ADOPT</u>	<u>X</u>
304.1 Purpose	<u>15-DAY AMENDMENT ADOPT</u>	<u>X</u>
304.1.1 Tiers	<u>15-DAY AMENDMENT ADOPT</u>	<u>X</u>

SECTION 304 - VOLUNTARY TIERS MEASURES

304.1 Purpose. Voluntary ~~tiers~~ measures are intended 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 educational facilities.

304.1.1 Tiers. ~~The provisions of Appendix A5 outline means of achieving enhanced construction levels by incorporating additional measures. Buildings complying with tiers specified for each occupancy contain additional required and voluntary green building measures necessary to meet the threshold of each level.~~

15-DAY REASON: DSA-SS is amending 304 (Voluntary Measures) because DSA is repealing the reach standards in A5.601. Voluntary tiers are not being proposed for adoption by DSA-SS.

Recommendation: Delete both the DSA-SS reach standards in A5.601 and the voluntary "tiers". Replace with voluntary "measures".

Rational: The DSA-SS developed the reach standards in A5.601 in the 45-day language to create a set of criteria instead of a voluntary tier structure. Those reach standards did not align with the high performance incentive program currently offered by the State for which the DSA administers plan verification. DSA-SS is amending this section to ensure that the proposed building standards do not conflict with, overlap, or duplicate other building standards

**CHAPTER 5
NONRESIDENTIAL MANDATORY MEASURES
DIVISION 5.1 PLANNING AND DESIGN**

Adopting Agency		DSA SS
Adopt entire California Chapter		
Adopt entire Chapter as amended (amended Sections listed below)		
Adopt only those Sections that are listed below		
Chapter / Section		
<u>CUTOFF LUMINAIRES</u>	<u>15-DAY AMENDMENT</u> ADOPT	<u>X</u>
<u>LOW-EMITTING AND FUEL EFFICIENT VEHICLES</u>	<u>15-DAY AMENDMENT</u> ADOPT	<u>X</u>
<u>NEIGHBORHOOD ELECTRIC VEHICLE (NEV)</u>	<u>15-DAY AMENDMENT</u> ADOPT	<u>X</u>
<u>VANPOOL VEHICLE.</u>	<u>15-DAY AMENDMENT</u> ADOPT	<u>X</u>
<u>ZEV.</u>	<u>15-DAY AMENDMENT</u> ADOPT	<u>X</u>
5.106.4 Bicycle parking and changing rooms	15-DAY REPEAL ADOPT	X
5.106.4.1 Short term	15-DAY REPEAL ADOPT	X
5.106.4.2 Long term bicycle parking	15-DAY REPEAL ADOPT	X
5.106.4.3 Changing rooms	15-DAY REPEAL ADOPT	X
Table 5.106.4.3	15-DAY REPEAL ADOPT	X
5.106.5.2 Designated parking	15-DAY REPEAL ADOPT	X
Table 5.106.5.2	15-DAY REPEAL ADOPT	X

SECTION 5.102 - DEFINITIONS

CUTOFF LUMINAIRES. Luminaires whose light distribution is such that the candela per ~~400~~ 1000 lamp lumens does not numerically exceed 25 (2.5%) at an angle of 90° above nadir, and 100 (10%) at a vertical angle of 80° above nadir. This applies to all lateral angles around the luminaires.

15-DAY REASON: DSA-SS is amending 5.102.1 (Definitions) in Cutoff Luminaires, to ensure that the proposed building standards do not conflict with, overlap, or duplicate other building standards. Cutoff Luminaires is amended to coordinate with 15-day amendments proposed by the California Building Standards Commission (CBSC).

CBSC RECOMMENDATION: Based on criterion 1, CBSC proposes to change the number of lamp lumens from 100 to 1000.

CBSC RATIONALE: Consistency with California Energy Code Section 132(b) (Luminaire Cutoff Requirements).

LOW-EMITTING AND FUEL EFFICIENT VEHICLES. Eligible vehicles are limited to the following:

1. Zero emission vehicle (ZEV), including neighborhood electric vehicles (NEV), partial zero emission vehicle (PZEV), advanced technology PZEV (AT ZEV), or CNG fueled (Original equipment manufacturer only) regulated under Health and Safety Code section 43800 and CCR, Title 13, sections 1961 and 1962.
2. High efficiency vehicles regulated by US EPA, bearing ~~Single Occupant Vehicle (SOV)~~ High Occupancy Vehicle (HOV) car pool lane stickers issued by the Department of Motor Vehicles.

15-DAY REASON: DSA-SS is amending 5.102.1 (Definitions) in Low-emitting and Fuel Efficient Vehicles item 2; to ensure that the proposed building standards do not conflict with, overlap, or duplicate other building standards. Item 2 is amended to coordinate with 15-day amendments proposed by the California Building Standards Commission (CBSC).

CBSC RECOMMENDATION: Based on criterion 1, CBSC proposes to change Single Occupant Vehicle (SOV) to High Occupancy Vehicle (HOV).

CBSC RATIONALE: Update for consistency with Air Resources Board laws and regulations.

PZEV. Any vehicle certified ~~be~~ by the California Air Resources Board as a Partial Credit Zero Emission Vehicle.

15-DAY REASON: DSA-SS is making a non-substantive editorial grammatical correction in the definition of PZEV by correcting the words “certified be” to read “certified by”.

VANPOOL VEHICLE. Eligible vehicles are limited to any motor vehicle, other than a motor truck or truck tractor, designed for carrying more than 10 but not more than 15 persons including the driver, which is maintained and used primarily for the nonprofit work-related transportation of adults for the purposes of ridesharing.

15-DAY REASON: DSA-SS is amending 5.102.1 (Definitions) in Vanpool Vehicle to ensure that the proposed building standard is not unnecessarily ambiguous or vague. Vanpool Vehicle is amended to coordinate with 15-day amendments proposed by the California Building Standards Commission (CBSC).

CBSC RECOMMENDATION: Based on criterion 6, CBSC proposes to include the word “to” in the first sentence.

CBSC RATIONALE: Editorial grammatical correction for clarity to the code user.

SECTION 5.106 - SITE DEVELOPMENT

~~**5.106.4 Bicycle parking and changing rooms.** Comply with Sections 5.106.4.1 through 5.106.4.3; or meet local ordinance or the University of California Policy on Sustainable Practices, whichever is stricter.~~

~~**5.106.4.1 Short term bicycle parking.** If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 100 feet of the visitors' entrance, readily visible to passers by, for 5% of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack.~~

~~**5.106.4.2 Long term bicycle parking.** For buildings with over 10 tenant occupants, provide secure bicycle parking for 5% of motorized vehicle parking capacity, with a minimum of one space. Acceptable parking facilities shall be convenient from the street and may include:~~

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

~~**5.106.4.3 Changing rooms.** For buildings with over 10 tenant occupants, provide changing/chowor facilities for tenant occupants only in accordance with Table 5.106.4.3, or document arrangements with nearby changing/chowor facilities.~~

TABLE 5.106.4.3

<u>Number of tenant-occupants</u>	<u>Shower/changing facilities required^a</u>	<u>2-tier (12" x 15" x 72") personal effects lockers^{ab} required</u>
0-10	0	0
11-50	1 unisex shower	2
51-100	1 unisex shower	3
101-200	1 shower stall per gender	4
Over 200	1 shower stall per gender for each 200 additional tenant occupants	1 2-tier locker for each 50 additional tenant occupants

^a One 2-tier locker serves two people. Lockers shall be lockable with either padlock or combination lock.

^{ab} Tenant spaces housing more than 10 tenant occupants within buildings sharing common toilet facilities need not comply; however, such common shower facilities shall accommodate the total number of tenant occupants served by the toilets and include a minimum of 1 unisex shower and two 2-tier lockers.

Note: Additional information on recommended bicycle accommodations may be found at http://www.sacbike.org/advocacy/state_bicycle_facilities/

15-DAY REASON: DSA-SS is renumbering, reordering, or relocating the mandatory provisions of 5.106.4 (Bicycle Parking and Changing Rooms), 5.106.4.1 (Short-term Bicycle Parking), 5.106.4.2 (Long-term Bicycle Parking), and 5.106.4.3 (Changing Rooms) to Appendix as voluntary provisions in A5.106.4 (Bicycle Parking and Changing Rooms), A5.106.4.1 (Short-term Bicycle Parking), A5.106.4.2 (Long-term Bicycle Parking), and A5.106.4.3 (Changing Rooms). This provision does not have a significant impact for public schools and community colleges since shower/locker rooms for the students are already required by California Regulations, Title 5. DSA-SS is proposing this renumbering, reordering, or relocating to ensure that the proposed building standards are not unreasonable, arbitrary, unfair, or capricious and are not unnecessarily ambiguous.

5.106.5.2.2 Provide designated parking for any combination of low-emitting, fuel-efficient, and carpool/van pool vehicles as follows:

TABLE 5.106.5.2

<u>Total Number of Parking Spaces</u>	<u>Number of Required Spaces</u>
<u>1-20</u>	<u>0</u>
<u>21-50</u>	<u>1</u>
<u>51-75</u>	<u>6</u>
<u>76-100</u>	<u>8</u>
<u>101-150</u>	<u>11</u>
<u>151-200</u>	<u>16</u>
<u>201 and over</u>	<u>At least 8% of total</u>

15-DAY REASON: DSA-SS is repealing the mandatory provisions of 5.106.5.2.2 and Table 5.106.5.2. DSA plans to conduct further study on the impacts associated with providing for plug-in vehicles at public schools and community colleges facilities. The DSA-SS adopts voluntary provisions in A5.106.5.1 (Designated Parking for Fuel Efficient Vehicles) and Table A5.106.5.1.1. This mandatory provision 5.106.5.2.2 is adopted by the CBSC.

5.106.8 Light pollution reduction. Comply with lighting power requirements in the California Energy Code, CCR, Part 6, and design interior and exterior lighting such that zero direct-beam illumination leaves the building site. Meet or exceed exterior light levels and uniformity ratios for lighting zones 1-4 as defined in Chapter 10 of the California Administrative Code, CCR, Part 1, using the following strategies:

1. Shield all exterior luminaires or provide cutoff luminaires per Section 132 (b) of the California Energy Code.
2. Contain interior lighting within each source.
3. ~~Contain all exterior lighting within property boundaries.~~ Allow no more than .01 horizontal lumen foot-candles to escape 15 feet beyond the site boundary.
4. Automatically control exterior lighting dusk to dawn to turn off or lower light levels during inactive periods.

Exceptions:

1. Part 2, Chapter 12, Section 1205.6 for campus lighting requirements for parking facilities and primary walkways.
2. Emergency lighting and lighting required for nighttime security.

15-DAY REASON: DSA-SS is amending 5.106.8 (Light Pollution Reduction) item 3 to ensure that the proposed building standards is not unreasonable, arbitrary, unfair, or capricious. Item 3 is amended to coordinate with 15-day amendments proposed by the California Building Standards Commission (CBSC). DSA-SS is making an editorial correction in Exception1 by adding the word 'primary' to reflect the actual title language of CCR, Title 24, Part 2, Section 1205.6.

CBSC RECOMMENDATION: Based on criterion 4, CBSC proposes to change item number 3.

CBSC RATIONALE: Based on public comment, recognize the difficulty of compliance with containment of all exterior light within a property.

**CHAPTER 5
NONRESIDENTIAL MANDATORY MEASURES**

DIVISION 5.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

Adopting Agency		DS A SS
Adopt entire California Chapter		
Adopt entire Chapter as amended (amended Sections listed below)		
Adopt only those Sections that are listed below		
Chapter / Section		
5.407.1 Weather protection	<u>15-DAY AMENDMENT</u> ADOPT	<u>X</u>

SECTION 5.407 - WATER RESISTANCE AND MOISTURE MANAGEMENT

5.407.1 Weather protection. Provide a weather-resistant exterior wall and foundation envelope as required by *California Building Code* Section 1403.2 (Weather Protection) and California Energy Code Section 150 (Mandatory Features and Devices), manufacturer's installation instructions, or local ordinance, whichever is more stringent.

15-DAY REASON: DSA-SS is making editorial corrections in 5.407.1 by adding the words 'Weather Protection' and 'Mandatory Features and Devices' to reflect the actual title language of CCR, Title 24, Part 2, Section 1403.2 & Part 6, Section 150.

DIVISION 5.5 ENVIRONMENTAL QUALITY

Adopting Agency		DSA SS
Adopt entire California Chapter		
Adopt entire Chapter as amended (amended Sections listed below)		
Adopt only those Sections that are listed below		
Chapter / Section		
5.503 FIREPLACES	15-DAY REPEAL ADOPT	X
5.503.1 General	15-DAY REPEAL ADOPT	X
5.503.1.1 Woodstoves	15-DAY REPEAL ADOPT	X
5.504 POLLUTANT CONTROL	ADOPT	<u>X</u>
5.504.2 IAQ Post-construction	15-DAY REPEAL ADOPT	X
5.504.7 Environmental tobacco smoke (ETS) control	15-DAY REPEAL ADOPT	X
5.507 ENVIRONMENTAL COMFORT	15-DAY REPEAL ADOPT	X
5.507.4 Acoustical control	15-DAY REPEAL ADOPT	X
5.507.4.1 Exterior noise transmission	15-DAY REPEAL ADOPT	X
5.507.4.2 Interior sound	15-DAY REPEAL ADOPT	X

SECTION 5.503 – FIREPLACES

~~**5.503.1 General.** Install only a direct vent sealed combustion gas or sealed wood burning fireplace, or a sealed woodstove, and refer to residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150. Woodstoves and fireplaces shall comply with applicable local ordinances.~~

~~**5.503.1.1 Woodstoves.** Woodstoves shall comply with US EPA Phase II emission limits.~~

15-DAY REASON: DSA-SS is repealing 5.503 (Fireplaces) to ensure that the proposed building standards do not conflict with, overlap, or duplicate other building standards. Fireplaces and woodstove are already regulated in more detail in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150.

SECTION 5.504 - POLLUTANT CONTROL

~~5.504.2 IAQ Post-construction. After all interior finishes have been installed, flush out the building by supplying continuous ventilation with all air handling units at their maximum outdoor air rate and all supply fans at their maximum position and rate for at least 14 days.~~

- ~~1. During this time, maintain an internal temperature of at least 60°F, and relative humidity no higher than 60%. If extenuating circumstances make these temperature and humidity limits unachievable, the flush out may be conducted under conditions as close as possible to these limits, provided that documentation of the extenuating circumstances is provided in writing.~~
- ~~2. Occupancy may start after 4 days, provided flush out continues for the full 14 days. During occupied times, the thermal comfort conditions of Title 24 must be met.~~
- ~~3. For buildings that rely on natural ventilation, exhaust fans and floor fans must be used to improve air mixing and removal during the 14 day flush out, and windows should remain open.~~
- ~~4. Do not "bake out" the building by increasing the temperature of the space.~~
- ~~5. If continuous ventilation is not possible, flush out must total the equivalent of 14 days of maximum outdoor air.~~

15-DAY REASON: DSA-SS is renumbering, reordering, and relocating the mandatory regulatory provision (5.504.2) to voluntary provision (A5.504.2) to coordinate with other DSA-SS amendments and to ensure that the proposed building standard is not unreasonable, arbitrary, unfair, or capricious, and is not unnecessarily ambiguous or vague. DSA-SS is amending to coordinate with amendments proposed by the California Building Standards Commission.

CBSC RECOMMENDATION: Based on criterion 4 and 6, CBSC proposes to remove this provision from the mandatory section of the code and move it to the Appendix. In item 5, CBSC is adding language recommended by Air Resources Board.

CBSC RATIONALE: The section was moved in response to a public comment citing technical, enforcement, and potential liability issues. Air Resources Board language clarifies for the code user how the flush-out air volume is calculated.

5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 5.504.4.3, shall be determined by classifying the coating as a Flat, Nonflat, or Nonflat-High Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat, or Nonflat-High Gloss VOC limit in Table 5.504.4.3 shall apply.

15-DAY REASON: DSA-SS is amending 5.504.4.3 (Paints and Coatings) to ensure that the proposed building standards is not unnecessarily ambiguous or vague. Paints and coatings is amended to coordinate with 15-day amendments proposed by the California Building Standards Commission (CBSC).

CBSC RECOMMENDATION: Based on criterion 6, CBSC proposes to include the words "more stringent" to qualify local limits.

CBSC RATIONALE: Response to comment from Air Resources Board, for consistency with their regulations.

TABLE 5.504.4.3 **VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS^{2, 3}**

Table Not Shown – Footnote only have 15-day Amendments

¹ Grams of VOC Per Liter of Coating, Including Water and Including Exempt Compounds

² The specified limits remain in effect unless revised limits are listed in subsequent columns in the Table.

³ Note: For additional information regarding methods to measure the VOC content specified in this table, see ARB, 2008, Suggested Control Measure for Architectural Coatings, February 1, 2008, http://www.arb.ca.gov/coatings/arch/Approved_2007_SCM.pdf.

1. Values in this table are derived from those specified by the California Air Resources Board, Architectural Coatings Suggested control Measure, February 1, 2008. More information is available at: http://www.arb.ca.gov/coating/arch/Approved_2007_SCM.pdf.

15-DAY REASON: DSA-SS is amending Table 5.504.4.3 (Footnote #3) to ensure that the proposed building standards do not conflict with, overlap, or duplicate other building standards. Footnote #3 is amended to coordinate with 15-day amendments proposed by the California Building Standards Commission (CBSC).

CBSC RECOMMENDATION: Based on criterion 1, CBSC proposes to change footnote #3 to this new language.

CBSC RATIONALE: Update for consistency with Air Resources Board laws and regulations and with HCD language.

5.504.4.5 Composite wood products. Hardwood plywood, particleboard, and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 5.504.4.5.

~~5.504.4.5.2 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following:~~

- ~~1. Product certifications and specifications.~~

15-DAY REASON: DSA-SS is repealing 5.504.4.5.2 (Documentation) including item 1 to ensure that the proposed building standards do not conflict with, overlap, or duplicate other building standards. Verification of compliance, documentation is repealed since documentation will be addressed by the DSA under separate commentary.

5.504.4.6 Resilient flooring systems. For 50% of floor area receiving resilient flooring, install resilient flooring complying with the VOC-emission limits defined in the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low-emitting Materials List or certified under the Resilient Floor Covering Institute (RFCI) FloorScore program.

Documentation shall be provided that verifies that finish materials are certified to meet the pollutant emission limits.

Note: Products certified under the FloorScore program may be found at: http://www.rfci.com/int_FS-ProdCert.htm

Note: See www.chps.net/manual/lom_table.htm.

15-DAY REASON: DSA-SS is amending mandatory provision 5.504.4.6 (Resilient Flooring Systems) to ensure that the proposed building standard is not unnecessarily ambiguous or vague. 5.504.4.6 is amended to coordinate with 15-day amendments proposed by the California Building Standards Commission (CBSC) for mandatory provision 5.504.4.6.

CBSC RECOMMENDATION: Based on criterion 6, CBSC proposes to include a requirement for documentation and a note for reference to FloorScore's web site.

CBSC RATIONALE: Provide clarity to the code user with inclusion of non-regulatory information that was requested by Air Resources Board. Also at Air Resources Board's request, verification by documentation is included for finish materials to coordinate with HCD and for clarity to the code user.

~~**5.504.7 Environmental tobacco smoke (ETS) control.** Prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows where outdoor areas are provided for smoking, and in buildings; or as enforced by ordinances, regulations, or policies of any city, county, city and county, California Community College, campus of the California State University, or campus of the University of California, whichever are more stringent. When ordinances, regulations, or policies are not in place, post signage to inform building occupants of the prohibitions.~~

15-DAY REASON: DSA-SS is repealing 5.504.7 (Environmental Tobacco Smoke (ETS)) to ensure that the proposed building standards do not conflict with, overlap, or duplicate other building standards. ETS is repealed because smoking prohibitions are already regulated by California law.

SECTION 5.505 - INDOOR MOISTURE CONTROL

5.505. 1 Indoor moisture control. Buildings shall meet or exceed the provisions of *California Building Code*, CCR, Title 24, Sections 1203 (Ventilation) and Chapter 14 (Exterior Walls). For additional measures not applicable to low-rise residential occupancies, see Section 5.407.2 of this code.

15-DAY REASON: DSA-SS is making editorial corrections in 5.505.1 by adding the words 'Ventilation' and 'Exterior Walls' to reflect the actual title language of CCR, Title 24, Part 2, Section 1203 & Chapter 14.

SECTION 5.506 - INDOOR AIR QUALITY

5.506.1 Outside air delivery. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 121 (Requirements For Ventilation) of the California Energy Code, CCR, Title 24, Part 6, or the applicable local code, whichever is more stringent, and Chapter 4 of CCR, Title 8.

15-DAY REASON: DSA-SS is making an editorial correction in 5.506.1 by adding the words 'Requirements For Ventilation' to reflect the actual title language of CCR, Title 24, Part 6, Section 121.

SECTION 5.507 - ENVIRONMENTAL COMFORT

~~**5.507.3.1 Interior office space.** Entire areas of interior office spaces may be included in the calculation if at least 75 percent of each area has direct line of sight to perimeter vision glazing.~~

~~**5.507.4 Acoustical control.** Employ building assemblies and components with Sound Transmission Coefficient (STC) values determined in accordance with ASTM E90 and ASTM E413.~~

~~**5.507.4.1 Exterior noise transmission.** Wall and roof ceiling assemblies making up the building envelope shall have an STC of at least 50, and exterior windows shall have a minimum STC of 30 for any of the following building locations:~~

- ~~1. Within 1000 ft. (300 m.) of right of way of freeways.~~

- ~~2. Within 5 mi. (8 km.) of airports serving more than 10,000 commercial jets per year.~~
- ~~3. Where sound levels at the property line regularly exceed 65 decibels, other than occasional sound due to church bells, train horns, emergency vehicles and public warning systems.~~

~~**Exception:** Buildings with few or no occupants and where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures, and utility buildings.~~

~~**5.507.4.2 Interior sound.** Wall and floor ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40. [For DSA-SS] In public schools and community college buildings, wall and floor ceiling assemblies separating classrooms, and classrooms, multi-use spaces and public places shall have an STC of at least 40.~~

~~**Note:** Examples of assemblies and their various STC ratings may be found at:
http://www.toolbase.org/PDF/CaseStudies/stc_icc_ratings.pdf~~

15-DAY REASON: DSA-SS is repealing 5.507 (Environmental Comfort) to ensure that the proposed building standards do not conflict with, overlap, or duplicate other building standards. Environmental comfort is repealed because acoustical provisions here conflict with the requirements for classrooms. See provision shown in the Appendix for high performance classrooms. Repealed sections in 5.507(Environmental Comfort) include; 5.507.3.1 Interior Office Space), 5.507.4 (Acoustical), 5.507.4.1 (Exterior Noise Transmission), and 5.507.4.2 (Interior Sound).

CHAPTER 6— REFERENCED ORGANIZATIONS AND STANDARDS
SECTION 601 - GENERAL

601.1

Organization	Standard	Referenced Section
ASHRAE American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. 1791 Tullie Circle, NE Atlanta, GA 30329 www.ashrae.org	52.1-92 52.2-99 62.2 90.1 52.2-99 62.1 Table 6-4 55.04	A5.504.1 A5.504.1 5.108.8 5.502.1 A5.504.2 A5.507.1.1.2
ASME American Society of Mechanical Engineers Three Park Avenue New York, NY 10016-5990 www.asme.org	A112.18.1 A112.19 A112.19.2 A112.19.14 A112.19.233.2 & A112.19.14 & A112.19.19 & A112.19.2 A1112.19.14 A112.19.2 A112.19.14	5.303.6 5.303.6 5.303.2 5.303.6 5.303.6 Chapter 8 A5.303.2.1
ASTM ASTM International 100 Barr Harbor Drive West Conshohocken, PA 19428-2859 www.astm.org	C33 C-1371-98 E90 E408-71(2002) E413 E1333-96 (2002) E1903-97 E1333-96(2002)	 5.507.5 5.507.5 A5.103.4 5.504.4.5
IAPMO International Association of Plumbing and Mechanical Officials 5001 E. Philadelphia St. Ontario, CA 91761 iapmo@iapmo.org	IAPMO Z124.9	5.303.6

15-DAY REASON: DSA-SS is making an editorial corrections in 601.1-Table by adding 'cross references' to reflect the actual standards referenced in this code, adopted by DSA-SS.

**APPENDIX A5
NONRESIDENTIAL VOLUNTARY MEASURES**

DIVISION A5.1 SITE PLANNING AND DESIGN

Adopting Agency		DSA SS
Adopt entire California Chapter		
Adopt entire Chapter as amended (amended Sections listed below)		
Adopt only those Sections that are listed below		
Chapter / Section		
<u>VANPOOL VEHICLE</u>	ADOPT	<u>X</u>
<u>A5.106.4 Bicycle parking and changing rooms</u>	<u>15-day AMENDMENT ADOPT</u>	<u>X</u>
<u>A5.106.4.1 Short-term bicycle parking</u>	<u>15-day AMENDMENT ADOPT</u>	<u>X</u>
<u>A5.106.4.2 Long-term bicycle parking</u>	<u>15-day AMENDMENT ADOPT</u>	<u>X</u>
<u>A5.106.4.3 Changing rooms</u>	<u>15-day AMENDMENT ADOPT</u>	<u>X</u>
<u>Table A5.106.4.3</u>	<u>15-day AMENDMENT ADOPT</u>	<u>X</u>
<u>Table A5.106.5.1.1 CALGREEN Merit -10% Total Spaces</u>	<u>15-DAY AMENDMENT ADOPT AMEND</u>	<u>✗</u>
<u>Table A5.106.5.1.2 CALGREEN Excellence or CALGREEN Grid Neutral -12% of Total Spaces</u>	<u>15-DAY REPEAL ADOPT</u>	<u>✗</u>
<u>A5.106.5.3 5-2 Electric vehicle charging</u>	ADOPT	<u>X</u>
<u>A5.106.5.3.1 5-2.1 Electric vehicle supply wiring</u>	ADOPT	<u>X</u>
<u>Table A5.106.5.3.1 5-2.1</u>	<u>15-DAY AMENDMENT ADOPT</u>	<u>X</u>
<u>Table A5.106.11.2.1 CALGREEN Merit</u>	<u>15-day AMENDMENT ADOPT</u>	<u>X</u>
<u>Table A5.106.11.2.2 CALGREEN Excellence or CALGREEN Grid Neutral</u>	<u>15-DAY REPEAL ADOPT</u>	<u>X</u>

SECTION A5.102 - DEFINITIONS

LOW-EMITTING AND FUEL EFFICIENT VEHICLES. Eligible vehicles are limited to the following:

1. Zero emission vehicle (ZEV), including neighborhood electric vehicles (NEV), partial zero emission vehicle (PZEV), advanced technology PZEV (AT ZEV), or CNG fueled (Original equipment manufacturer only) regulated under Health and Safety Code section 43800 and CCR, Title 13, sections 1961 and 1962.
2. High efficiency vehicles, regulated by US EPA, bearing ~~Single Occupant Vehicle (SOV)~~ High Occupancy Vehicle (HOV) car pool lane stickers issued by the Department of Motor Vehicles.

15-DAY REASON: DSA-SS is amending A5.102.1 (Definitions) in Low-emitting and Fuel Efficient Vehicles item 2; to ensure that the proposed building standards do not conflict with, overlap, or duplicate other building standards. This same amendment was also made in 5.102.1 (Definitions). Item 2 is amended to coordinate with 15-day amendments proposed by the California Building Standards Commission (CBSC).

CBSC RECOMMENDATION: Based on criterion 1, CBSC proposes to change Single Occupant Vehicle (SOV) to High Occupancy Vehicle (HOV).

CBSC RATIONALE: Update for consistency with Air Resources Board laws and regulations.

VANPOOL VEHICLE. Eligible vehicles are limited to any motor vehicle, other than a motor truck or truck tractor, designed for carrying more than 10 but not more than 15 persons including the driver, which is maintained and used primarily for the nonprofit work-related transportation of adults for the purposes of ridesharing.

Note: Source: Vehicle Code, Division 1, Section 668.

15-DAY REASON: DSA-SS is amending A5.102.1 (Definitions) in Vanpool Vehicle to ensure that the proposed building standard is not unnecessarily ambiguous or vague. This same amendment was also made in 5.102.1 (Definitions). Vanpool Vehicle is amended to coordinate with 15-day amendments proposed by the California Building Standards Commission (CBSC).

CBSC RECOMMENDATION: Based on criterion 6, CBSC proposes to include the word "to" in the first sentence.

CBSC RATIONALE: Editorial grammatical correction for clarity to the code user.

SECTION A5.106 – SITE DEVELOPMENT

A5.106.4 Bicycle parking and changing rooms. Comply with Sections A5.106.4.1 through A5.106.4.3; or meet local ordinance or the University of California Policy on Sustainable Practices, whichever is stricter.

A5.106.4.1 Short-term bicycle parking. If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack.

15-DAY REASON: DSA-SS is amending the voluntary provision A5.106.4.1 (Short-term Bicycle Parking) to ensure that the proposed building standard is not unreasonable, arbitrary, unfair, or capricious and that the voluntary and mandatory provisions do not conflict with, overlap, or duplicate each other. CBSC is proposing this amendment in the mandatory provision of 5.106.4.1 (Short-term bicycle parking).

CBSC RECOMMENDATION: Based on criterion 4, CBSC proposes to change the distance for short-term visitors parking to 200 feet.

CBSC RATIONALE: In response to a public comment, provide more flexibility for the builder in locating visitor bike racks.

A5.106.4.2 Long-term bicycle parking. For buildings with over 10 tenant-occupants, provide secure bicycle parking for 5% of tenant-occupant motorized vehicle parking capacity, with a minimum of one space. For public schools and community colleges, provide secure bicycle parking for 15% of occupants (students, teachers, and staff). Acceptable parking facilities shall be convenient from the street and may include, but not be limited to:

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

15-DAY REASON: In voluntary provision A5.106.4.2 (Long-term Bicycle Parking) does not address teachers, students and visitors as a whole for public schools and community colleges.

Recommendation: Add language for public schools and community colleges facilities to include a focus on students consistent with high performance criteria used for state program i.e. providing long term bicycle parking for 15% of occupants (students, teachers, and staff).

Rationale: Align percentage for long term bicycle parking with high performance standards used for the high performance standards used for the high performance incentive program currently offered by the State for which the DSA administers plan verification.

CBSC Recommendation: (Amend mandatory provision 5.106.4.2 Long-term Bicycle Parking) Based on criteria 3 and 6, CBSC proposes to describe the motorized vehicles referenced as those of tenant-occupants and to add the phrase "but not limited to".

CBSC Rationale: Increase flexibility of compliance options and clarity for the code user.

A5.106.4.3 . For buildings with over 10 tenant-occupants, provide changing/shower facilities for tenant-occupants only in accordance with Table A5.106.4.3, or document arrangements with nearby changing/shower facilities. For public schools and community colleges, provide changing/shower facilities for the "number of administrative/teaching staff" equal to the "number of tenant-occupants" shown in Table 5.106.4.3.

TABLE A5.106.4.3

<u>Number of tenant-occupants</u>	<u>Shower/changing facilities required²</u>	<u>2-tier (12" x 15" x 72") personal effects lockers^{1,2} required</u>
<u>0-10</u>	<u>0</u>	<u>0</u>
<u>11-50</u>	<u>1 unisex shower</u>	<u>2</u>
<u>51-100</u>	<u>1 unisex shower</u>	<u>3</u>
<u>101-200</u>	<u>1 shower stall per gender</u>	<u>4</u>
<u>Over 200</u>	<u>1 shower stall per gender for each 200 additional tenant-occupants</u>	<u>1 2-tier locker for each 50 additional tenant-occupants</u>

¹ One 2-tier locker serves two people. Lockers shall be lockable with either padlock or combination lock.

² Tenant spaces housing more than 10 tenant-occupants within buildings sharing common toilet facilities need not comply; however, such common shower facilities shall accommodate the total number of tenant-occupants served by the toilets and include a minimum of 1 unisex shower and two 2-tier lockers.

Note: Additional information on recommended bicycle accommodations may be found at http://www.sacbike.org/advocacy/state_bicycle_facilities/

15-DAY REASON: DSA-SS is renumbering, reordering, or relocating the mandatory provisions of 5.106.4 (Bicycle Parking and Changing Rooms), 5.106.4.1 (Short-term Bicycle Parking), 5.106.4.2 (Long-term Bicycle Parking), and 5.106.4.3 (Changing Rooms) to Appendix as voluntary provisions in A5.106.4 (Bicycle Parking and Changing Rooms), A5.106.4.1 (Short-term Bicycle Parking),

A5.106.4.2 (Long-term Bicycle Parking), and A5.106.4.3 (Changing Rooms). This provision does not have a significant impact for public schools and community colleges since shower/locker rooms for the students are already required by California Regulations', Title 5. DSA-SS is proposing this renumbering, reordering, or relocating to ensure that the proposed building standards do not conflict with, overlap, or duplicate other building standards. Amend A5.106.4.1 & A5.106.4.2 to be consistent with CBSC amendments. See CBSC Recommendation and Rationale.

CBSC RECOMMENDATION:

- (A5.105.4.1) Based on criterion 4, CBSC proposes to change the distance for short-term visitors parking to 100 yards.
- (A5.105.4.2) Based on criteria 3 and 6, CBSC proposes to describe the motorized vehicles referenced as those of tenant-occupants and to add the phrase "but not limited to".
- (A5.105.4.3) Based on criterion 6, CBSC proposes to remove this provision from the mandatory section of the code and move it to the Appendix.

CBSC RATIONALE:

- (A5.105.4.1) In response to a public comment, provide more flexibility for the builder in locating visitor bike racks.
- (A5.105.4.2) Increase flexibility of compliance options and clarity for the code user.
- (A5.105.4.3) Response to public comments concerning the application of this standard to phased projects and potential security and liability issues.

A5.106.5.1 Designated parking for fuel efficient vehicles. Provide 10% of total designated parking spaces for any combination of low-emitting, fuel-efficient, and carpool/van pool vehicles as follows:

TABLE A5.106.5.1.1
CALGREEN Merit - 10% of Total Spaces

<u>Total Number of Parking Spaces</u>	<u>Number of Required Spaces</u>
<u>0-9</u>	<u>0</u>
<u>10-25</u>	<u>2</u>
<u>26-50</u>	<u>4</u>
<u>51-75</u>	<u>6</u>
<u>76-100</u>	<u>9</u>
<u>1-1-150</u>	<u>11</u>
<u>151-200</u>	<u>18</u>
<u>201 and over</u>	<u>At least 10% of total</u>

~~Table A5.106.5.1.2~~
~~CALGREEN Excellence or CALGREEN Grid Neutral - 12% of Total Spaces~~

<u>Total Number of Parking Spaces</u>	<u>Number of Required Spaces</u>
<u>0-9</u>	<u>0</u>
<u>10-25</u>	<u>2</u>
<u>26-50</u>	<u>4</u>
<u>51-75</u>	<u>6</u>
<u>76-100</u>	<u>9</u>
<u>101-150</u>	<u>11</u>
<u>151-200</u>	<u>18</u>
<u>201 and over</u>	<u>At least 12% of total</u>

15-DAY REASON: DSA-SS is repealing Table A5.106.5.1.2 (CALGREEN Excellence or CALGREEN Grid Neutral – 12% of Total Spaces) to coordinate with other DSA-SS amendments.

Voluntary tier reach standards were revised to be voluntary measures. Some of the voluntary tiers which included two levels of reach standards are being consolidated to be one voluntary measure. In all cases the lower quantity was used for the provision, except in the case of Construction Waste Reduction where the higher quantity was used. The title of the voluntary tiers that remained as two voluntary measures were re-titled accordingly

A5.106.5.2

A5.106.5.3 Electric vehicle charging. Provide facilities meeting Section 406.7 (Electric Vehicle) of the *California Building Code* and as follows:

15-DAY REASON: DSA-SS is making an editorial correction in A5.106.5.3 by adding the words 'Electric Vehicle' to reflect the actual title language of CCR, Title 24, Part 2, Section 406.7.

A5.106.5.3.1

A5.106.5.3.1 Electric vehicle supply wiring. For each space required in Table A406.1.5.2, provide one 120 VAC 20 amp and one 208/240 V 40 amp, grounded AC outlets or panel capacity and conduit installed for future outlets.

~~TABLE A5.106.5.2.1~~
TABLE A5.106.5.3.1

<u>TOTAL NUMBER OF PARKING SPACES</u>	<u>NUMBER OF REQUIRED SPACES</u>
1—50	<u>1</u>
51—200	<u>2</u>
201—and over	<u>4</u>

1. In a parking garage, the total number of parking spaces is for each individual floor or level.

15-DAY REASON: DSA-SS is renumbering, the voluntary provisions of A5.106.5.2 (to A5.106.5.3), A5.106.5.2.1 (to A5.106.5.3.1) and Table A5.106.5.2.1 (to Table A5.106.5.3.1) to accommodate new section adopted for Designated Parking (A.106.5.2) as an editorial correction for clarity to the code user.

A5.106.7 Exterior wall shading. Meet requirements in the current edition of the California Energy Code and select one of the following for wall surfaces:

1. Provide vegetative or man-made shading devices for east-, south-, and west-facing walls with windows, with 30% coverage to a height of 20 feet or top of exterior wall, whichever is less, for east and west walls. Calculate shade coverage on the summer solstice at 10 AM for east-facing walls and at 3 PM for west-facing walls. Plant ~~✓~~ vegetative shade of species documented to ~~shall~~ reach desired coverage within 5 years of building occupancy.
2. Use wall surfacing with minimum SRI 25 (aged), for 75% of opaque wall areas.

15-DAY REASON: DSA-SS is amending mandatory provision A5.106.7 (Exterior Wall Shading-items 1 and 2) to ensure that the proposed building standards are not unreasonable, arbitrary, unfair, or capricious. Items 1 & 2 are amended to coordinate with 15-day amendments proposed by the California Building Standards Commission (CBSC) mandatory provision A5.106.7.

CBSC RECOMMENDATION: Based on criterion 4, CBSC proposes to clarify shading devices, vegetation, and SRI value.

CBSC RATIONALE: To clarify for the code user that shading devices and vegetation are for walls with windows and that the SRI value for opaque walls is a minimum value.

Exception: Use of vegetated shade in Wildland-Urban Interface Areas as defined in Chapter 7A (Materials and Construction Methods for Exterior Wildfire Exposure) of the California Building Code shall meet the requirements of that chapter.

Note: If not available from the manufacturer, aged SRI value calculations may be found at the California Energy Commission's web site at www.energy.ca.gov.

15-DAY REASON: DSA-SS is making an editorial correction in A5.106.7 (Exception) by adding the words 'Materials and Construction Methods for Exterior Wildfire Exposure' to reflect the actual title language of CCR, Title 24, Part 2, Chapter 7A.

A5.106.11.2 Cool roof.

Table A5.106.11.2.1
CALGREEN Merit

<u>Roof Slope</u>	<u>Roof Weight</u>	<u>Climate Zone</u>	<u>Minimum 3-year Aged</u>		
			<u>Minimum 3-year Aged Solar Reflectance</u>	<u>Thermal Emittance</u>	<u>Minimum Aged SRI</u>
<u>≤ 2 : 12</u>	<u>N/A</u>	<u>2-15</u>	<u>0.55</u>	<u>0.75</u>	<u>64</u>
<u>> 2 : 12</u>	<u>< 5 lbs./ft²</u>	<u>2-15 2-16</u>	<u>0.20</u>	<u>0.75</u>	<u>16</u>
	<u>≥ 5 lbs./ft²</u>	<u>1-16</u>	<u>0.15</u>	<u>0.75</u>	<u>10</u>

15-DAY REASON: DSA-SS is amending Table A5.106.11.2.1 to ensure that the proposed building standard is not unnecessarily ambiguous or vague. Table A5.106.11.2.1 is amended to coordinate with 15-day amendments proposed by the California Building Standards Commission (CBSC). DSA-SS is repealing the title of Table A5.106.11.2.1 to coordinate with other DSA-SS amendments.

CBSC RECOMMENDATION: Based on criterion 6, CBSC proposes to move Minimum 3-year Aged to a new column and to strike the words "Minimum Aged" and to correct climate zone 2-15 to read 2-16.

CBSC RATIONALE: To provide clarity to the code user with inclusion of information that was recently made available to CBSC by the Air Resources Board and the California Energy Commission.

~~Table A5.106.11.2.2~~
CALGREEN Excellence or CALGREEN Grid Neutral

<u>Roof Slope</u>	<u>Roof Weight</u>	<u>Climate Zone</u>	<u>Minimum 3-year Aged Solar Reflectance</u>	<u>Thermal Emittance</u>	<u>Minimum Aged SRI</u>
<u>≤ 2 : 12</u>	<u>N/A</u>	<u>1-16</u>	<u>EBD</u>	<u>EBD</u>	<u>78</u>
<u>> 2 : 12</u>	<u>N/A</u>	<u>1-16</u>	<u>EBD</u>	<u>EBD</u>	<u>29</u>

15-DAY REASON: DSA-SS is repealing Table A5.106.11.2.2 (CALGREEN Excellence or CALGREEN Grid Neutral) to ensure that the proposed building standards do not conflict with, overlap, or duplicate other building standards. Repeal of Table A5.106.11.2.2 is to coordinate with other DSA-SS amendments.

Voluntary tier reach standards were revised to be voluntary measures. Some of the voluntary tiers which included two levels of reach standards are being consolidated to be one voluntary measure. In all cases the lower quantity was used for the provision, except in the case of Construction Waste Reduction where the higher quantity was used. The title of the voluntary tiers that remained as two voluntary measures were re-titled accordingly.

**APPENDIX A5
NONRESIDENTIAL VOLUNTARY MEASURES**

DIVISION A5.2 ENERGY EFFICIENCY

Adopting Agency		DSA SS
Adopt entire California Chapter		
Adopt entire Chapter as amended (amended Sections listed below)		
Adopt only those Sections that are listed below		X
Chapter / Section		
A5.203.1.1 Energy efficiency – 15% above Title 24 CALGREEN Merit	15-DAY AMENDMENT ADOPT	X
A5.203.1.2 Energy efficiency – 30% above Title 24 CALGREEN excellence	ADOPT	X
A5.203.1.3 CALGREEN grid neutral	15-DAY REPEAL ADOPT	X
A5.204.6 Building orientation and shading	15-DAY AMENDMENT REPEAL ADOPT	X
A5.213 ENERGY EFFICIENT STEEL FRAMING	15-DAY REPEAL ADOPT	X
A5.213.1 Steel framing	15-DAY REPEAL ADOPT	X

SECTION A5.203 ~~renewable~~ - PERFORMANCE APPROACH

15-DAY REASON: DSA-SS is amending section number. Section numbering was mistakenly left out, section number (A5.203) is added for clarity. The word ‘renewable’ was included in the title of section A5.203 by mistake and is removed for clarity. Editorial grammatical correction for clarity to the code user.

A5.203.1 Energy performance.

A5.203.1.1 Energy efficiency – 15% above Title 24. ~~CALGREEN Merit~~ Exceed California Energy Code requirements, based on the 2008 Energy Efficiency Standards, by 15% and meet the requirements of Division A45.6.

A5.203.1.2 Energy efficiency – 30% above Title 24. ~~CALGREEN excellence~~. Exceed California Energy Code requirements, based on the 2008 Energy Efficiency Standards, by 30% and meet the requirements of Division A45.6.

~~**A5.203.1.3 CALGREEN grid neutral.** Exceed California Energy Code requirements, based on the 2008 Energy Efficiency Standards, by 35% and meet the requirements of Division A45.6.~~

15-DAY REASON: DSA-SS is amending the title of A5.203.1 (Energy Efficiency-15% Above Title 24) and A5.203.1.2 (Energy Efficiency-30% Above Title 24) and repealing A5.203.1.3 (CALGREEN Grid Neutral) to ensure that the proposed building standard does not conflict with, overlap, or duplicate other building standards.

Voluntary tier reach standards were revised to be voluntary measures. Some of the voluntary tiers which included two levels of reach standards are being consolidated to be one voluntary measure. In all cases the lower quantity was used for the provision, except in the case of Construction Waste Reduction where the higher quantity was used. The title of the voluntary tiers that remained as two voluntary measures were re-titled accordingly.

A5.203.1.3 is repealed to coordinate with the DSA-SS amendments to delete reach standards in A5.601.

SECTION A5.204 - PRESCRIPTIVE APPROACH

~~**A5.204.6 Building orientation and shading.** Locate, orient and shade the building as required in Section A5.106.0.~~

15-DAY REASON: DSA-SS is repealing A5.204.6 (Building Orientation and Shading) to ensure that the proposed building standard does not conflict with, overlap, or duplicate other building standards contained in A5.106.9.1 (Building Orientation and Shading).

SECTION A5.213 ENERGY EFFICIENT STEEL FRAMING

A5.213.1 Steel framing. Design steel framing for maximum energy efficiency. Techniques for avoiding thermal bridging in the envelope include:

- ~~1. Punching large holes in the stud web without affecting its structural integrity.~~
- ~~2. Spacing the studs as far as possible while maintaining the structural integrity of the structure.~~
- ~~3. Exterior rigid insulation, and~~
- ~~4. Detailed design of intersections of wall openings and building intersections of floors, walls, and roofs.~~

15-DAY REASON: DSA-SS is repealing A5.213.1 (Steel Framing) from the code proposal for further study.

**APPENDIX A5
NONRESIDENTIAL VOLUNTARY MEASURES**

DIVISION A5.3 WATER EFFICIENCY AND CONSERVATION

Adopting Agency	DSA SS
Adopt entire California Chapter	
Adopt entire Chapter as amended (amended Sections listed below)	
Adopt only those Sections that are listed below	
Chapter / Section	
A5.304.3.1 CALGREEN Merit	15-DAY REPEAL ADOPT X
A5.304.3.1.1 CALGREEN Excellence or CALGREEN Grid Neutral	15-DAY REPEAL ADOPT X

SECTION A5.303 - INDOOR WATER USE

A5.303.2.1 30% Savings.

**TABLE A5.303.2.1
WATER USE BASELINE^{5,4}**

FIXTURE TYPE	FLOW RATE ²	DURATION	DAILY USES	OCCUPANTS ^{3,4}
Showerheads	<u>2.5 gpm @ 80 psi</u>	<u>8 min.</u>	<u>1</u>	<u>X</u>
Showerheads residential	2.5 gpm @ 80 psi	8 min.	1	X
Lavatory faucets residential	<u>2.2 gpm @ 60 psi</u>	<u>.25 min.</u>	<u>3</u>	<u>X</u>
Kitchen faucets	<u>2.6 gpm @ 60 psi</u>	<u>4 min.</u>	<u>1</u>	<u>X</u>
Replacement aerators	<u>2.6 gpm @ 60 psi</u>			<u>X</u>
Wash fountains	<u>2.2 [rim space (in.) / 20 gpm @ 60 psi]</u>			<u>X</u>
Metering faucets	<u>0.25 gallons/cycle</u>	<u>.25 min.</u>	<u>3</u>	<u>X</u>
Metering faucets for wash fountains	<u>.25 [rim space (in.) / 20 gpm @ 60 psi]</u>	<u>.25 min.</u>	<u>1 male¹</u> <u>3 female</u>	<u>X</u>
Gravity tank type water closets	<u>1.6 gallons/flush</u>	<u>1 flush</u>	<u>1 male¹</u> <u>3 female</u>	<u>X</u>
Flushometer tank water closets	<u>1.6 gallons/flush</u>	<u>1 flush</u>	<u>1 male¹</u> <u>3 female</u>	<u>X</u>
Flushometer valve water closets	<u>1.6 gallons/flush</u>	<u>1 flush</u>	<u>1 male¹</u> <u>3 female</u>	<u>X</u>
Electromechanical hydraulic water closets	<u>1.6 gallons/flush</u>	<u>1 flush</u>	<u>1 male¹</u> <u>3 female</u>	<u>X</u>
Urinals	<u>1.6 gallons/flush</u>	<u>1 flush</u>	<u>2 male</u>	<u>X</u>

Fixture "Water Use" = Flow rate × Duration × Occupants × Daily uses

- ~~1. Except for low-rise residential occupancies, the daily use number shall be increased to three if urinals are not installed in the room.~~
2. The flow rate is from the CEC Appliance Efficiency Standards, Title 20, *California Code of Regulations*; where a conflict occurs, the CEC standards shall apply.
- ~~3. For low-rise residential occupancies, the number of occupants shall be based on two persons for the first bedroom, plus one additional person for each additional bedroom.~~
- ~~4.3. For nonresidential occupancies, refer to Table A, Chapter 4, 2007 California Plumbing Code, for occupant load factors.~~
5. Use worksheet WS-1 to calculate base line water use.

15-DAY REASON: DSA-SS is amending Table A5.303.2.1 to ensure that the proposed building standard is not unnecessarily ambiguous or vague. Voluntary provision Table A5.303.2.1 is amended to coordinate with 15-day amendments proposed by the California Building Standards Commission (CBSC) mandatory provision in Table 5.303.2.2.

CBSC RECOMMENDATION: Based on criterion 6, CBSC proposes to strike residential showerheads from Table 5.303.2.2 and correct the footnote reference for Occupants to 3.

CBSC RATIONALE: Consistency with authority and footnote numbering.

SECTION A5.304 - OUTDOOR WATER USE

A5.304.3 Potable water reduction. Provide water efficient landscape irrigation design that reduces the use of potable water beyond the initial requirements for plant installation and establishment ~~in accordance with Section A5.304.3.1 or A5.304.3.2~~ by 50%. Calculations for the reduction shall be based on the water budget developed pursuant to section A5.304.1.

Methods used to accomplish the requirements of this section must be designed to the requirements of the California Building Standards Code and shall include, but not be limited to, the following:

1. Plant coefficient.
2. Irrigation efficiency and distribution uniformity.
3. Use of captured rainwater.
4. Use of recycled water.
5. Water treated for irrigation purposes and conveyed by a water district or public entity.

~~**A5.304.3.1 CALGREEN Merit.** Reduce the use of potable water by 50%.~~

~~**A5.304.3.1.1 CALGREEN Excellence or CALGREEN Grid Neutral.** Reduce the use of potable water by 60%.~~

15-DAY REASON:

(A5.304.3 Potable Water Reduction) DSA-SS is amending the A5.304.3 (Potable Water Reduction) to ensure that the proposed building standard does not conflict with, overlap, or duplicate other building standards.

(A5.304.3.1 (CALGREEN Merit and A5.304.3.1.1 (CALGREEN Excellence or CALGREEN Grid Neutral) DSA-SS is repealing A5.304.3.1 (CALGREEN Merit) and A5.304.3.1.1 (CALGREEN Excellence or CALGREEN Grid Neutral) to ensure that the proposed building standard does not conflict with, overlap, or duplicate other building standards.

Voluntary tier reach standards were revised to be voluntary measures. Some of the voluntary tiers which included two levels of reach standards are being consolidated to be one voluntary measure. In all cases the lower quantity was used for the provision, except in the case of Construction Waste Reduction where the higher quantity was used. The title of the voluntary tiers that remained as two voluntary measures were re-titled accordingly.

**APPENDIX A5
NONRESIDENTIAL VOLUNTARY MEASURES**

DIVISION A5.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

Adopting Agency		DSA SS
Adopt entire California Chapter		
Adopt entire Chapter as amended (amended Sections listed below)		
Adopt only those Sections that are listed below		
Chapter / Section		
A5.405.4 Recycled content, CALGREEN Merit	<u>15-DAY AMENDMENT ADOPT</u>	<u>X</u>
A5.405.4.1 Recycled content, CALGREEN Excellence or CALGREEN Grid Neutral	<u>15-DAY REPEAL ADOPT</u>	<u>☒</u>
5.410.3.5.1 Compliance with tiers	<u>15-DAY REPEAL ADOPT</u>	<u>☒</u>

SECTION A5.405 - MATERIAL SOURCES

A5.405.4 Recycled content, CALGREEN Merit. Use materials, equivalent in performance to virgin materials, with post-consumer or pre-consumer recycled content value (RCV) for a minimum of 10% of the total value, based on estimated cost of materials on the project. Provide documentation as to the respective values.

~~**A5.405.4.1 Recycled content, CALGREEN Excellence or CALGREEN Grid Neutral.** Use materials, equivalent in performance to virgin materials, with post-consumer or pre-consumer recycled content value (RCV) for a minimum of 15% of the total value, based on estimated cost of materials on the project. Provide documentation as to the respective values.~~

15-DAY REASON: DSA-SS is amending the title of A5.405.4 (Recycled Content) and repealing A5.405.4.1 (Recycled Content, CALGREEN Excellence or CALGREEN Grid Neutral) to ensure that the proposed building standard does not conflict with, overlap, or duplicate other building standards.

Voluntary tier reach standards were revised to be voluntary measures. Some of the voluntary tiers which included two levels of reach standards are being consolidated to be one voluntary measure. In all cases the lower quantity was used for the provision, except in the case of Construction Waste Reduction where the higher quantity was used. The title of the voluntary tiers that remained as two voluntary measures were re-titled accordingly.

SECTION A5.408 - CONSTRUCTION WASTE REDUCTION, DISPOSAL, AND RECYCLING

A5.408.3.1 Enhanced construction waste reduction. ~~Divert to recycle or salvage non-hazardous construction and demolition debris generated at the site in compliance with one of the following: **CALGREEN Merit**. At least a 65% reduction. **CALGREEN Excellence** or **CALGREEN Grid Neutral**. At for at least an 80% reduction.~~

Exceptions:

1. Excavated soil and land-clearing debris
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.

15-DAY REASON: DSA-SS is amending A5.408.3.1 (enhanced Construction Waste Reduction) by repealing reference to CALGREEN Merit and CALGREEN Excellence or CALGREEN Grid Neutral to coordinate with other DSA-SS amendments.

Voluntary tier reach standards were revised to be voluntary measures. Some of the voluntary tiers which included two levels of reach standards are being consolidated to be one voluntary measure. In all cases the lower quantity was used for the provision, except in the case of Construction Waste Reduction where the higher quantity was used. The title of the voluntary tiers that remained as two voluntary measures were re-titled accordingly.

SECTION A5.410 - BUILDING MAINTENANCE AND OPERATION

A5.410.2.1 Owner'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. Equipment and Systems Expectations.
5. Building Occupant and O&M Personnel Expectations.

15-DAY REASON: DSA-SS is amending voluntary provision A5.410.2.1 (Owner's Project Requirements (OPR)) to ensure that the proposed building standard is not unreasonable, arbitrary, unfair, or capricious and is not unnecessarily ambiguous.

Voluntary provision A5.410.2.1 is amended to coordinate with 15-day amendments proposed by the California Building Standards Commission (CBSC) mandatory provision 5.410.2.1 (Owner's Project Requirements (OPR)).

CBSC RECOMMENDATION: Based on criteria 4 and 6, CBSC proposes to add a phrase concerning project phase.

CBSC RATIONALE: In response to a public comment, clarify for the code user scope for phased projects.

A5.410.2.3 Commissioning plan. A commissioning plan shall be completed to document ~~the approach to~~ how the project will be commissioned and shall be started during the design phase of the building project. The Commissioning Plan shall include the following at a minimum:

1. General Project Information.
2. Commissioning Goals.
3. Systems to be commissioned. Plans to test systems and components shall include at a minimum:
 - a. A detailed 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 & Responsibilities – plans for the completion of Commissioning Requirements listed in A5.410.2.4 through A5.410.2.6 shall be included.

15-DAY REASON: DSA-SS is amending voluntary provision A5.410.2.3 (Commissioning Plan) to ensure that the proposed building standard is not unreasonable, arbitrary, unfair, or capricious, and is not unnecessarily ambiguous or vague. A5.410.2.3 is amended to coordinate with 15-day amendments proposed by the California Building Standards Commission (CBSC) mandatory provision 5.410.2.3 (Commissioning Plan).

CBSC RECOMMENDATION: Based on criteria 4 and 6, CBSC proposes to add a phrase concerning project phase.

CBSC RATIONALE: Editorial grammatical correction to provide clarity to the code user.

A5.410.2.5 Post-construction ~~d~~Documentation and training. A Systems Manual and Systems Operations Training are required.

15-DAY REASON: DSA-SS is amending voluntary provision A5.410.2.5 (Documentation and training) to ensure that the proposed building standard is not unreasonable, arbitrary, unfair, or capricious, and is not unnecessarily ambiguous or vague. A5.410.2.5 is amended to coordinate with 15-day amendments proposed by the California Building Standards Commission (CBSC) mandatory provision 5.410.2.5 (Documentation and Training).

CBSC RECOMMENDATION: Based on criteria 4 and 6, CBSC proposes to delete the words “Post-construction”.

CBSC RATIONALE: In response to a public comment, clarify for the code user the importance of training before all construction activities are complete.

A5.410.2.5.1 Systems manual. Documentation of the operational aspects of the building shall be completed within the Systems Manual and delivered to the building owner and facilities operator. At a minimum, the Systems Manual shall include the following:

1. Site Information, including facility description, history and current requirements.
2. Site Contact Information.
3. Basic Operations & Maintenance, including general site operating procedures, basic troubleshooting, recommended maintenance requirements, site events log
4. Major Systems.
5. Site Equipment Inventory and Maintenance Notes.

~~Documentation of compliance with measurer required by tiers, if applicable.~~

15-DAY REASON: DSA-SS is amending A5.410.2.5.1 (Systems Manual) by repealing the last sentence “Documentation of compliance with measurer required by tiers, if applicable.” to coordinate with other DSA-SS amendments.

A5.410.2.5.2 Systems operations training. The training of the appropriate maintenance staff for each equipment type and/or system shall include, as a minimum, the following:

1. System/Equipment overview (what it is, what it does and what other systems and/or equipment it interfaces with).
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.

15-DAY REASON: DSA-SS is amending voluntary provision A5.410.2.5.2 (Systems Operations Training) item 2 – to ensure that the proposed building standard is not unreasonable, arbitrary, unfair, or capricious and is not unnecessarily ambiguous or vague. A5.410.2.5.2 is amended to coordinate with 15-day amendments proposed by the California Building Standards Commission (CBSC) mandatory provision 5.410.2.5.2 item 2.

CBSC RECOMMENDATION: Based on criteria 4 and 6, CBSC add a new Item 2 for training in servicing and preventive maintenance.

CBSC RATIONALE: In response to a public comment, clarify for the code user training requirements prior to the close of construction to ensure that the benefits of commissioning persist over time.

A5.410.2.6 Commissioning report. A complete report of commissioning process activities undertaken through the design ~~and~~ construction and reporting recommendations for post-construction phases of the building project shall be completed and provided to the owner.

15-DAY REASON: DSA-SS is amending voluntary provision A5.410.2.6 (Commissioning Report) to ensure that the proposed building standard is not unnecessarily ambiguous or vague. A5.410.2.3 is amended to coordinate with 15-day amendments proposed by the California Building Standards Commission (CBSC) mandatory provision 5.410.2.6.

CBSC RECOMMENDATION: Based on criterion 6, CBSC proposes to recommend reporting requirements for post-construction phases in lieu of requiring them.

CBSC RATIONALE: Provide clarity to the code user that this code does not apply to activities once the Certificate of Occupancy is issued.

A5.410.3 Testing, and adjusting and balancing. Testing, and adjusting and balancing of systems shall be required for buildings less than 10,000 square feet.

A5.410.3.2 Systems. Develop a written plan of procedures for testing, and adjusting and balancing systems. Systems to be included for testing, and adjusting and balancing shall include at a minimum, 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

A5.410.3.3 Procedures. Perform testing, and adjusting and balancing procedures in accordance with industry best practices and

applicable national standards on each system.

A5.410.3.3.1 HVAC balancing. In addition to testing and adjusting, ~~B~~before a new space-conditioning system serving a building or space is operated for normal use, the system ~~should~~ shall be balanced in accordance with the procedures defined by the Testing Adjusting and Balancing Bureau National Standards (2003); the National Environmental Balancing Bureau Procedural Standards (1983); or Associated Air Balance Council National Standards (1989).

15-DAY REASON: DSA-SS is amending voluntary provisions in A5.410.3 (Testing and Adjusting) through A5.410.3.3.1 (HVAC Balancing) to ensure that the proposed building standard is not unreasonable, arbitrary, unfair, or capricious, and is not unnecessarily ambiguous or vague. A5.410.3 through A5.410.3.3 are amended to coordinate with 15-day amendments proposed by the California Building Standards Commission (CBSC) mandatory provision 5.410.3 through 5.410.3.3.1.

CBSC RECOMMENDATION: Based on criteria 4 and 6, CBSC proposes in Section 5.410.3.3.1 to change the word “should” to “shall” and to reserve the requirement for balancing for HVAC systems.

CBSC RATIONALE: Based on public comment, the changes are to indicate that balancing is required only for HVAC systems. Other systems with controls will require testing and adjusting, but not balancing.

~~**5.410.3.5.1 Compliance with tiers.** Include documentation of compliance with measures required by tiers, if applicable.~~

15-DAY REASON: DSA-SS is repealing A5.410.3.5.1 (Compliance With Tiers) to coordinate with other DSA-SS amendments.

**APPENDIX A5
NONRESIDENTIAL VOLUNTARY MEASURES**

DIVISION A5.5 ENVIRONMENTAL QUALITY

Adopting Agency		DSA SS
Adopt entire California Chapter		
Adopt entire Chapter as amended (amended Sections listed below)		
Adopt only those Sections that are listed below		
Chapter / Section		
<u>A5.504.2 IAQ Post-construction</u>	<u>15-DAY AMENDMENT ADOPT</u>	<u>X</u>
<u>A5.504.4.7 Resilient flooring systems CALGREEN Merit</u>	<u>15-DAY AMENDMENT ADOPT</u>	<u>X</u>
<u>A5.504.4.7.1 Resilient floor systems, CALGREEN Excellence or CALGREEN Grid Neutral</u>	<u>15-DAY REPEAL ADOPT</u>	<u>X</u>
<u>A5.504.4.8 Thermal insulation, CALGREEN Merit</u>	<u>15-DAY AMENDMENT ADOPT</u>	<u>X</u>
<u>A5.504.4.8.1 Thermal insulation, No-Added Formaldehyde CALGREEN Excellence or CALGREEN Grid Neutral</u>	<u>15-DAY AMENDMENT ADOPT</u>	<u>X</u>
<u>A5.507.5 Enhanced Acoustical control</u>	<u>15-DAY AMENDMENT ADOPT</u>	<u>X</u>

SECTION A5.504 - POLLUTANT CONTROL

A5.504.1 Indoor air quality (IAQ) during construction.

A5.504.1.1 Temporary ventilation. Provide temporary ventilation during construction in accordance with Section 121 (Requirements For Ventilation) of the California Energy Code, CCR, Title 24, Part 6, and Chapter 4 of CCR, Title 8, and as follows:

15-DAY REASON: DSA-SS is making an editorial correction in 5.504.1.1 by adding the words ‘Requirements For Ventilation’ to reflect the actual title language of CCR, Title 24, Part 6, Section 121.

A5.504.2 IAQ Post-construction. After all interior finishes have been installed, flush out the building by supplying continuous ventilation with all air handling units at their maximum outdoor air rate and all supply fans at their maximum position and rate for at least 14 days.

1. During this time, maintain an internal temperature of at least 60°F, and relative humidity no higher than 60%. If extenuating circumstances make these temperature and humidity limits unachievable, the flush out may be conducted under conditions as close as possible to these limits, provided that documentation of the extenuating circumstances is provided in writing.

2. Occupancy may start after 4 days, provided flush-out continues for the full 14 days. During occupied times, the thermal comfort conditions of Title 24 must be met.
3. For buildings that rely on natural ventilation, exhaust fans and floor fans must be used to improve air mixing and removal during the 14-day flush out, and windows should remain open.
4. Do not "bake out" the building by increasing the temperature of the space.
5. (If continuous ventilation is not possible, flush-out air must total the equivalent of 14 days of maximum outdoor air.) the equivalent of 14 days of maximum outdoor air shall be calculated by multiplying the maximum feasible air flow rate (in ft³/m). The air volumes for each period are then calculated and summed, and the flush out continues until the total equals the target air volume.

15-DAY REASON: DSA-SS is renumbering, reordering, and relocating the mandatory regulatory provision (5.504.2) to voluntary provision (A5.504.2) to coordinate with other DSA-SS amendments and to ensure that the proposed building standard is not unreasonable, arbitrary, unfair, or capricious, and is not unnecessarily ambiguous or vague. DSA-SS is amending to coordinate with amendments proposed by the California Building Standards Commission.

CBSC RECOMMENDATION: Based on criterion 4 and 6, CBSC proposes to remove this provision from the mandatory section of the code and move it to the Appendix. In item 5, CBSC is adding language recommended by Air Resources Board.

CBSC RATIONALE: The section was moved in response to a public comment citing technical, enforcement, and potential liability issues. Air Resources Board language clarifies for the code user how the flush-out air volume is calculated.

A5.504.4.5.1 Early compliance with formaldehyde limits. ~~Where complying composite wood product is readily available for non-residential occupancies, meet **Phase 2 II** requirements before the compliance dates indicated in Table 5.504.4.5 (**CALGREEN Merit**), or use composite wood products made with either CARB-approved no-added formaldehyde (NAF) resins or CARB-approved ultra-low emitting formaldehyde (ULEF) resins (**CALGREEN Excellence or CALGREEN Grid Neutral**).~~

15-DAY REASON: DSA-SS is amending A5.504.4.5.1 (Early Compliance With Formaldehyde Limits) to ensure that the proposed building standard does not conflict with, overlap, or duplicate other building standards. DSA-SS is amending to coordinate with amendments proposed by the California Building Standards Commission.

CBSC RECOMMENDATION: Based on criterion 6, CBSC proposes to delete the reference to Phase 2 (II) and add a note concerning documentation of compliance.

CBSC RATIONALE: Reference to Phase 2 has been removed from Table 5.504.4.5 in favor of dates of compliance.

A5.504.4.7 Resilient flooring systems, **CALGREEN Merit.** ~~For 80% of floor area to schedule to receive resilient flooring, install resilient flooring complying with the VOC-emission limits defined in the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low-emitting Materials List or certified under the FloorScore program of the Resilient Floor Covering Institute (RFCI) Floor Score program.~~

15-DAY REASON: DSA-SS is repealing from the title of A5.504.4.7 (Resilient Flooring Systems) reference the words 'CALGREEN Merit', to coordinate with other DSA-SS amendments. DSA-SS is amending this section to coordinate with amendments proposed by the CBSC.

~~**A5.504.4.7.1 Resilient flooring systems, **CALGREEN Excellence or CALGREEN Grid Neutral**.** For 100% of floor area to schedule to receive resilient flooring, install resilient flooring complying with the VOC-emission limits defined in the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low-emitting Materials List or certified under the Resilient Floor Covering Institute (RFCI) Floor Score program.~~

15-DAY REASON: DSA-SS is repealing A5.504.4.7.1 (Resilient Flooring Systems) to coordinate with other DSA-SS amendments. Voluntary tier reach standards were revised to be voluntary measures. Some of the voluntary tiers which included two levels of reach standards are being consolidated to be one voluntary measure. In all cases the lower quantity was used for the provision, except in the case of Construction Waste Reduction where the higher quantity was used. The title of the voluntary tiers that remained as two voluntary measures were re-titled accordingly.

A5.504.4.8 Thermal insulation, **CALGREEN Merit.** ~~Comply with Chapter 12-13 (Standards For Insulating Material) in Title 24, Part 12, the *California Referenced Standards Code*, and with the VOC-emission limits defined in the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low-emitting Materials List or certified under the Resilient Floor Covering institute (AFCI) Floor Score program.~~

15-DAY REASON: DSA-SS is repealing from the title of A5.504.4.8 (Thermal Insulation) reference the words 'CALGREEN Merit', to coordinate with other DSA-SS amendments. DSA-SS is making an editorial correction in A5.504.4.8 by adding the words 'Standards For Insulating Material' to reflect the actual title language of CCR, Title 24, Part 12, Chapter 12-13.

A5.504.4.8.1 Thermal insulation, No-Added Formaldehyde ~~CALGREEN Excellence or CALGREEN Grid Neutral~~. Install No-Added Formaldehyde thermal insulation in addition to meeting the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low-emitting Materials List or certified under the Resilient Floor Covering institute (RFCI) Floor Score program.

15-DAY REASON: DSA-SS is amending the title A5.504.4.8.1 to read (Thermal Insulation, No-Added Formaldehyde) and repealing reference to the words 'CALGREEN Excellence or CALGREEN Grid Neutral', to coordinate with other DSA-SS amendments. Voluntary tier reach standards were revised to be voluntary measures. Some of the voluntary tiers which included two levels of reach standards are being consolidated to be one voluntary measure. In all cases the lower quantity was used for the provision, except in the case of Construction Waste Reduction where the higher quantity was used. The title of the voluntary tiers that remained as two voluntary measures were re-titled accordingly.

A5.504.4.9 Acoustical ceilings and wall panels. Comply with Chapter 8 in Title 24, Part 2, the *California Building Code*, and with the VOC-emission limits defined in the 2009 Collaborative for High Performances Schools (CHPS) criteria and listed on its Low-emitting Materials List or certified under the Resilient Floor Covering institute (AFCO) Floor Score program.

Note: *The 2009 Collaborative for High Performances Schools (CHPS) criteria and listed on its Low-emitting Materials List may be found at www.chps.net/manual/lom_table.htm www.chpsregistry.com/live.*

Note: *Documentation shall be provided that verifies that finish materials are certified to meet the pollutant emission*

15-DAY REASON: DSA-SS is amending A5.504.49 (Acoustical Ceilings and Wall Panels) to ensure that the proposed building standard does not conflict with, overlap, or duplicate other building standards. DSA-SS is amending A5.504.4.9 to coordinate with amendments proposed by the California Building Standards Commission.

CBSC RECOMMENDATION: Based on criteria 1 and CBSC proposes to amend this section based on a comment from ARB, who noted that the previous sections did not specify a time period and thus an air flow rate, which could conceivably be too low for effective flush-out. Based on criterion 6, CBSC proposes to add a note concerning documentation of compliance.

CBSC RATIONALE: Because the amendment is sufficiently related to the original proposal that was brought to the California building Standards Commission Code Advisory Committee, CBSC believes that the public has been adequately noticed that the change might occur. The committee and recommended that the section be amended to include a testing protocol, but ARB advised against this because testing is costly and a building flush-out should eliminate the need for almost all air quality testing. At Air Resources Board's request, the documentation requirement from chapter 5 for formaldehyde, resilient flooring, and thermal insulation is included in the Appendix for consistency with HCD and for clarity to the code use.

A5.504.5.3.1 Filters. In mechanically ventilated buildings, provide regularly student occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a Minimum Efficiency Reporting Value (MERV) of ~~13~~ 11.

15-DAY REASON: DSA-SS is amending A5.504.5.3.1 (Filters) by adding the word 'student' and correcting "MERV of 13" to now read "MERV of 11" to better align with the current high performance incentive program administered by the Division of the State Architect for schools. DSA-SS is amending A5.504.5.3.1 to coordinate with amendments proposed by the California Building Standards Commission.

CBSC RECOMMENDATION: Based on criterion 1, CBSC proposes to change the MERV rating of 13 to 11.

CBSC RATIONALE: Update for consistency with DSA-SS, who is proposing the change, because MERV 13 filters require more frequent replacement, which is a cost and maintenance issue for schools and may have a similar impact on nonresidential new buildings.

SECTION A5.507 - ENVIRONMENTAL COMFORT

A5.507.1.1.2 Thermal comfort. Provide individual thermal comfort controls for at least 50 percent of the building occupants.

1. Occupants shall have control over at least one of the factors of air temperature, radiant temperature, air speed and humidity as described in ASHRAE 55-2004.
2. Occupants inside 20 feet of the plane of and within 10 feet either side of operable windows can substitute windows to control thermal comfort. The areas of operable window must meet the requirements of Section 121 (Requirements For Ventilation) of the California Energy Code.

15-DAY REASON: DSA-SS is making an editorial correction in 5.507.1.1.2 (item 2) by adding the words 'Requirements For Ventilation' to reflect the actual title language of CCR, Title 24, Part 6, Section 121.

A5.507.5 Enhanced Acoustical control. [DSA-SS] Public Schools and Community Colleges classrooms shall have a maximum unoccupied background noise level of 45 dBA, and a 0.7-second maximum (unoccupied) reverberation times. More information can be

~~found in the Acoustical Society of America (ASA) guideline. unoccupied, furnished classrooms must have a maximum background noise level of no more than 45 dBA LAeq, and a maximum (unoccupied, furnished) reverberation of 0.6-second time for classrooms with less than 10,000 cubic feet and a maximum (unoccupied, furnished) reverberation of 0.7-second time for classroom volumes with between 10,000 cubic feet and 20,000 cubic feet.~~

15-DAY REASON: DSA-SS is amending A5.507.5 (Acoustical Control) by deleting the word 'Enhanced' to ensure that the proposed building reach standards aligns with the high performance incentive program currently offered by the State for which the DSA administers plan verification.

**APPENDIX A5
NONRESIDENTIAL VOLUNTARY MEASURES**

DIVISION A5.6 VOLUNTARY REACH STANDARD

Adopting Agency		DSA SS
Adopt entire California Chapter		
Adopt entire Chapter as amended (amended Sections listed below)		
Adopt only those Sections that are listed below		
Chapter / Section	<u>15-DAY REPEAL</u>	
A5.601 CALGREEN TIERS	ADOPT	IK
A5.601.1 Scope	ADOPT	IK
A5.601.2 CALGREEN Merit	ADOPT	IK
A5.601.2.1 Prerequisites	ADOPT	IK
A5.601.2.2 Energy performance	ADOPT	IK
A5.601.2.3.1 Additional voluntary measures for CALGREEN Merit	ADOPT	IK
A5.601.2.3.2 35% Grid neutral	ADOPT	IK
A5.601.3 CALGREEN excellence	ADOPT	IK
A5.601.3.1 Prerequisites	ADOPT	IK
A5.601.3.2 Energy performance	ADOPT	IK
A5.601.3.3 Additional voluntary measures for CALGREEN excellence	ADOPT	IK
A5.601.3.4 75% grid neutral	ADOPT	IK
A5.601.4 CALGREEN grid neutral	ADOPT	IK
A5.601.4.1 Prerequisites	ADOPT	IK
A5.601.4.2 Energy performance	ADOPT	IK
A5.601.4.3 Additional voluntary measures for CALGREEN grid neutral	ADOPT	IK
A5.601.4.4 Grid neutral	ADOPT	IK

SECTION A5.601 – CALGREEN TIERS

~~**A5.601.1 Scope.** The measures contained in this appendix are not mandatory unless adopted by local government as specified in Section 101.7. The provisions of this section outline means of achieving enhanced construction or reach levels by incorporating additional green building measures. In order to meet one of the tier levels designers, builders, or property owners are required to incorporate additional green building measures necessary to meet the threshold of each level.~~

~~**A5.601.2 CALGREEN merit**~~

~~**A5.601.2.1 Prerequisites.** To achieve CALGREEN merit, excellence, or grid neutral status, a project must meet all of the mandatory measures in Chapter 5, and, in addition, meet the provisions in this section.~~

~~**A5.601.2.2 Energy performance.** For the purposes of energy efficiency standards in this code the California Energy Commission will continue to adopt mandatory building standards.~~

~~—Using an Alternative Calculation Method approved by the California Energy Commission, calculate each nonresidential building's TDV energy and CO₂ emissions, and compare it to the standard or "budget" building.~~

~~Exceed California Energy Code requirements by 15%. Field verify and document the measures and calculations used to reach the desired level of efficiency following the requirements specified in the Title 24 Nonresidential Alternative Calculation Method Manual.~~

~~**A5.601.2.3.1 Additional voluntary measures for CALGREEN merit.** Employ at least the following voluntary measures from Appendix 5:~~

- ~~1. A5.106.6.1 Reduce parking capacity.~~
- ~~2. A5.204.1 ENERGY STAR equipment and appliances. In Public School and Community College buildings, equipment including computers and monitors, and appliances in kitchen and supporting food storage and preparation spaces shall be ENERGY STAR compliant.~~
- ~~3. A.5.303.3 Appliances, Items 2, 3 and 4.~~
- ~~4. A5.405.4 Recycled Content, CALGREEN merit~~
- ~~5. A5.507.1.1 Single-occupant spaces. Lighting~~

~~**A5.601.2.3.2 35% Grid neutral.** In addition to the requirements for CALGREEN Merit, a site's annual electrical production and consumption ratio shall be equal to or greater than 0.35 as described Section A5.211.2.3; and employ Energy Monitoring as described in Section A5.106.11.~~

~~**A5.601.3 CALGREEN excellence**~~

~~**A5.601.3.1 Prerequisites.** To achieve CALGREEN excellence status, a project must meet all of the mandatory measures in Chapter 5, and, in addition, meet the provisions of sections A5.601.3.2 through A5.601.3.4.~~

~~**A5.601.3.2 Energy performance.** For the purposes of energy efficiency standards in this code the California Energy Commission will continue to adopt mandatory building standards.~~

~~Using an Alternative Calculation Method approved by the California Energy Commission, calculate each nonresidential building's TDV energy and CO₂ emissions, and compare it to the standard or "budget" building.~~

~~Exceed California Energy Code requirements by 30%. Field verify and document the measures and calculations used to reach the desired level of efficiency following the requirements specified in the Title 24 Nonresidential Alternative Calculation Method Manual.~~

~~**A5.601.3.3 Additional voluntary measures for CALGREEN excellence.** Employ at least the following voluntary measures from Appendix 5:~~

- ~~1. A5.106.6.1 Reduce parking capacity.~~
- ~~2. A5.106.0 Building orientation.~~
- ~~3. A5.204.1 ENERGY STAR equipment and appliances. In Public School and Community College buildings, equipment including computers and monitors, and appliances in kitchen and supporting food storage and preparation spaces shall be ENERGY STAR compliant.~~
- ~~4. A5.106.11.2 Roof area alternatives, item 1.~~
- ~~5. A.5.303.3 Appliances, items 2, 3, and 4.~~
- ~~6. A5.404.1 Wood Framing.~~
- ~~7. **A5.405.4.1 Recycled content, CALGREEN Excellence or CALGREEN Grid Neutral**~~
- ~~8. A5.507.1.1.1 Single-occupant spaces. Lighting.~~
- ~~9. A5.507.1.2 Multi-occupant spaces.~~

~~**A5.601.3.4 75% Grid neutral.** In addition to the requirements for CALGREEN Excellence, a site's annual electrical production and consumption ratio shall be equal to or greater than 0.75 as described Section A5.211.2.3; and employ Energy Monitoring as described in Section A5.106.11.~~

~~**A5.601.4 CALGREEN grid neutral.**~~

~~**A5.601.4.1 Prerequisites.** To achieve CALGREEN grid neutral status, a project must meet all of the mandatory measures in Chapter 5, and, in addition, meet the provisions of sections A5.601.4.2 through A5.601.4.4.~~

~~**A5.601.4.2 Energy performance.** For the purposes of energy efficiency standards in this code the California Energy Commission will continue to adopt mandatory building standards.~~

~~Using an Alternative Calculation Method approved by the California Energy Commission, calculate each nonresidential building's TDV energy and CO₂ emissions, and compare it to the standard or "budget" building.~~

~~Exceed California Energy Code requirements by 35%. Field verify and document the measures and calculations used to reach the desired level of efficiency following the requirements specified in the Title 24 Nonresidential Alternative Calculation Method Manual.~~

~~**A5.601.4.3 Additional voluntary measures for CALGREEN grid neutral.** Employ at least the following voluntary measures from Appendix 5:~~

- ~~1. A5.106.6.1 Reduce parking capacity.~~
- ~~2. A5.106.9 Building orientation.~~
- ~~3. A5.204.1 ENERGY STAR equipment and appliances. In Public School and Community College buildings, equipment including computers and monitors, and appliances in kitchen and supporting food storage and preparation spaces shall be ENERGY STAR compliant.~~
- ~~4. A5.204.4 Commissioning.~~
- ~~5. A5.106.11.2 Roof area alternatives, item 1.~~
- ~~6. A5.303.3 Appliances, items 2, 3, and 4.~~
- ~~7. A5.404.1 Wood Framing.~~
- ~~8. **A5.405.4.1 Recycled content, CALGREEN Excellence or CALGREEN Grid Neutral**~~
- ~~9. A5.507.1.1.1 Single occupant spaces. Lighting.~~
- ~~10. A5.507.1.2 Multi-occupant spaces.~~
- ~~11. A5.507.3 Daylight.~~

~~**A5.601.4.4. Grid neutral.** In addition to the above requirements, a site's annual electrical production and consumption ratio shall be equal to or greater than 1 as described Section A5.211.2.3; and employ Energy Monitoring as described in Section A5.106.11.~~

15-DAY REASON: DSA-SS is repealing the reach standards in A5.601 for further study. The DSA-SS developed the reach standards in A5.601 in the 45-day language to create a set of criteria instead of a voluntary tier structure. Those reach standards did not align with the high performance incentive program currently offered by the State for which the DSA-SS administers plan verification.

New 15-DAY amended Table shown in double underline.

	<u>Mandatory</u> <input checked="" type="checkbox"/>	<u>Voluntary</u> <input checked="" type="checkbox"/>
<u>DIVISION 5.1 - PLANNING AND DESIGN</u>		
<u>SITE DEVELOPMENT</u>		
<u>A5.106.4 Bicycle parking and changing rooms.</u> <u>Comply with Sections 5.106.4.1 through 5.106.4.3; or meet local ordinance or the University of California Policy on Sustainable Practices, whichever is stricter.</u>		<input checked="" type="checkbox"/>
<u>A5.106.4.1 Short-term bicycle parking.</u> <u>If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 yards of the visitors' entrance, readily visible to passers-by, for 5% of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack.</u>		<input checked="" type="checkbox"/>
<u>A5.106.4.2 Long-term bicycle parking.</u> <u>For buildings with over 10 tenant-occupants, provide secure bicycle parking for 5% of tenant-occupant motorized vehicle parking capacity, with a minimum of one space. For public schools and community colleges provide secure bicycle parking for 15% of occupants (students, teachers, and staff). Acceptable parking facilities shall be convenient from the street and may include, but not be limited to:</u> <u>1. Covered, lockable enclosures with permanently anchored racks for bicycles;</u> <u>2. Lockable bicycle rooms with permanently anchored racks; and</u> <u>3. Lockable, permanently anchored bicycle lockers.</u>		<input checked="" type="checkbox"/>
<u>A5.106.4.3 Changing rooms.</u> <u>For buildings with over 10 tenant-occupants, provide changing/shower facilities for tenant-occupants only in accordance with Table A5.106.4.3, or document arrangements with nearby changing/shower facilities. For public schools and community colleges, provide changing/shower facilities for the "number of administrative/teaching staff" equal to the "number of tenant-occupants" shown in Table 5.106.4.3.</u> <u>TABLE A5.106.4.3</u>		<input checked="" type="checkbox"/>
<u>A5.106.5.1 Designated parking for fuel efficient vehicles.</u> <u>Provide 10% of total designated parking spaces for any combination of low-emitting, fuel-efficient, and carpool/van pool vehicles as follows:</u> <u>TABLE A5.106.5.1.1 – 10% of Total Spaces</u>		<input checked="" type="checkbox"/>
<u>A5.106.5.1.3 Parking stall marking.</u> <u>Paint, in the paint used for stall striping, the following characters such that the lower edge of the last word aligns with the end of the stall striping and is visible beneath a parked vehicle: "CLEAN AIR VEHICLE"</u>		<input checked="" type="checkbox"/>
<u>A5.106.5.1.4 Vehicle designations.</u> <u>Building managers may consult with local community Transit Management Associations (TMAs) for methods of designating qualifying vehicles, such as issuing parking stickers.</u>		<input checked="" type="checkbox"/>
<u>A5.106.5.3 Electric vehicle charging.</u> <u>Provide facilities meeting Section 406.7 (Electric Vehicle) of the California Building Code and as follows:</u>		<input checked="" type="checkbox"/>
<u>A5.106.5.3.1 Electric vehicle supply wiring.</u> <u>For each space required in Table A406.1.5.2, provide one 120 VAC 20 amp and one 208/240 V 40 amp, grounded AC outlets or panel capacity and conduit installed for future outlets.</u> <u>TABLE A5.106.5.3.1</u>		<input checked="" type="checkbox"/>
<u>A5.106.6 Parking capacity.</u> <u>Design parking capacity to meet but not exceed minimum local zoning requirements.</u>		<input checked="" type="checkbox"/>
<u>A5.106.6.1 Reduce parking capacity.</u> <u>With the approval of the enforcement authority, employ strategies to reduce on-site parking area by</u> <u>1. Use of on street parking or compact spaces, illustrated on the site plan, or</u> <u>2. Implementation and documentation of programs that encourage occupants to carpool, ride share or use alternate transportation. Strategies for programs may be obtained from local TMAs.</u>		<input checked="" type="checkbox"/>
<u>5.106.8 Light pollution reduction.</u> <u>Comply with lighting power requirements in the California Energy Code, CCR, Part 6, and design interior and exterior lighting such that zero direct-beam illumination leaves the building site. Meet or exceed exterior light levels and uniformity ratios for lighting zones 1-4 as defined in Chapter 10 of the California Administrative Code, CCR, Part 1, using the following strategies:</u> <u>1. Shield all exterior luminaires or provide cutoff luminaires per Section 132 (b) of the California Energy Code.</u> <u>2. Contain interior lighting within each source.</u> <u>3. Allow no more than .01 horizontal lumen foot candles to escape 15 feet beyond the site boundary.</u> <u>4. Automatically control exterior lighting dusk to dawn to turn off or lower light levels during inactive periods.</u> <u>Exceptions:</u> <u>1. Part 2, Chapter 12, Section 1205.6 for campus lighting requirements for parking facilities and primary walkways.</u>	<input checked="" type="checkbox"/>	

	<u>Mandatory</u> <input checked="" type="checkbox"/>	<u>Voluntary</u> <input checked="" type="checkbox"/>
<u>2. Emergency lighting and lighting required for nighttime security.</u>		
<u>A5.106.9 Building orientation.</u> <u>Locate and orient the building as follows:</u> <u>1. When site and location permit, orient the building with the long sides facing north and south.</u> <u>2. Protect the building from thermal loss, drafts, and degradation of the building envelope caused by wind and wind-driven materials such as dust, sand, snow, and leaves with building orientation and landscape features.</u>		<input checked="" type="checkbox"/>
<u>A5.106.9.1 Building orientation and shading.</u> <u>Locate, orient and shade the building as follows:</u> <u>1. Provide exterior shade for south-facing windows during the peak cooling season. [DSA-SS] In Public School and Community College buildings, shade may be provided by trees, solar shade structures, or other alternate methods.</u>		<input checked="" type="checkbox"/>
<u>5.106.10 Grading and Paving.</u> <u>The site shall be planned and developed to keep surface water from entering buildings. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows.</u>	<input checked="" type="checkbox"/>	
<u>A5.106.11 Heat island effect.</u> <u>Reduce non-roof heat islands by Section A5.106.11.1 and roof heat islands by A5.106.11.2.</u>		<input checked="" type="checkbox"/>
<u>A5.106.11.1 Hardscape alternatives.</u> <u>Use one or a combination of strategies 1 through 3 for 50% of site hardscape or put 50% of parking underground.</u> <u>1. Provide shade (mature within 5 years of occupancy). [DSA-SS] In Public School and Community College buildings, solar shade structures may be used in lieu of trees to provide required shade.</u> <u>2. Use light colored/ high-albedo materials.</u> <u>3. Use open-grid pavement system.</u>		<input checked="" type="checkbox"/>
<u>A5.106.11.2 Cool roof.</u> <u>Use roofing materials having a minimum 3-year aged solar reflectance and thermal emittance or a minimum aged Solar Reflectance Index (SRI)³ as shown in Table A5.106.11.2.1 or A5.106.11.2.2.</u> <u>Table A5.106.11.2.1</u>		<input checked="" type="checkbox"/>
<u>DIVISION 5.2 -- ENERGY EFFICIENCY</u>		
<u>GENERAL</u>		
<u>5.201.1 Scope.</u> <u>For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory building standards.</u>	<input checked="" type="checkbox"/>	
<u>A5.203.1.1 Energy efficiency – 15% above Title 24.</u> <u>Exceed California Energy Code requirements, based on the 2008 Energy Efficiency Standards, by 15% and meet the requirements of Division A45.6.</u>		<input checked="" type="checkbox"/>
<u>A5.203.1.2 Energy efficiency – 30% above Title 24.</u> <u>Exceed California Energy Code requirements, based on the 2008 Energy Efficiency Standards, by 30% and meet the requirements of Division A45.6.</u>		<input checked="" type="checkbox"/>
<u>PRESCRIPTIVE MEASURES</u>		
<u>A5.204.1 ENERGY STAR equipment and appliances.</u> <u>All equipment and appliances provided by the builder shall be ENERGY STAR labeled if ENERGY STAR is applicable to that equipment or appliance.</u>		<input checked="" type="checkbox"/>
<u>A5.204.2 Energy monitoring.</u> <u>Provide submetering or equivalent combinations of sensor measurements and thermodynamic calculations, if appropriate, to record energy use data for each major energy system in the building, including chillers, heat pumps, packaged AC systems, fans, pumps, cooling towers, boilers and other heating systems, lighting systems and process loads. This energy use data, once collected, shall be stored within a data management system.</u>		<input checked="" type="checkbox"/>
<u>RENEWABLE ENERGY</u>		
<u>A5.211.1 On-site renewable energy.</u> <u>Use on-site renewable energy sources such as solar, wind, geothermal, low-impact hydro, biomass and bio-gas for at least 1 percent of the electric power calculated as the product of the building service voltage and the amperage specified by the electrical service overcurrent protection device rating or 1kW (whichever is greater), in addition to the electrical demand required to meet 1 percent of the natural gas and propane use. The building project's electrical service overcurrent protection device rating shall be calculated in accordance with the 2007 California Electrical Code. Natural gas or propane use is calculated in accordance with the 2007 California Plumbing Code.</u>		<input checked="" type="checkbox"/>
<u>A5.211.1.2 Grid neutral.</u> <u>[DSA-SS] Using the proposed annual electrical energy budget (kwh) as set forth by the Title 24, Part 6 of the California energy Code, and adding the additional annual energy consumption estimated for the appliances and equipment not covered by Title 24, Part 6 (e.g. kitchen and laundry equipment and appliances, swimming pool heaters and circulation</u>		<input checked="" type="checkbox"/>

	Mandatory <input checked="" type="checkbox"/>	Voluntary <input checked="" type="checkbox"/>
<p>pumps, industrial and art equipment, computers, etc.) calculate the site's annual electrical production and consumption ratio by dividing the proposed annual renewable electrical energy production (kwh) by the proposed annual electrical energy budget (kwh). The estimated plug loads shall be included in the annual electrical energy budget (kwh).</p> <p>Exceptions:</p> <ol style="list-style-type: none"> Existing buildings with one year of occupancy or greater shall use actual data of the annual electrical energy consumption of the facilities. Using the data logged for the facilities, calculate the site's annual electrical production and consumption ratio by dividing the proposed annual renewable electrical energy production (kwh) by the actual annual electrical energy consumption (kwh). The annual renewable electrical energy can be renewable energy produce3d off-site on a remote property owned by the applicant. 		
<p>A5.211.2.1 35% Grid neutral. A sites annual electrical production and consumption ratio is equal or greater than 0.35.</p>		<input checked="" type="checkbox"/>
<p>A5.211.2.2 75% Grid neutral. A site's annual electrical production and consumption ratio is equal or greater than 0.75.</p>		<input checked="" type="checkbox"/>
<p>A5.211.2.3 Grid neutral. A site's annual electrical production and consumption ratio is equal or greater than 1.</p>		<input checked="" type="checkbox"/>
<p>A5.211.3 Green power. Using a calculation method approved by the California Energy Commission, calculate the renewable on-site energy system to meet the requirements of Section 511.1, expressed in kW. Factor in net-metering, if offered by local utility, on an annual basis.</p>		<input checked="" type="checkbox"/>
<p>A5.211.4 Pre-wiring for future solar. Install conduit from the building roof or eave to a location within the building identified as suitable for future installation of a charge controller (regulator) and inverter.</p>		<input checked="" type="checkbox"/>
<p>A5.211.4.1 Off grid pre-wiring for future solar. If battery storage is anticipated, conduit should run to a location within the building that is stable, weather-proof, insulated against very hot and very cold weather, and isolated from occupied spaces.</p>		<input checked="" type="checkbox"/>
<u>ELEVATORS, ESCALATORS, AND OTHER EQUIPMENT</u>		
<p>A5.212.1 Elevators and escalators. In buildings with more than one elevator or two escalators, provide controls to reduce the energy demand of elevators for part of the day and escalators to reduce speed when no traffic is detected. Document the controls in the project specifications and commissioning plan. [DSA-SS] In Public School and Community College buildings, locate stairs conveniently to encourage their use in lieu of elevators or escalators.</p>		<input checked="" type="checkbox"/>
<p>A5.212.1.1 Controls. Controls that reduce energy demand shall meet requirements of CCR, Title 8, Chapter 4, Subchapter 6 and shall not interrupt emergency operations for elevators required in CCR, Title 24, Part 2, <i>California Building Code</i>.</p>		<input checked="" type="checkbox"/>
<u>DIVISION 5.3 - WATER EFFICIENCY AND CONSERVATION</u>		
<u>INDOOR WATER USE</u>		
<p>5.303.2 20% Savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 20% shall be provided. The reduction shall be based on the maximum allowable water use per plumbing fixture and fitting as required by the California Building Standards Code. The 20% reduction in potable water use shall be demonstrated by one of the following methods.</p> <ol style="list-style-type: none"> Each plumbing fixture and fitting shall meet the 20% reduced flow rate specified in Table 5.303.2, or A calculation demonstrating a 20% reduction in the building "water use baseline" as established in Table 5.303.1 shall be provided. <p style="text-align: center;">TABLE 5.301.1 – INDOOR WATER USE BASELINE TABLE 5.303.2 – FIXTURE FLOW RATES</p>	<input checked="" type="checkbox"/>	
<p>A5.303.2.1 30% Savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 30% shall be provided. The reduction shall be based on the maximum allowable water use per plumbing fixture and fitting as required by the California Building Standards Code. The 30% reduction in potable water use shall be demonstrated by one of the following methods.</p> <ol style="list-style-type: none"> Each plumbing fixture and fitting shall meet the 30% reduced flow rate specified in Table A5.303.2.2, or A calculation demonstrating a 30% reduction in the building "water use baseline" as established in Table A5.303.2.1 shall be provided. <p style="text-align: center;">TABLE A5.303.2.1 - WATER USE BASELINE⁵ TABLE A5.303.2.2 - FIXTURE FLOW RATE</p>		<input checked="" type="checkbox"/>
<p>A5.303.3 Appliances.</p>		

	<u>Mandatory</u> <input checked="" type="checkbox"/>	<u>Voluntary</u> <input checked="" type="checkbox"/>
<p>1. <u>Clothes washer shall have a maximum water factor (WF) that will reduce the use of water by 10 percent below the California Energy Commission's WF standards for commercial clothes washers located in Title 20 of the California Code of Regulations.</u></p> <p>2. <u>Dishwashers shall meet the following water use standards:</u></p> <p style="margin-left: 20px;">a. <u>Residential—5.8 gallons per cycle.</u></p> <p style="margin-left: 20px;">b. <u>Commercial—refer to Table A5.303.3.</u></p> <p style="text-align: center;"><u>TABLE A5.303.3 - COMMERCIAL DISHWASHER WATER USE</u></p> <p>3. <u>Ice makers shall be air cooled.</u></p> <p>4. <u>Food steamers shall be connection-less or boiler-less.</u></p>		<input checked="" type="checkbox"/>
<p>5.303.4 Wastewater reduction. <u>Each building shall reduce by 20% wastewater by one of the following methods:</u></p> <p>1. <u>The installation of water-conserving fixtures (water closets, urinals) meeting the criteria established in sections 5.303.2 or A5.303.3</u></p>	<input checked="" type="checkbox"/>	
<p>5.303.6 Plumbing fixtures and fittings. <u>Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall meet the standards referenced in Table 5.503.6.</u></p> <p style="text-align: center;"><u>TABLE 5.303.6 - STANDARDS FOR PLUMBING FIXTURES AND FIXTURE FITTINGS</u></p>	<input checked="" type="checkbox"/>	
<u>OUTDOOR WATER USE</u>		
<p>A5.304.1 Water budget. <u>A water budget shall be developed for landscape irrigation use that conforms to the local water efficient landscape ordinance or to the California Department of Water Resources Model Water Efficient Landscape Ordinance where no local ordinance is applicable.</u></p>		<input checked="" type="checkbox"/>
<p>A5.304.3 Potable water reduction. <u>Provide water efficient landscape irrigation design that reduces the use of potable water beyond the initial requirements for plant installation and establishment by 5%. Calculations for the reduction shall be based on the water budget developed pursuant to section A5.304.1.</u> <u>Methods used to accomplish the requirements of this section must be designed to the requirements of the California Building Standards Code and shall include, but not be limited to, the following:</u></p> <p>1. <u>Plant coefficient.</u></p> <p>2. <u>Irrigation efficiency and distribution uniformity.</u></p> <p>3. <u>Use of captured rainwater.</u></p> <p>4. <u>Use of recycled water.</u></p> <p>5. <u>Water treated for irrigation purposes and conveyed by a water district or public entity.</u></p>		<input checked="" type="checkbox"/>
<u>DIVISION 5.4 - MATERIAL CONSERVATION AND RESOURCE EFFICIENCY</u>		
<u>EFFICIENT FRAMING SYSTEMS</u>		
<p>A5.404.1 Wood framing. <u>Employ advanced wood framing techniques, or OVE, as recommended by the U.S. Department of Energy's Office of Building Technology, State and Community Programs and as permitted by the enforcing agency.</u></p>		<input checked="" type="checkbox"/>
<u>MATERIAL SOURCES</u>		
<p>A5.405.4 Recycled content. <u>Use materials, equivalent in performance to virgin materials, with post-consumer or pre-consumer recycled content value (RCV) for a minimum of 10% of the total value, based on estimated cost of materials on the project. Provide documentation as to the respective values.</u></p>		<input checked="" type="checkbox"/>
<u>ENHANCED DURABILITY AND REDUCED MAINTENANCE</u>		
<p>A5.406.1.1 Service life. <u>Use materials, equivalent in performance to virgin materials, with postconsumer or preconsumer recycled content value (RCV) for a minimum of 10 percent of the total value, based on estimated cost of materials on the project. Provide documentation as to the respective values.</u></p>		<input checked="" type="checkbox"/>
<p>A5.406.1.3 Recyclability. <u>Select materials that can be reused or recycled at the end of their service life in the project.</u></p>		<input checked="" type="checkbox"/>
<u>WATER RESISTANCE AND MOISTURE MANAGEMENT</u>		
<p>5.407.1 Weather protection. <u>Provide a weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1403.2 (Weather Protection) and California Energy Code Section 150 (Mandatory Features and Devices), manufacturer's installation instructions, or local ordinance, whichever is more stringent.</u></p>	<input checked="" type="checkbox"/>	
<p>5.407.2 Moisture control. <u>Employ moisture control measures by the following methods.</u></p>	<input checked="" type="checkbox"/>	

	<u>Mandatory</u> <input checked="" type="checkbox"/>	<u>Voluntary</u> <input checked="" type="checkbox"/>
<u>5.407.2.1 Sprinklers.</u> Design and maintain landscape irrigation systems to prevent spray on structures.	<input checked="" type="checkbox"/>	
<u>5.407.2.2 Entries and openings.</u> Design exterior entries and/or openings subject to foot traffic or wind-driven rain to prevent water intrusion into buildings.	<input checked="" type="checkbox"/>	
<u>CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING</u>		
<u>5.408.1 Construction waste diversion.</u> Establish a construction waste management plan for the diverted materials, or meet local construction and demolition waste management ordinance, whichever is more stringent.	<input checked="" type="checkbox"/>	
<u>5.408.2 Construction waste management plan.</u> Where a local jurisdiction does not have a construction and demolition waste management ordinance, submit a construction waste management plan for approval by the enforcement agency that: 1. <u>Identifies the materials to be diverted from disposal by efficient usage, recycling, reuse on the project, or salvage for future use or sale.</u> 2. <u>Determines if materials will be sorted on-site or mixed.</u> 3. <u>Identifies diversion facilities where material collected will be taken.</u> 4. <u>Specifies that the amount of materials diverted shall be calculated by weight or volume, but not by both.</u>	<input checked="" type="checkbox"/>	
<u>5.408.2.1 Documentation.</u> Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 5.408.2 items 1 thru 4. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency. <u>Exception.</u> Jobsites in areas where there is no mixed construction and demolition debris (C&D) processor or recycling facilities within a feasible haul distance shall meet the requirements as follows: 1. <u>The enforcement agency having jurisdiction shall at its discretion, enforce the waste management plan and make exceptions as deemed necessary.</u>	<input checked="" type="checkbox"/>	
<u>5.408.2.2 Isolated jobsites.</u> The enforcing agency may make exceptions to the requirements of this section when jobsites are located in areas beyond the haul boundaries of the diversion facility.	<input checked="" type="checkbox"/>	
<u>5.408.3 Construction waste reduction of at least 50%.</u> Recycle and/or salvage for reuse a minimum of 50% of the non-hazardous construction and demolition debris, or meet a local construction and demolition waste management ordinance, whichever is more stringent. Calculate the amount of materials diverted by weight or volume, but not by both. <u>Exceptions:</u> 1. <u>Excavated soil and land-clearing debris</u> 2. <u>Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.</u>	<input checked="" type="checkbox"/>	
<u>A5.408.3.1 Enhanced construction waste reduction.</u> Divert to recycle or salvage non-hazardous construction and demolition debris generated at the site for at least an 80% reduction. <u>Exceptions:</u> 1. <u>Excavated soil and land-clearing debris</u> 2. <u>Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.</u>		<input checked="" type="checkbox"/>
<u>LIFE CYCLE ASSESSMENT</u>		
<u>A5.409.1 Materials and system assemblies.</u> Select materials assemblies based on life cycle assessment of their embodied energy and/or green house gas emission potentials.		<input checked="" type="checkbox"/>
<u>BUILDING MAINTENANCE AND OPERATION</u>		
<u>5.410.1 Recycling by occupants.</u> Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics and metals.	<input checked="" type="checkbox"/>	
<u>A5.410.2 Commissioning.</u> 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 project requirements. Commissioning shall be performed in accordance with this section by personnel trained and certified in commissioning by a nationally recognized organization. Commissioning requirements shall include as a minimum: 1. <u>Owner's Project Requirements.</u> 2. <u>Basis of Design.</u> 3. <u>Commissioning measures shown in the construction documents.</u> 4. <u>Commissioning Plan.</u> 5. <u>Functional Performance Testing.</u> 6. <u>Post Construction Documentation & Training.</u> 7. <u>Commissioning Report.</u>		<input checked="" type="checkbox"/>

	<u>Mandatory</u> <input checked="" type="checkbox"/>	<u>Voluntary</u> <input checked="" type="checkbox"/>
<u>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.</u>		
<u>A5.410.2.1 Owner's Project Requirements (OPR).</u> <u>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:</u> <ol style="list-style-type: none"> <u>1. Environmental and Sustainability Goals.</u> <u>2. Energy Efficiency Goals.</u> <u>3. Indoor Environmental Quality Requirements.</u> <u>4. Equipment and Systems Expectations.</u> <u>5. Building Occupant and O&M Personnel Expectations.</u> 		<input checked="" type="checkbox"/>
<u>A5.410.2.2 Basis of Design (BOD).</u> <u>A written explanation of how the design of the building systems meets the Owner's Project Requirements shall be completed at the design phase of the building project, and updated as necessary during the design and construction phases. At a minimum, the Basis of Design document shall cover the following systems:</u> <ol style="list-style-type: none"> <u>1. Heating, Ventilation, Air Conditioning (HVAC) Systems and Controls.</u> <u>2. Indoor Lighting System and Controls.</u> <u>3. Water Heating System.</u> <u>4. Renewable Energy Systems.</u> 		<input checked="" type="checkbox"/>
<u>A5.410.2.3 Commissioning plan.</u> <u>A commissioning plan shall be completed to document how the project will be commissioned and shall be started during the design phase of the building project. The Commissioning Plan shall include the following at a minimum:</u> <ol style="list-style-type: none"> <u>1. General Project Information.</u> <u>2. Commissioning Goals.</u> <u>3. Systems to be commissioned. Plans to test systems and components shall include at a minimum:</u> <ol style="list-style-type: none"> <u>a. A detailed explanation of the original design intent.</u> <u>b. Equipment and systems to be tested, including the extent of tests.</u> <u>c. Functions to be tested.</u> <u>d. Conditions under which the test shall be performed.</u> <u>e. Measurable criteria for acceptable performance.</u> <u>4. Commissioning Team Information.</u> <u>5. Commissioning Process Activities, Schedules & Responsibilities – plans for the completion of Commissioning Requirements listed in A5.410.2.4 through A5.410.2.6 shall be included.</u> 		<input checked="" type="checkbox"/>
<u>A5.410.2.4 Functional performance testing.</u> <u>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.</u>		<input checked="" type="checkbox"/>
<u>A5.410.2.5 Documentation and training.</u> <u>A Systems Manual and Systems Operations Training are required.</u>		<input checked="" type="checkbox"/>
<u>A5.410.2.5.1 Systems manual.</u> <u>Documentation of the operational aspects of the building shall be completed within the Systems Manual and delivered to the building owner and facilities operator. At a minimum, the Systems Manual shall include the following:</u> <ol style="list-style-type: none"> <u>1. Site Information, including facility description, history and current requirements.</u> <u>2. Site Contact Information.</u> <u>3. Basic Operations & Maintenance, including general site operating procedures, basic troubleshooting, recommended maintenance requirements, site events log</u> <u>4. Major Systems.</u> <u>5. Site Equipment Inventory and Maintenance Notes.</u> 		<input checked="" type="checkbox"/>
<u>A5.410.2.5.2 Systems operations training.</u> <u>The training of the appropriate maintenance staff for each equipment type and/or system shall include, as a minimum, the following:</u> <ol style="list-style-type: none"> <u>1. System/Equipment overview (what it is, what it does and what other systems and/or equipment it interfaces with).</u> <u>2. Review and demonstration of servicing/preventive maintenance.</u> <u>3. Review of the information in the Systems Manual.</u> <u>4. Review of the record drawings on the system/equipment.</u> 		<input checked="" type="checkbox"/>
<u>A5.410.2.6 Commissioning report.</u> <u>A complete report of commissioning process activities undertaken through the design and construction and reporting recommendations for post-construction phases of the building project shall be completed and provided to the owner.</u>		<input checked="" type="checkbox"/>
<u>A5.410.3 Testing and adjusting.</u> <u>Testing and adjusting systems shall be required for buildings less than 10,000 square feet.</u>		<input checked="" type="checkbox"/>
<u>A5.410.3.2 Systems.</u> <u>Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting</u>		<input checked="" type="checkbox"/>

	<u>Mandatory</u> <input checked="" type="checkbox"/>	<u>Voluntary</u> <input checked="" type="checkbox"/>
shall include at a minimum, as applicable to the project: <ol style="list-style-type: none"> 1. <u>HVAC systems and controls</u> 2. <u>Indoor and outdoor lighting and controls</u> 3. <u>Water heating systems</u> 4. <u>Renewable energy system</u> 		
<u>A5.410.3.3 Procedures.</u> <u>Perform testing and adjusting procedures in accordance with industry best practices and applicable national standards on each system.</u>		<input checked="" type="checkbox"/>
<u>A5.410.3.3.1 HVAC balancing.</u> <u>In addition to testing and adjusting, before a new space-conditioning system serving a building or space is operated for normal use, the system shall be balanced in accordance with the procedures defined by the Testing Adjusting and Balancing Bureau National Standards (2003); the National Environmental Balancing Bureau Procedural Standards (1983); or Associated Air Balance Council National Standards (1989).</u>		<input checked="" type="checkbox"/>
<u>A5.410.3.4 Reporting.</u> <u>After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.</u>		<input checked="" type="checkbox"/>
<u>A5.410.3.5 Operation and maintenance manual.</u> <u>Provide the building owner with detailed operating and maintenance instructions and copies of guaranties/warranties for each system prior to final inspection.</u>		<input checked="" type="checkbox"/>
DIVISION 5.5 ENVIRONMENTAL QUALITY		
<u>POLLUTANT CONTROL</u>		
<u>A5.504.1.1 Temporary ventilation.</u> <u>Provide temporary ventilation during construction in accordance with Section 121 (Requirements For Ventilation) of the California Energy Code, CCR, Title 24, Part 6, and Chapter 4 of CCR, Title 8, and as follows:</u> <ol style="list-style-type: none"> 1. <u>Ventilation during construction shall be achieved through openings in the building shell using fans to produce a minimum of three air changes per hour.</u> 2. <u>During dust-producing operations, protect supply and return HVAC system openings from dust.</u> 3. <u>The permanent HVAC system shall only be used during construction if necessary to condition the building within the required temperature range for material and equipment installation. If the HVAC system is used during construction, use return air filters with a Minimum Efficiency Reporting Value (MERV) of 8, based on ASHRAE 52.2-1999, or an average efficiency of 30% based on ASHRAE 52.1-1992. Replace all filters immediately prior to occupancy.</u> 4. <u>If the building is occupied during demolition or construction, meet or exceed the recommended Control Measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings under Construction, 1995, Chapter 3.</u> 		<input checked="" type="checkbox"/>
<u>A5.504.1.2 Additional IAQ measures.</u> <u>Employ additional measures as follows:</u> <ol style="list-style-type: none"> 1. <u>When using generators to generate temporary power, use generators meeting the requirements of CCR, Title 13, Chapter 9, or local ordinance, whichever is more stringent.</u> 2. <u>Protect on-site absorbent materials from moisture. Remove and replace any materials wit</u> 3. <u>Store odorous and high VOC-emitting materials off-site, without packaging, for a sufficient period to allow odors and VOCs to disperse.</u> 4. <u>When possible, once materials are on the jobsite, install odorous and high VOC-emitting materials prior to those that are porous or fibrous.</u> 5. <u>Clean oil and dust from ducts prior to use.</u> 		<input checked="" type="checkbox"/>
<u>A5.504.2 IAQ Post-construction.</u> <u>After all interior finishes have been installed, flush out the building by supplying continuous ventilation with all air handling units at their maximum outdoor air rate and all supply fans at their maximum position and rate for at least 14 days.</u> <ol style="list-style-type: none"> 1. <u>During this time, maintain an internal temperature of at least 60°F, and relative humidity no higher than 60%. If extenuating circumstances make these temperature and humidity limits unachievable, the flush out may be conducted under conditions as close as possible to these limits, provided that documentation of the extenuating circumstances is provided in writing.</u> 2. <u>Occupancy may start after 4 days, provided flush-out continues for the full 14 days. During occupied times, the thermal comfort conditions of Title 24 must be met.</u> 3. <u>For buildings that rely on natural ventilation, exhaust fans and floor fans must be used to improve air mixing and removal during the 14-day flush out, and windows should remain open.</u> 4. <u>Do not "bake out" the building by increasing the temperature of the space.</u> 5. <u>(If continuous ventilation is not possible, flush-out air volume must total the equivalent of 14 days of maximum outdoor air.) The air volumes for each period are then calculated and summed, and the flush out continues until the total equals the target air volume.</u> 		<input checked="" type="checkbox"/>

	<u>Mandatory</u> <input checked="" type="checkbox"/>	<u>Voluntary</u> <input checked="" type="checkbox"/>
<u>5.504.3 Covering of duct openings and protection of mechanical equipment during construction.</u> <u>At the time of rough installation, or during storage on the construction site and until final startup of the heating and cooling equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of dust or debris which may collect in the system.</u>	<input checked="" type="checkbox"/>	
<u>5.504.4.1 Adhesives, sealants, and caulks.</u> <u>Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards.</u> <u>1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene, and trichloroethylene), except for aerosol products as specified in subsection 2, below.</u> <u>2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.</u> <u>TABLE 5.504.4.1 - ADHESIVE AND SEALANT VOC LIMIT¹</u>	<input checked="" type="checkbox"/>	
<u>5.504.4.3 Paints and coatings.</u> <u>Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 5.504.4.3, shall be determined by classifying the coating as a Flat, Nonflat, or Nonflat-High Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat, or Nonflat-High Gloss VOC limit in Table 5.504.4.3 shall apply.</u>	<input checked="" type="checkbox"/>	
<u>5.504.4.3.1 Aerosol paints and coatings.</u> <u>Aerosol paints and coatings shall meet the Product-Weighted MIR Limits for ROC in section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in sections 94522(c)(2) and (d)(2) of California Code of Regulations, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8 Rule 49.</u> <u>TABLE 5.504.4.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS^{2, 3}</u>	<input checked="" type="checkbox"/>	
<u>5.504.4.4 Carpet systems.</u> <u>All carpet installed in the building interior shall meet the testing and product requirements of the following:</u> <u>1. Carpet and Rug Institute's Green Label Plus Program.</u> <u>2. California Department of Public Health Standard Practice for the testing of VOCs (Specification 01350).</u> <u>3. Department of General Services, California Gold Sustainable Carpet Standard.</u> <u>4. Scientific Certifications Systems Sustainable Choice.</u>	<input checked="" type="checkbox"/>	
<u>5.504.4.4.1 Carpet cushion.</u> <u>All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program.</u>	<input checked="" type="checkbox"/>	
<u>5.504.4.4.2 Carpet adhesive.</u> <u>All carpet adhesive shall meet the requirements of Table 5.504.4.1.</u>	<input checked="" type="checkbox"/>	
<u>5.504.4.5 Composite wood products.</u> <u>Hardwood plywood, particleboard, and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 5.504.4.5.</u> <u>TABLE 5.504.4.5 - FORMALDEHYDE LIMITS¹</u>	<input checked="" type="checkbox"/>	
<u>A5.504.4.5.1 Early compliance with formaldehyde limits.</u> <u>Where complying composite wood product is readily available for non-residential occupancies, meet requirements before the compliance dates indicated in Table 5.504.4.5 or use composite wood products made with either CARB-approved no-added formaldehyde (NAF) resins or CARB-approved ultra-low emitting formaldehyde (ULEF) resins.</u>		<input checked="" type="checkbox"/>
<u>5.504.4.6 Resilient flooring systems.</u> <u>For 50% of floor area receiving resilient flooring, install resilient flooring complying with the VOC-emission limits defined in the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low-emitting Materials List or certified under the Resilient Floor Covering Institute (RFCI) Floor Score program.</u> <u>Documentation shall be provided that verifies that finish materials are certified to meet the pollutant emission limits.</u>	<input checked="" type="checkbox"/>	
<u>A5.504.4.7 Resilient flooring systems.</u> <u>For 80% of floor area to schedule to receive resilient flooring, install resilient flooring complying with the VOC-emission limits defined in the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low-emitting Materials List or certified under the FloorScore program of the Resilient Floor Covering Institute.</u>		<input checked="" type="checkbox"/>
<u>A5.504.4.8 Thermal insulation.</u>		

	<u>Mandatory</u> <input checked="" type="checkbox"/>	<u>Voluntary</u> <input checked="" type="checkbox"/>
Comply with Chapter 12-13 (Standards For Insulating Material) in Title 24, Part 12, the <i>California Referenced Standards Code</i> , and with the VOC-emission limits defined in the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low-emitting Materials List Documentation shall be provide that verifies that finish materials are certified to meet the pollutant emission limits..		<input checked="" type="checkbox"/>
A5.504.4.8.1 Thermal insulation, No-Added Formaldehyde. Install No-Added Formaldehyde thermal insulation in addition to meeting the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low-emitting Materials List or certified under the Resilient Floor Covering institute (RFCI) Floor Score program.		<input checked="" type="checkbox"/>
A5.504.4.9 Acoustical ceilings and wall panels. Comply with Chapter 8 in Title 24, Part 2, the <i>California Building Code</i> , and with the VOC-emission limits defined in the 2009 Collaborative for High Performances Schools (CHPS) criteria and listed on its Low-emitting Materials List or certified under the Resilient Floor Covering institute (AFCO) Floor Score program.		<input checked="" type="checkbox"/>
A5.504.5 Hazardous particulates and chemical pollutants. Minimize and control pollutant entry into buildings and cross-contamination of regularly occupied areas.		<input checked="" type="checkbox"/>
A5.504.5.1 Entryway systems. Install permanent entryway systems measuring at least six feet in the primary direction of travel to capture dirt and particulates at entryways directly connected to the outdoors. 1. <u>Qualifying entryways are those that serve as regular entry points for building users.</u> 2. <u>Acceptable entryway systems include, but are not limited to, permanently installed grates, grilles or slotted systems that allow cleaning underneath.</u> 3. <u>Roll-out mats are acceptable only when maintained regularly by janitorial contractors as documented in service contract, or by in-house staff as documented by written policies and procedures.</u>		<input checked="" type="checkbox"/>
A5.504.5.2 Isolation of pollutant sources. In rooms where activities produce hazardous fumes or chemicals, such as garages, janitorial or laundry rooms, and copy or printing rooms, exhaust them and isolate them from their adjacent rooms. 1. <u>Exhaust each space with no air recirculation in accordance with ASHRAE 62.1, Table 6-4 to create negative pressure with respect to adjacent spaces with the doors to the room closed.</u> 2. <u>For each space, provide self-closing doors and deck to deck partitions or a hard ceiling.</u> 3. <u>Install low-noise, vented range hoods for all cooking appliances and in laboratory or other chemical mixing areas.</u>		<input checked="" type="checkbox"/>
5.504.5.3 Filters. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a Minimum Efficiency Reporting Value (MERV) of 8.	<input checked="" type="checkbox"/>	
A5.504.5.3.1 Filters. In mechanically ventilated buildings, provide regularly student occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a Minimum Efficiency Reporting Value (MERV) of 11.		<input checked="" type="checkbox"/>
<u>INDOOR MOISTURE CONTROL</u>		
5.505. 1 Indoor moisture control. Buildings shall meet or exceed the provisions of <i>California Building Code</i> , CCR, Title 24, Sections 1203 (Ventilation) and Chapter 14 (Exterior Walls). For additional measures not applicable to low-rise residential occupancies, see Section 5.407.2 of this code.	<input checked="" type="checkbox"/>	
<u>INDOOR AIR QUALITY</u>		
5.506.1 Outside air delivery. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 121 (Requirements For Ventilation) of the California Energy Code, CCR, Title 24, Part 6, or the applicable local code, whichever is more stringent, and Chapter 4 of CCR, Title 8.	<input checked="" type="checkbox"/>	
<u>ENVIRONMENTAL COMFORT</u>		
A5.507.1 Lighting and thermal comfort controls. Provide controls in the workplace as described in Sections A5.507.1.1 and A5.507.1.2.		<input checked="" type="checkbox"/>
A5.507.1.1 Single-occupant spaces. Provide individual controls that meet energy use requirements in the 2007 California Energy Code in accordance with Sections A5.507.1.1.1 and A5.507.1.1.2.		<input checked="" type="checkbox"/>
A5.507.1.1.1 Lighting. Provide individual task lighting and/or day lighting controls for at least 90 percent of the building occupants.		<input checked="" type="checkbox"/>
A5.507.1.1.2 Thermal comfort. Provide individual thermal comfort controls for at least 50 percent of the building occupants. 1. <u>Occupants shall have control over at least one of the factors of air temperature, radiant temperature, air speed and humidity as described in ASHRAE 55-2004.</u> 2. <u>Occupants inside 20 feet of the plane of and within 10 feet either side of operable windows can substitute windows to control thermal comfort. The areas of operable window must meet the requirements of Section 121 (Requirements For Ventilation) of the <i>California Energy Code</i>.</u>		<input checked="" type="checkbox"/>

	<u>Mandatory</u> <input checked="" type="checkbox"/>	<u>Voluntary</u> <input checked="" type="checkbox"/>
<u>A5.507.1.2 Multi-occupant spaces.</u> <u>Provide lighting and thermal comfort system controls for all shared multi-occupant spaces, such as classrooms and conference rooms.</u>		<input checked="" type="checkbox"/>
<u>A5.507.2 Daylight.</u> <u>Provide day lit spaces as required for top lighting and side lighting in the 2007 California Energy Code. In constructing a design, consider the following:</u> <ol style="list-style-type: none"> <u>1. Use of light shelves and reflective room surfaces to maximize daylight penetrating the rooms.</u> <u>2. Means to eliminate glare and direct sun light, including through skylights.</u> <u>3. Use of photo sensors to turn off electric lighting when daylight is sufficient.</u> <u>4. Not using diffuse day lighting glazing where views are desired.</u> 		<input checked="" type="checkbox"/>
<u>A5.507.3 Views.</u> <u>Achieve direct line of sight to the outdoor environment via vision glazing between 2' 6" and 7' 6" above finish floor for building occupants in 90 percent of all regularly occupied areas as demonstrated by plan view and section cut diagrams</u>		<input checked="" type="checkbox"/>
<u>A5.507.3.1 Interior office spaces.</u> <u>Entire areas of interior office spaces may be included in the calculation if at least 75 percent of each area has direct line of sight to perimeter vision glazing.</u>		<input checked="" type="checkbox"/>
<u>A5.507.3.2 Multi-occupant spaces.</u> <u>Include in the calculation the square footage with direct line of sight to perimeter vision glazing.</u> <u>Exceptions to Sections 807.3 and 807.4: Copy/printing rooms, storage areas, mechanical spaces, restrooms, auditoria and other intermittently or infrequently occupied spaces or spaces where daylight would interfere with use of the space.</u>		<input checked="" type="checkbox"/>
<u>A5.507.5 Acoustical control.</u> <u>[DSA-SS] Public Schools and Community Colleges unoccupied, furnished classrooms must have a maximum background noise level of no more than 45 dBA LAeq, and a maximum (unoccupied, furnished) reverberation of 0.6-second time for classrooms with less than 10,000 cubic feet and a maximum (unoccupied, furnished) reverberation of 0.7-second time for classroom volumes with between 10,000 cubic feet and 20,000 cubic feet.</u>		<input checked="" type="checkbox"/>

Notation:

Authority – Education Code Sections 17280--17317 and 81130--81147. Reference – Education Code Sections 17310 and 81142.

Notes:	Mandatory	Voluntary		
		CALGREEN Merit	CALGREEN Excellence	CALGREEN Grid Neutral
<input type="checkbox"/> Required measure to meet DSA voluntary reach standards, Division A5.601				
1. Long sides facing north and south.		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Protect the building from thermal loss, drafts, and degradation of the building envelope caused by wind and wind driven materials.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A5.106.0.1 Building orientation and shading. Locate, orient and shade the building as follows:		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1. Provide exterior shade for south facing windows during the peak cooling season. [DSA SS] In Public School and Community College buildings, Shade may be provided by trees, solar shade structures, or other alternate methods.				
5.106.10 Grading and Paving. The site shall be planned and developed to keep surface water away from buildings. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows.	<input checked="" type="checkbox"/>			
A5.106.11 Heat island effect. Reduce non roof heat islands by Section A5.106.11.1 and roof heat islands by A5.106.11.2.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A5.106.11.1 Hardscape alternatives. Use one or a combination of strategies 1 through 3 for 50% of site hardscape or put 50% of parking underground. Provide shade (mature within 5 years of occupancy). [DSA SS] In Public School and Community College buildings, solar shade structures may be used in lieu of trees to provide required shade.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2. Use light colored/ high albedo materials.				
4. Use open grid pavement system.				
A5.106.11.2 Cool roof. Use roofing materials having a minimum 2 year aged solar reflectance and thermal emittance or a minimum aged Solar Reflectance Index (SRI) ² as shown in Table A5.106.11.2.1 or A5.106.11.2.2.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Table A5.106.11.2.1 CALGREEN Merit				
Table A5.106.11.2.2 CALGREEN Excellence or CALGREEN Grid Neutral				
DIVISION 5.2 ENERGY EFFICIENCY				
5.201 GENERAL				
5.201.1 Scope. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory building standards.	<input checked="" type="checkbox"/>			
A5.202.1 Energy performance. For the purposes of energy efficiency standards in this code the California Energy Commission will continue to adopt mandatory building standards. It is the intent of this code to encourage green buildings to achieve exemplary performance in the area of energy efficiency. Specifically, a green building should achieve more than a 15 percent reduction in energy usage when compared to the State's mandatory energy efficiency standards.		<input checked="" type="checkbox"/>		
Using an Alternative Calculation Method approved by the California Energy Commission, calculate each nonresidential building's TDV energy and CO2 emissions, and compare it to the standard or "budget" building.				
A5.202.1.1 CALGREEN merit. Exceed California Energy Code requirements, based on the 2008 Energy Efficiency Standards, by 15% and meet the requirements of Division A45.6.		<input checked="" type="checkbox"/>		
A5.202.1.2 CALGREEN excellence. Exceed California Energy Code requirements, based on the 2009 Energy Efficiency Standards, by 20% and meet the requirements of Division A45.6.			<input checked="" type="checkbox"/>	
A5.202.1.3 CALGREEN grid neutral. Exceed California Energy Code requirements, based on the 2009 Energy Efficiency Standards, by 35% and meet the requirements of Division A45.6.				<input checked="" type="checkbox"/>
A5.204 PRESCRIPTIVE MEASURES				
A5.204.1 ENERGY STAR equipment and appliances. All equipment and appliances provided by the builder shall be ENERGY STAR labeled if ENERGY STAR is applicable to that equipment or appliance.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A5.204.2 Energy monitoring. Provide submetering or equivalent combinations of sensor measurements and thermodynamic calculations, if appropriate, to record energy use data for each major energy system in the building, including chillers, heat pumps, packaged AC systems, fans, pumps, cooling towers, boilers and other heating systems, lighting systems and process loads. This energy use data, once collected, shall be stored within a data management system.				<input type="checkbox"/>
A5.211 RENEWABLE ENERGY				
A5.211.1 On site renewable energy. Use on site renewable energy sources such as solar, wind, geothermal, low impact hydro, biomass and bio gas for at least 1 percent of the electric power calculated as the product of the building service voltage and the amperage specified by the electrical service overcurrent protection device rating or 1kW (whichever is greater), in addition to the electrical demand required to meet 1 percent of the natural gas and propane use. The building project's electrical service overcurrent protection device rating shall be calculated in accordance with the 2007 California Electrical Code. Natural gas or propane use is calculated in accordance with the 2007 California Plumbing Code.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A5.211.1.1 Documentation. Calculate renewable on site energy cost savings as a percentage of estimated local utility		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Notes: <input type="checkbox"/> Required measure to meet DSA voluntary reach standards, Division A5.601	Mandatory	Voluntary		
		CALGREEN Merit	CALGREEN Excellence	CALGREEN Grid Neutral
rates for conventional fuel types. Factor in net metering, if offered by local utility, on an annual basis.				
A5.211.2 Grid neutral. [DSA SS] Using the proposed annual electrical energy budget (kwh) as set forth by the Title 24, Part 6 of the California Energy Code, and adding the additional annual energy consumption estimated for the appliances and equipment not covered by Title 24, Part 6 (e.g. kitchen and laundry equipment and appliances, swimming pool heaters and circulation pumps, industrial and art equipment, computers, etc.) calculate the site's annual electrical production and consumption ratio by dividing the proposed annual renewable electrical energy production (kwh) by the proposed annual electrical energy budget (kwh). The estimated plug loads shall be included in the annual electrical energy budget (kwh). Exceptions: 1. Existing buildings with one year of occupancy or greater shall use actual data of the annual electrical energy consumption of the facilities. Using the data logged for the facilities, calculate the site's annual electrical production and consumption ratio by dividing the proposed annual renewable electrical energy production (kwh) by the actual annual electrical energy consumption (kwh). 2. The annual renewable electrical energy can be renewable energy produced off-site on a remote property owned by the applicant.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A5.211.2.1 25% Grid neutral. A site's annual electrical production and consumption ratio is equal or greater than 0.25.		<input checked="" type="checkbox"/>		
A5.211.2.2 75% Grid neutral. A site's annual electrical production and consumption ratio is equal or greater than 0.75.			<input checked="" type="checkbox"/>	
A5.211.2.3 Grid neutral. A site's annual electrical production and consumption ratio is equal or greater than 1.				<input checked="" type="checkbox"/>
A5.211.2 Green power. Using a calculation method approved by the California Energy Commission, calculate the renewable on-site energy system to meet the requirements of Section 5.11.1, expressed in kW. Factor in net metering, if offered by local utility, on an annual basis.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A5.211.4 Pre-wiring for future solar. Install conduit from the building roof or eave to a location within the building identified as suitable for future installation of a charge controller (regulator) and inverter.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A5.211.4.1 Off grid pre-wiring for future solar. If battery storage is anticipated, conduit should run to a location within the building that is stable, weather proof, insulated against very hot and very cold weather, and isolated from occupied spaces.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A5.212 ELEVATORS, ESCALATORS, AND OTHER EQUIPMENT				
A5.212.1 Elevators and escalators. In buildings with more than one elevator or two escalators, provide controls to reduce the energy demand of elevators for part of the day and escalators to reduce speed when no traffic is detected. Document the controls in the project specifications and commissioning plan. [DSA SS] In Public School and Community College buildings, locate stairs conveniently to encourage their use in lieu of elevators or escalators.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A5.212.1.1 Controls. Controls that reduce energy demand shall meet requirements of CCR, Title 9, Chapter 4, Subchapter 6 and shall not interrupt emergency operations for elevators required in CCR, Title 24, Part 2, California Building Code.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A5.213 ENERGY EFFICIENT STEEL FRAMING				
A5.213.1 Steel framing. Design steel framing for maximum energy efficiency. Techniques for avoiding thermal bridging in the envelope include: 1. Punching large holes in the stud web without affecting its structural integrity. 2. Spacing the studs as far as possible while maintaining the structural integrity of the structure. 3. Exterior rigid insulation and 4. Detailed design of intersections of wall openings and building intersections of floors, walls, and roofs.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
DIVISION 5.3 WATER EFFICIENCY AND CONSERVATION				
5.303 INDOOR WATER USE				
5.303.2 20% Savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 20% shall be provided. The reduction shall be based on the maximum allowable water use per plumbing fixture and fitting as required by the California Building Standards Code. The 20% reduction in potable water use shall be demonstrated by one of the following methods: 1. Each plumbing fixture and fitting shall meet the 20% reduced flow rate specified in Table 5.303.2 or 2. A calculation demonstrating a 20% reduction in the building "water use baseline" as established in Table 5.303.1 shall be provided. Table 5.303.1 Indoor Water Use Baseline Table 5.303.2 Fixture Flow Rates (Calculate savings by Water Use Worksheets.)	<input checked="" type="checkbox"/>			

Notes:	Mandatory	Voluntary		
		CALGREEN Merit	CALGREEN Excellence	CALGREEN Grid Neutral
<p><input type="checkbox"/> Required measure to meet DSA voluntary reach standards, Division A5.601</p> <p>A5.203.2.1 30% Savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 30% shall be provided. The reduction shall be based on the maximum allowable water use per plumbing fixture and fitting as required by the California Building Standards Code. The 30% reduction in potable water use shall be demonstrated by one of the following methods:</p> <p>1. Each plumbing fixture and fitting shall meet the 30% reduced flow rate specified in Table A5.203.2.1, or</p> <p>2. A calculation demonstrating a 30% reduction in the building "water use baseline" as established in Table 5.203.1 shall be provided.</p> <p>Table A5.203.2.1 Water use Baseline</p> <p>Table A5.203.2.2 Fixture Flow Rate</p> <p>(Calculate savings by Water Use Worksheets.)</p> <p>5.203.4 Wastewater reduction. Each building shall reduce by 20% wastewater by the following method:</p> <p>1. The installation of water conserving fixtures (water closets, urinals) meeting the criteria established in sections 5.203.2 or A5.203.2.</p>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<p>A5.203.2 Appliances:</p> <p>1. Clothes washer shall have a maximum water factor (WF) that will reduce the use of water by 10 percent below the California Energy Commission's WF standards for commercial clothes washers located in Title 20 of the California Code of Regulations.</p> <p>2. Dishwashers shall meet the following water use standards:</p> <p>a. Residential – 5.8 gallons per cycle.</p> <p>b. Commercial – refer to Table A5.203.2.</p> <p>Table A5.203.2 Commercial Dishwasher Water Use</p> <p>3. Ice makers shall be air cooled.</p> <p>4. Food steamers shall be connection less or boiler less.</p>		<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>5.203.6 Plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall meet the standards referenced in Table 5.503.6.</p> <p>Table 5.203.6</p> <p>Water closets (toilets) – flushometer type</p> <p>Water closets (toilets) – tank type</p> <p>Urinals:</p> <p>Public lavatory faucets:</p> <p>Public metering self-closing faucets:</p>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>			
A5.204 – OUTDOOR WATER USE				
<p>A5.204.1 Water budget. A water budget shall be developed for landscape irrigation use that conforms to the local water efficient landscape ordinance or to the California Department of Water Resources Model Water Efficient Landscape Ordinance where no local ordinance is applicable.</p>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<p>A5.204.2 Potable water reduction. Provide a water efficient landscape irrigation design that reduces the use of potable water beyond the initial requirements for plant installation and establishment in accordance with Section A5.204.1.1 or A5.204.1.2. Calculations for the reduction shall be based on the water budget developed pursuant to section A5.204.1. Methods used to accomplish the requirements of this section must be designed to the requirements of the California Building Standards Code and shall include, but not be limited to, the following:</p> <p>1. Plant coefficient</p> <p>2. Irrigation efficiency and distribution uniformity</p> <p>3. Use of captured rainwater</p> <p>4. Use of recycled water</p> <p>5. Water treated for irrigation purposes and conveyed by a water district or public entity</p>		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
<p>A5.204.1.1 CALGREEN merit. Reduce the use of potable water by 50%.</p>		<input checked="" type="checkbox"/>		
<p>A5.204.1.1.1 CALGREEN excellence or CALGREEN grid neutral. Reduce the use of potable water by 60%.</p>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
DIVISION 5 – MATERIAL CONSERVATION AND RESOURCE EFFICIENCY				
A5.204 – EFFICIENT FRAMING SYSTEMS				
<p>A5.404.1 Wood framing. Employ advanced wood framing techniques, or OVE, as recommended by the U.S. Department of Energy's Office of Building Technology, State and Community Programs and as permitted by the enforcing agency.</p>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A5.405 – MATERIAL SOURCES				
<p>A5.405.4 Recycled content, CALGREEN merit. Use materials, equivalent in performance to virgin materials, with post consumer or pre consumer recycled content value (RCV) for a minimum of 10% of the total value, based on estimated cost of materials on the project. Provide documentation as to the respective values.</p>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<p>A5.405.4.1 Recycled content, CALGREEN excellence or CALGREEN grid neutral</p>				

Notes:	Mandatory	Voluntary		
		CALGREEN Merit	CALGREEN Excellence	CALGREEN Grid Neutral
<input type="checkbox"/> Required measure to meet DSA voluntary reach standards, Division A5.601				
Use materials, equivalent in performance to virgin materials, with post-consumer or pre-consumer recycled content value (RCV) for a minimum of 15% of the total value, based on estimated cost of materials on the project. Provide documentation as to the respective values.		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A5.405.4.2 Determination of recycled content value (RCV). The recycled content of a material assembly shall be determined by weight, and the fractional value of the weight is then multiplied by the total estimated cost of the material assembly.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A5.406 – ENHANCED DURABILITY AND REDUCED MAINTENANCE				
A5.406.1.1 Service life. Use materials, equivalent in performance to virgin materials, with post consumer or preconsumer recycled content value (RCV) for a minimum of 10 percent of the total value, based on estimated cost of materials on the project. Provide documentation as to the respective values.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A5.406.1.2 Recyclability. Select materials that can be reused or recycled at the end of their service life in the project.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5.407 – WATER RESISTANCE AND MOISTURE MANAGEMENT				
5.407.1 Weather protection. Provide a weather resistant exterior wall and foundation envelope as required by California Building Code Section 1403.2 and California Energy Code Section 150, manufacturer's installation instructions, or local ordinance, whichever is more stringent.	<input checked="" type="checkbox"/>			
5.407.2 Moisture control. Employ moisture control measures by the following methods:	<input checked="" type="checkbox"/>			
5.407.2.1 Sprinklers. Design and maintain landscape irrigation systems to prevent spray on structures.	<input checked="" type="checkbox"/>			
5.407.2.2 Entries and openings. Design exterior entries and/or openings subject to foot traffic or wind driven rain to prevent water intrusion into building.	<input checked="" type="checkbox"/>			
5.408 – CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING				
5.408.1 Construction waste diversion. Establish a construction waste management plan for the diverted materials, or meet local construction and demolition waste management ordinance, whichever is more stringent.	<input checked="" type="checkbox"/>			
5.408.2 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance, submit a construction waste management plan for approval by the enforcement agency that: 1. Identifies the materials to be diverted from disposal by efficient usage, recycling, reuse on the project, or salvage for future use or sale. 2. Determines if materials will be sorted on site or mixed. 3. Identifies diversion facilities where material collected will be taken. 4. Specifies that the amount of materials diverted shall be calculated by weight or volume, but not by both.	<input checked="" type="checkbox"/>			
5.408.2.1 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 5.408.2 items 1 thru 4. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency.	<input checked="" type="checkbox"/>			
5.408.2.2 Isolated jobsites. The enforcing agency may make exceptions to the requirements of this section when jobsites are located in areas beyond the haul boundaries of the diversion facility.	<input checked="" type="checkbox"/>			
5.408.3 Construction waste reduction of at least 50%. Recycle and/or salvage for reuse a minimum of 50% of the non hazardous construction and demolition debris, or meet a local construction and demolition waste management ordinance, whichever is more stringent. Calculate the amount of materials diverted by weight or volume, but not by both. Exceptions: 1. Excavated soil and land clearing debris. 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.	<input checked="" type="checkbox"/>			
A5.408.2.1 Enhanced construction waste reduction. Divert to recycle or salvage non-hazardous construction and demolition debris generated at the site in compliance with one of the following: CALGREEN merit. At least a 65% reduction. CALGREEN excellence or CALGREEN grid neutral. At least an 80% reduction. Exceptions: 1. Excavated soil and land clearing debris. 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
A5.409 – LIFE CYCLE ASSESSMENT				
A5.409.1 Materials and system assemblies. Select materials assemblies based on life cycle assessment of their embodied energy.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Notes: <input type="checkbox"/> Required measure to meet DSA voluntary reach standards, Division A5.601	Mandatory	Voluntary		
		CALGREEN Merit	CALGREEN Excellence	CALGREEN Cred Neutral
and/or green house gas emission potentials:				
5.410 BUILDING MAINTENANCE AND OPERATION				
5.410.1 Recycling by occupants Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics and metals.	<input checked="" type="checkbox"/>			
A5.410 BUILDING MAINTENANCE AND OPERATION				
A5.410.2 Commissioning For new buildings 10,000 square foot 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 project requirements. Commissioning shall be performed in accordance with this section by personnel trained and certified in commissioning by a nationally recognized organization. Commissioning requirements shall include as a minimum: 1. Owner's Project Requirements. 2. Basis of Design. 3. Commissioning measures shown in the construction documents. 4. Commissioning Plan. 5. Functional Performance Testing. 6. Post Construction Documentation & Training. 7. Commissioning Report. 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.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5.410.2.1 Owner's Project Requirements (OPR). The expectations and requirements of the building 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. Equipment and Systems Expectations. 5. Building Occupant and O&M Personnel Expectations.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A5.410.2.2 Basis of Design (BOD). A written explanation of how the design of the building systems meets the Owner's Project Requirements shall be completed at the design phase of the building project, and updated as necessary during the design and construction phases. At a minimum, 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.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A5.410.2.3 Commissioning plan. A commissioning plan shall be completed to document the approach to how the project will be commissioned and shall be started during the design phase of the building project. The Commissioning Plan shall include the following at a minimum: 1. General Project Information. 2. Commissioning Goals. 3. Systems to be commissioned. Plans to test systems and components shall include at a minimum: a. A detailed 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 & Responsibilities plans for the completion of Commissioning Requirements listed in A5.410.4.4 through A5.410.4.6 shall be included.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A5.410.2.4 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.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A5.410.2.5 Post construction documentation and training. A Systems Manual and Systems Operations Training are required.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A5.410.2.6 Systems manual. Documentation of the operational aspects of the building shall be completed within the Systems Manual and delivered to the building owner and facilities operator. At a minimum, the Systems Manual shall include the following: 1. Site Information, including facility description, history and current requirements. 2. Site Contact Information.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Notes: <input type="checkbox"/> Required measure to meet DSA voluntary reach standards, Division A5.601	Mandatory	Voluntary		
		CALGREEN Merit	CALGREEN Excellence	CALGREEN Cred Neutral
3. Basic Operations & Maintenance, including general site operating procedures, basic troubleshooting, recommended maintenance requirements, site events log				
4. Major Systems				
5. Site Equipment Inventory and Maintenance Notes				
Documentation of compliance with measurer required by tiers, if applicable				
A5.410.2.5.2 Systems operations training. The training of the appropriate maintenance staff for each equipment type and/or system shall include, as a minimum, the following:		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1. System/Equipment overview (what it is, what it does and what other systems and/or equipment it interfaces with)				
2. Review of the information in the Systems Manual				
3. Review of the record drawings on the system/equipment				
A5.410.2.6 Commissioning report. A complete report of commissioning process activities undertaken through the design, construction and post-construction phases of the building project shall be completed and provided to the owner.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A5.410.3 Testing, adjusting and balancing. Testing, adjusting and balancing of systems shall be required for buildings less than 10,000 square feet.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A5.410.3.2 Systems. Develop a written plan of procedures for testing, adjusting and balancing systems. Systems to be included for testing, adjusting and balancing shall include at a minimum, as applicable to the project:		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1. HVAC systems and controls				
2. Indoor and outdoor lighting and controls				
3. Water heating systems				
4. Renewable energy systems				
A5.410.3.3 Procedures. Perform testing, adjusting and balancing procedures in accordance with industry best practices and applicable national standards on each system.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A5.410.3.3.1 HVAC balancing. Before a new space conditioning system serving a building or space is operated for normal use, the system should be balanced in accordance with the procedures defined by the Testing Adjusting and Balancing Bureau National Standards (2003), the National Environmental Balancing Bureau Procedural Standards (1983), or Associated Air Balance Council National Standards (1999).		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A5.410.3.4 Reporting. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A5.410.3.5 Operation and maintenance manual. Provide the building owner with detailed operating and maintenance instructions and copies of warranties/warranties for each system prior to final inspection.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
DIVISION 5. ENVIRONMENTAL QUALITY				
5.503 FIREPLACES				
5.503.1 General. Install only a direct vent sealed combustion gas or sealed wood burning fireplace or a sealed woodstove, and refer to residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150. Woodstoves and fireplaces shall comply with applicable local ordinances.	<input checked="" type="checkbox"/>			
5.503.1.1 Woodstoves. Woodstoves shall comply with US EPA Phase II emission limits.	<input checked="" type="checkbox"/>			
DIVISION A5.5 ENVIRONMENTAL QUALITY				
A5.504 POLLUTANT CONTROL				
A5.504.1 Indoor air quality (IAQ) during construction. Maintain IAQ as provided in Sections A5.504.1.1 and A5.504.1.2.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A5.504.1.1 Temporary ventilation. Provide temporary ventilation during construction in accordance with Section 121 of the California Energy Code, CCR, Title 24, Part 6, and Chapter 4 of CCR, Title 8, and as follows:		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1. Ventilation during construction shall be achieved through openings in the building shell using fans to produce a minimum of three air changes per hour.				
2. During dust producing operations, protect supply and return HVAC system openings from dust.				
3. The permanent HVAC system shall only be used during construction if necessary to condition the building within the required temperature range for material and equipment installation. If the HVAC system is used during construction, use return air filters with a Minimum Efficiency Reporting Value (MERV) of 8, based on ASHRAE 52.2-1999, or an average efficiency of 30% based on ASHRAE 52.1-1992. Replace all filters immediately prior to occupancy.				
4. If the building is occupied during demolition or construction, meet or exceed the recommended Control Measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings under Construction, 1995, Chapter 3.				
A5.504.1.2 Additional IAQ measures. Employ additional measures as follows:				
1. When using generators to generate temporary power, use generators		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Notes: <input type="checkbox"/> Required measure to meet DSA voluntary reach standards, Division A5.601	Mandatory	Voluntary		
		CALGREEN Merit	CALGREEN Excellence	CALGREEN Grid Neutral
Table 5.504.4.2 - Voc Content Limits For Architectural Coatings²				
5.504.4.4 Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of the following: 1. Carpet and Rug Institute's Green Label Plus Program. 2. California Department of Public Health Standard Practice for the testing of VOCs (Specification 01350). 3. Department of General Services, California Cold Sustainable Carpet Standard, http://www.green.ca.gov/ERP/standards.htm. 4. Scientific Certifications Systems Sustainable Choice, http://www.scsccertified.com/iaq/indooradvantage.htm	<input checked="" type="checkbox"/>			
5.504.4.4.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label Program.	<input checked="" type="checkbox"/>			
5.504.4.4.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 5.504.4.1.	<input checked="" type="checkbox"/>			
5.504.4.5 Composite wood products. Hardwood plywood, particleboard, and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 92120 et seq.), by or before the dates specified in those sections, as shown in Table 5.504.4.5.	<input checked="" type="checkbox"/>			
A5.504.4.5.1 Early compliance with formaldehyde limits. Where complying composite wood product is readily available for non-residential occupancies, meet Phase 2 requirements before the compliance dates indicated in Table 5.504.4.5 (CALGREEN merit), or use composite wood products made with either CARB approved no-added formaldehyde (NAF) resins or CARB approved ultra low emitting formaldehyde (ULEF) resins (CALGREEN excellence or CALGREEN grid neutral).	<input checked="" type="checkbox"/>			
5.504.4.5.2 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following: 1. Product certifications and specifications. Table 5.504.4.5 - Formaldehyde Limits³	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5.504.4.6 Resilient flooring systems. For 50% of floor area receiving resilient flooring, install resilient flooring complying with the VOC emission limits defined in the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low emitting Materials List or certified under the Resilient Floor Covering Institute (AFCI) Floor Score program.	<input checked="" type="checkbox"/>			
A5.504.4.7 Resilient flooring systems, CALGREEN merit. For 90% of floor area to be scheduled to receive resilient flooring, install resilient flooring complying with the VOC emission limits defined in the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low emitting Materials List or certified under the Resilient Floor Covering Institute (AFCI) Floor Score program.		<input checked="" type="checkbox"/>		
A5.504.4.7.1 Resilient flooring systems, CALGREEN excellence or CALGREEN grid neutral. For 100% of floor area to be scheduled to receive resilient flooring, install resilient flooring complying with the VOC emission limits defined in the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low emitting Materials List or certified under the Resilient Floor Covering Institute (AFCI) Floor Score program.			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A5.504.4.8 Thermal insulation, CALGREEN merit. Comply with Chapter 12.13 in Title 24, Part 12, the California Referenced Standards Code, and with the VOC emission limits defined in 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low emitting Materials List or certified under the Resilient Floor Covering Institute (AFCI) Floor Score program.		<input checked="" type="checkbox"/>		
A5.504.4.8.1 Thermal insulation, CALGREEN excellence or CALGREEN grid neutral. Install No Added Formaldehyde thermal insulation in addition to meeting the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low emitting Materials List or certified under the Resilient Floor Covering Institute (AFCI) Floor Score program.			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A5.504.4.9 Acoustical ceilings and wall panels. Comply with Chapter 8 in Title 24, Part 2, the California Building Code and with the VOC emission limits defined in the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low emitting Materials List or certified under the Resilient Floor Covering Institute (AFCI) Floor Score program.			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A5.504.5 Hazardous particulates and chemical pollutants. Minimize and control pollutant entry into buildings and cross-contamination of regularly occupied areas.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A5.504.5.1 Entryway systems. Install permanent entryway systems measuring at least six feet in the primary direction of travel to capture dirt and particulates at entryways directly connected to the outdoors. 1. Qualifying entryways are those that serve as regular entry points for building users. 2. Acceptable entryway systems include, but are not limited to, permanently installed grates, grilles or slotted systems that allow cleaning underneath.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Notes:	Mandatory	Voluntary		
		CALGREEN Merit	CALGREEN Excellence	CALGREEN Cred Neutral
Required measure to meet DSA voluntary reach standards, Division A5.601				
2. Roll-out mats are acceptable only when maintained regularly by janitorial contractors as documented in service contract, or by in-house staff as documented by written policies and procedures.				
A5.604.5.2 Isolation of pollutant sources. In rooms where activities produce hazardous fumes or chemicals, such as garages, janitorial or laundry rooms, and copy or printing rooms, exhaust them and isolate them from their adjacent rooms.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1. Exhaust each space with no air recirculation in accordance with ASHRAE 62.1 Table 6.4 to create negative pressure with respect to adjacent spaces with the doors to the room closed.				
2. For each space, provide self-closing doors and dock-to-dock partitions or a hard ceiling.				
3. Install low noise, vented range hoods for all cooking appliances and in laboratory or other chemical mixing areas.				
5.604.5.3 Filters. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a Minimum Efficiency Reporting Value (MERV) of 13.	<input checked="" type="checkbox"/>			
A5.604.5.2.1 Filters. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a Minimum Efficiency Reporting Value (MERV) of 13.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5.604.7 Environmental tobacco smoke (ETS) control. Prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows where outdoor areas are provided for smoking, and in buildings, or as enforced by ordinances, regulations, or policies of any city, county, city and county, California Community College, campus of the California State University, or campus of the University of California, whichever are more stringent. When ordinances, regulations, or policies are not in place, post signage to inform building occupants of the prohibitions.	<input checked="" type="checkbox"/>			
5.505 INDOOR MOISTURE CONTROL				
5.505.1 Indoor moisture control. Buildings shall meet or exceed the provisions of California Building Code, CCR, Title 24, Part 2, Sections 1203 and Chapter 14. For additional measures not applicable to low-rise residential occupancies, see Section 5.407.2 of this code.	<input checked="" type="checkbox"/>			
SECTION 5.506 INDOOR AIR QUALITY				
5.506.1 Outside air delivery. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 121 of the California Energy Code, CCR, Title 24, Part 6, or the applicable local code, whichever is more stringent, and Chapter 4 of CCR, Title 8.	<input checked="" type="checkbox"/>			
A5.507 ENVIRONMENTAL COMFORT				
A5.507.1 Lighting and thermal comfort controls. Provide controls in the workplace as described in Sections A5.507.1.1 and A5.507.1.2.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A5.507.1.1 Single occupant spaces. Provide individual controls that meet energy use requirements in the 2007 California Energy Code in accordance with Sections A5.507.1.1.1 and A5.507.1.1.2.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A5.507.1.1.1 Lighting. Provide individual task lighting and/or day lighting controls for at least 90 percent of the building occupants.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A5.507.1.1.2 Thermal comfort. Provide individual thermal comfort controls for at least 50 percent of the building occupants.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1. Occupants shall have control over at least one of the factors of air temperature, radiant temperature, air speed and humidity as described in ASHRAE 55-2004.				
2. Occupants inside 20 feet of the plane of and within 10 feet either side of operable windows can substitute windows to control thermal comfort. The areas of operable window must meet the requirements of Section 121 of the California Energy Code.				
A5.507.1.2 Multi-occupant spaces. Provide lighting and thermal comfort system controls for all shared multi-occupant spaces.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A5.507.2 Daylight. Provide day lit spaces as required for top lighting and side lighting in the 2007 California Energy Code. In constructing a design, consider the following:		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1. Use of light shelves and reflective room surfaces to maximize daylight penetrating the rooms.				
2. Means to eliminate glare and direct sun light, including through skylights.				
3. Use of photo sensors to turn off electric lighting when daylight is sufficient.				
4. Not using diffuse day lighting glazing where views are desired.				
A5.507.2 Views. Achieve direct line of sight to the outdoor environment via vision glazing between 2' 6" and 7' 6" above finish floor for building occupants in 90 percent of all regularly occupied areas as demonstrated by plan view and section cut diagrams		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5.507.2.1 Interior office spaces. Entire areas of interior office spaces may be included in the calculation if at least 75 percent of each area has direct line of sight to perimeter vision glazing.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Notes:	Mandatory	Voluntary		
		CALGREEN Merit	CALGREEN Excellence	CALGREEN Cred Neutral
<input type="checkbox"/> Required measure to meet DSA voluntary reach standards, Division A5.601				
A5.507.3.2 Multi-occupant spaces. Include in the calculation the square footage with direct line of sight to perimeter vision glazing. Exceptions to Sections 807.3 and 807.4: Copy/printing rooms, storage areas, mechanical spaces, restrooms, auditoria and other intermittently or infrequently occupied spaces or spaces where daylight would interfere with use of the space.		☒	☒	☒
5.507.4 Acoustical control. Employ building assemblies and components with STC values determined in accordance with ASTM E90 and ASTM E413.	☒			
5.507.4.1 Exterior noise transmission. Wall and roof/ceiling assemblies making up the building envelope shall have an STC of at least 50, and exterior windows shall have a minimum STC of 20 for any of the following building locations: 1. Within 1000 ft. (300 m.) of right of ways of freeways. 2. Within 5 mi. (8 km.) of airports serving more than 10,000 commercial jets per year. 3. Where sound levels at the property line regularly exceed 65 decibels, other than occasional sound due to church bells, train horns, emergency vehicles and public warning systems. Exception: Buildings with few or no occupants and where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures, and utility buildings.	☒			
5.507.4.2 Interior sound. Wall and floor/ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40. [For DSA-SS] In public schools and community college buildings, wall and floor/ceiling assemblies separating classrooms, and classrooms, multi-use spaces and public places shall have an STC of at least 40.	☒			
A5.507.5 Enhanced Acoustical control. [DSA-SS] Public School and Community College classrooms shall have a maximum unoccupied background noise level of 45 dBA, and a 0.6 second maximum (unoccupied) reverberation times. More information can be found in the Acoustical Society of America (ASA) guideline.		☒	☒	☒

Notation:

Authority – Education Code Sections 17280--17317 and 81130-81147. Reference – Education Code Sections 17310 and 81142.