

**EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
CALIFORNIA BUILDING STANDARDS COMMISSION**

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

LEGEND FOR EXPRESS TERMS

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 Repealed text: All such language appears in ~~strikeout~~.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

The California Building Standards Commission (CBSC) proposes to amend the 2013 edition of the California Green Building Standards Code (CGBSC) for the 2013 Intervening Cycle. Amended text is as follows:

1. CBSC Proposes to amend Chapter 3, Section 301 General

**CHAPTER 3
GREEN BUILDING**

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301.3 Nonresidential additions and alterations [BSC]. The provisions of individual sections of Chapter 5 apply to newly constructed buildings, building additions of 1,000 square feet or greater, and/or building alterations with a permit valuation of \$200,000 or above (for occupancies within the authority of California Building Standards Commission). Code sections relevant to additions and alterations shall only apply to the portions of the building being added or altered within the scope of the permitted work.

A code section will be designated by a banner to indicate where the code section only applies to newly constructed buildings [**N**] or to additions and or alterations [**AA**]. When the code section applies to both, no banner will be used.

301.3.1 Nonresidential additions and alterations that cause updates to plumbing fixtures only:

Note: On and after January 1, 2014, certain commercial real property, as defined in Civil Code Section 1101.3, shall have its noncompliant plumbing fixtures replaced with appropriate water-conserving plumbing fixtures under specific circumstances. See Civil Code Section 1101.1 et seq. for definitions, types of commercial real property affected, effective dates, circumstances necessitating replacement of noncompliant plumbing fixtures, and duties and responsibilities for ensuring compliance.

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Notation:

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901.

2. CBSC Proposes to amend mandatory regulations in Chapter 2 Definitions and Division 5.1, Section 5.106 Site Development as related items

**SECTION 202
DEFINITIONS**

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ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current. Plug-in hybrid electric vehicles (PHEV) are considered electric vehicles. For purposes of the *California Electrical Code*, off-road, self-propelled electric vehicles, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats, and the like, are not included.

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**SECTION 5.106
SITE DEVELOPMENT**

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5.106.5.3 Electric vehicle (EV) charging. [N] Construction shall comply with Section 5.106.5.3.1 or Section 5.106.5.3.2 to facilitate future installation of electric vehicle supply equipment (EVSE). When EVSE(s) is/are installed, it shall be in accordance with the California Building Code, Section 406.9, the California Electrical Code and as follows:

5.106.5.3.1 Single charging space requirements. [N] When only a single charging space is required per Table 5.106.5.3.3, a raceway is required to be installed at the time of construction and shall be installed in accordance with the *California Electrical Code*. Construction plans and specifications shall include, but are not limited to, the following:

1. The proposed type and location of the EVSE.
2. A listed raceway capable of accommodating a 208/240-volt dedicated branch circuit.
3. The raceway shall not be less than trade size 1”
4. The raceway shall originate at the service panel or subpanel and shall terminate in close proximity to the proposed location of the charging equipment and into a listed suitable cabinet, box, enclosure or equivalent.
5. The service panel or subpanel shall have sufficient capacity to accommodate a minimum 40-amprere dedicated branch circuit for the future installation of the EVSE.

5.106.5.3.2 Multiple charging spaces required. [N] When multiple charging spaces are required per Table 5.106.5.3.3 raceway(s) is/are required to be installed at the time of construction and shall be installed in accordance with the *California Electrical Code*. Construction plans and specifications shall include, but are not limited to, the following:

1. The proposed type and location of the EVSE.
2. The raceway(s) shall originate at the service panel or subpanel(s) and shall terminate in close proximity to the proposed location of the charging equipment and into listed suitable cabinet(s), box(es), enclosure(s) or equivalent.
3. Plan design shall be based upon 40-amprere minimum branch circuits.
4. Electrical calculations shall substantiate the design of the electrical system, to include the rating of equipment and any on-site distribution transformers and have sufficient capacity to simultaneously charge all EVs at its full rated amperage.
5. The service panel or subpanel(s) shall have sufficient capacity to accommodate the required number of dedicated branch circuit(s) for the future installation of the EVSE.

5.106.5.3.3 EV charging calculation. [N] Table 5.106.3.3 shall be used to determine if single or multiple charging space requirements apply for the future installation of EVSE.

Exceptions: On a case-by-case basis where the local enforcing agency has determined EV charging and infrastructure is not feasible based upon one or more of the following conditions:

1. Where there is insufficient electrical supply.
2. Areas where EV range and use limitations may prohibit their use as a primary means of transportation.
3. Evidence suitable to the local enforcing agency, substantiating that local utility infrastructure design requirements may adversely impact the construction cost of the project.

Table 5.106.5.3.3

<u>Total number of parking spaces</u>	<u>Number of required spaces</u>
<u>0-50</u>	<u>0</u>
<u>51-75</u>	<u>1</u>
<u>76-100</u>	<u>2</u>
<u>101-200</u>	<u>3</u>
<u>201 and over</u>	<u>3%¹</u>

1. Calculation for spaces shall be rounded up to the nearest whole number.

5.106.5.3.4 [N] Identification. The service panel or subpanel(s) circuit directory shall identify the reserved overcurrent protective device space(s) for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE."

5.106.5.3.5 [N] Future charging spaces qualify as designated parking as described in Section 5.106.5.2 Designated parking.

Notes:

1. The California Department of Transportation adopts and publishes the California Manual on Uniform Traffic Control Devices (California MUTCD) to provide uniform standards and specifications for all official traffic control devices in California. Zero Emission Vehicle Signs and Pavement Markings can be found in the New Policies & Directives number 13-01. www.dot.ca.gov/hq/traffops/signtech/signdel/policy.htm
2. See Vehicle Code Section 22511 for EV charging spaces signage in off-street parking facilities and for use of EV charging spaces.
3. The Governor's Office of Planning and Research published a Zero-Emission Vehicle Community Readiness Guidebook which provides helpful information for local governments, residents and businesses. http://opr.ca.gov/docs/ZEV_Guidebook.pdf

Notation:

Authority: Health and Safety Code Sections 18930.5, 18934.5, 18938 (b) and 18941.10.

Reference: Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901.

3. CBSC Proposes to amend mandatory regulations in Division 5.3 Water Efficiency and Conservation

SECTION 5.303

INDOOR WATER USE

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

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

[This section is being relocated to section 5.303.4 and renumbered with editorial amendments]

~~5.303.2.1 Areas of addition or alteration.~~

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

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**TABLE 5.303.2.2
WATER USE BASELINE³**

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

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

¹The daily use number shall be increased to three if urinals are not installed in the room.

²Refer to Table A, Chapter 4, California Plumbing Code, for occupant load factors.

(a) Shower use by occupants depends on the type of use of a building or portion of a building, e.g., total occupant load for a health club, but only a fraction of the occupants in an office building as determined by the anticipated number of users.

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

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

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

**TABLE 5.303.2.3
WATER REDUCTION FIXTURE FLOW RATES**

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

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5.303.3.4 Faucets and Fountains

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

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

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

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

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

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

5.303.2.4 4 Areas of addition or alteration.

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

5.303.4 5 Wastewater reduction. [N]

Each building shall reduce by 20 percent wastewater by one of the following methods:

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

Notation:

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901.

4. CBSC Proposes to amend mandatory regulations in Division 5.4 Material Conservation and Resource Efficiency, Section 5.408 Construction Waste Reduction, Disposal and Recycling

**SECTION 5.408
CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING**

5.408.1 Construction waste management. Recycle and/or salvage for reuse a minimum of ~~50%~~ 65% of the non-hazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent.

5.408.1.1 Construction waste management plan.

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Notation:

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901.

5. CBSC Proposes to amend mandatory regulations in Division 5.4 Material Conservation and Resource Efficiency, Section 5.410 Building Maintenance and Operation

**SECTION 5.410
BUILDING MAINTENANCE AND OPERATION**

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5.410.2 Commissioning. [N] For new buildings 10,000 square feet and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements. Commissioning shall be performed in accordance with this section by trained personnel with experience on projects of comparable size and complexity. Commissioning requirements shall include: *[Text shown for clarity. No change to text]*

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

Exceptions:

1. ~~Dry storage warehouses~~ Unconditioned warehouses of any size.
2. Areas ~~under less than~~ 10,000 square feet used for offices or other conditioned accessory spaces within ~~dry storage warehouses~~ unconditioned warehouses.
3. Tenant improvements ~~under less than~~ 10,000 square feet as described in Section 303.1.1.
4. Commissioning requirements for energy systems covered by the 2013 *California Energy Code*.
5. Open parking garages of any size or open parking garage areas, of any size, within a structure.

Note: For the purposes of this section, unconditioned shall mean a building, area, or room which does not provide heating and or air conditioning.

All building operating systems 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. *[Text shown for clarity. No change to text]*

Informational Note: IAS AC 476 is an accreditation criteria for organizations providing training and/or certification of commissioning personnel. AC 476 is available to the Authority Having Jurisdiction as a reference for qualifications of commissioning personnel.

Notation

Authority: Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b). [This one is for 180 days?]

Reference: Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901.

6. CBSC Proposes to amend mandatory regulations in Division 5.5 Environmental Quality, Section 5.504 Pollutant Control

SECTION 5.504 POLLUTANT CONTROL

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5.504.4.4 Carpet systems.

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

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

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5.504.4.6 Resilient flooring systems. For 80 percent of floor area receiving resilient flooring, install resilient flooring which meets one of the following:

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

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Notation:

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901.

7. CBSC Proposes to amend Chapter 8 Compliance Forms and Worksheets WS-1, WS-2, WS-3

CHAPTER 8 COMPLIANCE FORMS AND WORKSHEETS

[BSC] Sample forms...

[HCD 1] Sample forms found in "A Guide to the California Green Building Standards Code (Residential)" located at www.hcd.ca.gov/CALGreen.html may be used to assist in documenting compliance with CALGreen.

**WORKSHEET (WS-1)
BASELINE WATER USE**

BASELINE WATER USE CALCULATION TABLE									
FIXTURE TYPE	FLOW RATE		DURATION		DAILY USES		OCCUPANTS 1,2		GALLONS PER DAY
Showerheads	2.0 gpm@80psi	<input type="checkbox"/>	5 min.	<input type="checkbox"/>	1	<input type="checkbox"/>	Note 21a	=	
Showerheads residential	2.5 gpm	<input type="checkbox"/>	8 min.	<input type="checkbox"/>	4	<input type="checkbox"/>		=	
Lavatory faucets residential	2.2 gpm	<input type="checkbox"/>	.25 min.	<input type="checkbox"/>	3	<input type="checkbox"/>		=	
Lavatory faucets nonresidential	0.5 gpm@60psi	<input type="checkbox"/>	.25 min.	<input type="checkbox"/>	3			=	
Kitchen faucets	2.2 1.8 gpm@60psi	<input type="checkbox"/>	4 min.	<input type="checkbox"/>	1	<input type="checkbox"/>	Note 21b	=	
Replacement aerators	2.2 gpm@60psi	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		=	
Wash fountains	2.2 1.8gpm/20 [rim space (in.) @ 60 psi]	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		=	
Metering faucets	0.25 0.20 gal/cycle	<input type="checkbox"/>		<input type="checkbox"/>	3	<input type="checkbox"/>		=	
Metering faucets for wash fountains	2.2 0.20gpm/20 [rim space (in.) @ 60 psi]	<input type="checkbox"/>	.25 min.	<input type="checkbox"/>		<input type="checkbox"/>		=	
Gravity tank-type water closets	1.28 gal/flush	<input type="checkbox"/>	1 flush	<input type="checkbox"/>	1 male 3 female	<input type="checkbox"/>		=	
Flushometer tank water closets	1.28 gal/flush	<input type="checkbox"/>	1 flush	<input type="checkbox"/>	1 male 3 female	<input type="checkbox"/>		=	
Flushometer valve water closets	1.28 gal/flush	<input type="checkbox"/>	1 flush	<input type="checkbox"/>	1 male 3 female	<input type="checkbox"/>		=	
Electromechanical hydraulic water closets	1.28 gal/flush	<input type="checkbox"/>	1 flush	<input type="checkbox"/>	1 male 3 female	<input type="checkbox"/>		=	
Urinals	0.5 gal/flush	<input type="checkbox"/>	1 flush	<input type="checkbox"/>	2 male	<input type="checkbox"/>		=	
Total daily baseline water use (BWU)								=	
(BWU) x .80 = Allowable water use									

- For residential occupancies, the number of occupants shall be based on two persons for the first bedroom, plus one additional person for each additional bedroom.

- 2.1 For nonresidential occupancies, refer to Table A, Chapter 4, 2013 *California Plumbing Code*, for occupant load factors.
- a. Shower use by occupants depends on the type of use of a building or portion of a building, e.g., total occupant load for a health club, but only a fraction of the occupants in an office building as determined by the anticipated number of users.
 - b. ~~Nonresidential~~ kitchen faucet use is determined by the occupant load of the area served by the fixture.
- 3.2 The daily use number shall be increased to three if urinals are not installed in the room.

**WORKSHEET (WS-2)
WATER USE REDUCTION**

20-PERCENT REDUCTION WATER USE CALCULATION TABLE							
FIXTURE TYPE	FLOW ² RATE		DURATION		DAILY USES	OCCUPANTS ^{2,3}	GALLONS PER DAY
Showerheads		<input type="checkbox"/>	5 min.	<input type="checkbox"/>	1	Note 3a	=
Showerheads residential		<input type="checkbox"/>	8 min.	<input type="checkbox"/>	1		=
Lavatory faucets residential		<input type="checkbox"/>	.25 min.	<input type="checkbox"/>	3		=
Lavatory faucets nonresidential ⁶		<input type="checkbox"/>	.25 min.	<input type="checkbox"/>	3		=
Kitchen faucets		<input type="checkbox"/>	4 min.	<input type="checkbox"/>	1	Note 3b	=
Replacement aerators		<input type="checkbox"/>		<input type="checkbox"/>			=
Wash fountains		<input type="checkbox"/>		<input type="checkbox"/>			=
Metering faucets		<input type="checkbox"/>	.25 min.	<input type="checkbox"/>	3		=
Metering faucets for wash fountains		<input type="checkbox"/>	.25 min.	<input type="checkbox"/>			=
Gravity tank type water closets		<input type="checkbox"/>	1 flush	<input type="checkbox"/>	1 male 3 female ⁵		=
⁴ HET High efficiency toilet	1.28 gal/flush	<input type="checkbox"/>	1 flush	<input type="checkbox"/>	1 male 3 female ⁵		=
Flushometer tank water closets		<input type="checkbox"/>	1 flush	<input type="checkbox"/>	1 male 3 female ⁵		=
Flushometer valve water closets		<input type="checkbox"/>	1 flush	<input type="checkbox"/>	1 male 3 female ⁵		=
Electromechanical hydraulic water closets		<input type="checkbox"/>	1 flush	<input type="checkbox"/>	1 male 3 female ⁵		=
Urinals		<input type="checkbox"/>	1 flush	<input type="checkbox"/>	2 male		=
Urinals Nonwater supplied	0.0 gal/flush	<input type="checkbox"/>	1 flush	<input type="checkbox"/>	2 male		=
Proposed water use							=
_____ (BWU from WS-1) <input type="checkbox"/> <input type="checkbox"/> .80 = _____ Allowable water use							

1. The flow rate values shall not exceed the baseline flow rates from the *California Code of Regulations*, Title 20, 2010 Appliance Efficiency Regulations (See Table 4.303.2.)
2. For residential occupancies, the number of occupants shall be based on two persons for the first bedroom, plus one additional person for each additional bedroom.
3. For nonresidential occupancies, refer to Table A, Chapter 4, 2013 *California Plumbing Code*, for occupant load factors.

- a. Shower use by occupants depends on the type of use of a building or portion of a building, e.g., total occupant load for a health club, but only a fraction of the occupants in an office building as determined by the anticipated number of users.
- b. Nonresidential kitchen faucet use is determined by the occupant load of the area served by the fixture.
4. Includes single and dual flush water closets with an effective flush of 1.28 gallons or less.
- Single flush toilets—The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume when tested in accordance with ASME A 112.19.2.
- Dual flush toilets—The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. Flush volumes will be tested in accordance with ASME A 112.19.2 and ASME A 112.19.14.
5. The daily use number shall be increased to three if urinals are not installed in the room.
6. Where complying faucets are unavailable, aerators rated at .35 gpm or other means may be used to achieve reduction.

WORKSHEET (WS-3 2) WATER USE REDUCTION

30-12-, 35-20- OR 40-25-PERCENT REDUCTION WATER USE CALCULATION TABLE							
FIXTURE TYPE	FLOW RATE ²		DURATION		DAILY USES	OCCUPANT ^{2,31}	GALLONS PER DAY
Showerheads		<input type="checkbox"/>	5 min.	<input type="checkbox"/>	1	Note 31a	=
Showerheads residential		<input type="checkbox"/>	8 min.	<input type="checkbox"/>	4		=
Lavatory faucets residential		<input type="checkbox"/>	.25 min.	<input type="checkbox"/>	3		=
Lavatory faucets nonresidential ⁶⁴		<input type="checkbox"/>	.25 min.	<input type="checkbox"/>	3		=
Kitchen faucets		<input type="checkbox"/>	4 min.	<input type="checkbox"/>	1	Note 31b	=
Replacement aerators		<input type="checkbox"/>		<input type="checkbox"/>			=
Wash fountains		<input type="checkbox"/>		<input type="checkbox"/>			=
Metering faucets		<input type="checkbox"/>	.25 min.	<input type="checkbox"/>	3		=
Metering faucets for wash fountains		<input type="checkbox"/>	.25 min.	<input type="checkbox"/>			=
Gravity tank type water closets		<input type="checkbox"/>	1 flush	<input type="checkbox"/>	1 male ⁵³ 3 female		=
HETHigh ⁴⁻² efficiency toilet	1.12 gal/flush	<input type="checkbox"/>	1 flush	<input type="checkbox"/>	1 male ⁵³ 3 female		=
Flushometer tank water closets		<input type="checkbox"/>	1 flush	<input type="checkbox"/>	1 male ⁵³ 3 female		=
Flushometer valve water closets		<input type="checkbox"/>	1 flush	<input type="checkbox"/>	1 male ⁵³ 3 female		=
Electromechanical hydraulic water closets		<input type="checkbox"/>	1 flush	<input type="checkbox"/>	1 male ⁵³ 3 female		=
Urinals		<input type="checkbox"/>	1 flush	<input type="checkbox"/>	2 male		=
Urinals Nonwater supplied	0.0 gal/flush	<input type="checkbox"/>	1 flush	<input type="checkbox"/>	2 male		=
Proposed water use							=

30-12% Reduction	(BWU from WS-1) □□ .70 .88=	Allowable water use
3520% Reduction	(BWU from WS-1) □ .65 .80=	Allowable water use
40-25% Reduction	(BWU from WS-1) □□.60-.75 =	Allowable water use

- ~~1. The flow rate values shall not exceed the baseline flow rates from the 2013 *California Code of Regulations*, Title 20, *Appliance Efficiency Regulations* (See Table 4.303.2.)~~
- ~~2. For residential occupancies, the number of occupants shall be based on two persons for the first bedroom, plus one additional person for each additional bedroom.~~
- ~~3.1~~ For nonresidential occupancies, refer to Table A, Chapter 4, 2013 *California Plumbing Code*, for occupant load factors.
 - a. Shower use by occupants depends on the type of use of a building or portion of a building, e.g., total occupant load for a health club, but only a fraction of the occupants in an office building as determined by the anticipated number of users.
 - b. ~~Nonresidential~~ Kitchen faucet use is determined by the occupant load of the area served by the fixture.
- ~~4.2~~ Includes single and dual flush water closets with an effective flush of 1.28 gallons or less.
 - Single flush toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume when tested in accordance with ASME A112.19.2~~33.2~~.
 - Dual flush toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. Flush volumes will be tested in accordance with ASME A112.19.2 and ASME A112.19.14.
- ~~5.3~~ The daily use number shall be increased to three if urinals are not installed in the room.
- ~~6.4~~ Where complying faucets are unavailable, aerators rated at .35 gpm or other means may be used to achieve reduction.

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Notation:

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901.

8. CBSC Proposes to amend voluntary regulations in Division A5.1, Section A5.106 related to EV Charging

SECTION A5.106 SITE DEVELOPMENT

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A5.106.5.3 Electric vehicle (EV) charging. ~~Provide facilities meeting~~ Construction shall comply with Section A5.106.5.3.1 and A5.106.5.3.2 to facilitate future installation of electric vehicle supply equipment (EVSE). When EVSE(s) is/are installed, it shall be in in accordance with the *California Building Code* Section 406.9 (Electric Vehicle) of the *California Building Code*, the *California Electrical Code* and as follows:

A5.106.5.3.1 Single charging space requirements. ~~When only a single charging space is required, install a listed raceway capable of accommodating a dedicated branch circuit. The raceway shall not be less than trade size 1". The raceway shall be securely fastened at the main service or subpanel and shall terminate in close proximity to the proposed location of the charging system into a listed cabinet, box or enclosure.~~

When a single charging space is required, per Section A5.106.5.3.3 or Section A5.106.5.3.4 refer to Section 5.106.5.3.1 Single charging space requirements.

Exception: ~~Other pre installation methods approved by the local enforcing agency that provide sufficient conductor sizing and service capacity to install Level 2 electric vehicle supply equipment (EVSE).~~

A5.106.5.3.2 Multiple charging spaces required. ~~When multiple charging spaces are required, plans shall include the location(s) and type of the EVSE, raceway method(s), wiring schematics~~

and electrical calculations to verify that the electrical system has sufficient capacity to charge simultaneously all the electrical vehicles (EV) at all designated EV charging spaces at their full rated amperage. Plan design shall be based upon Level 2 EVSE at its maximum operating ampacity. Provide raceways from the electrical service panel to the designated parking areas which are required to be installed at the time of construction.

When multiple charging spaces are required, per Section A5.106.5.3.3 or Section A5.106.5.3.4, refer to Section 5.106.5.3.2 Multiple charging space requirements.

~~**Note:** Utilities and local enforcing agencies may have additional requirements for metering and EVSE installation, and should be consulted during the project design and installation.~~

~~**A5.106.5.3.3 Tier 1.** At least 3 percent of the total parking spaces, but not less than one, shall be capable of supporting installation of future EVSE. Table A5.106.5.3.3 shall be used to determine if single or multiple charging space requirements apply for future installation of EVSE.~~

Table A5.106.5.3.3

<u>Total number of parking spaces</u>	<u>TIER 1 Number of required spaces</u>
<u>0-50</u>	<u>1</u>
<u>51-75</u>	<u>2</u>
<u>76-100</u>	<u>3</u>
<u>101-200</u>	<u>5</u>
<u>201 and over</u>	<u>4%¹</u>

1. Calculation for spaces shall be rounded up to the nearest whole number.

~~**A5.106.5.3.4 Tier 2.** At least 5 percent of the total parking spaces, but not less than two, shall be capable of supporting installation of future EVSE. Table A5.106.5.3.4 shall be used to determine the number of multiple charging space requirements apply for future installation of EVSE.~~

Table A5.106.5.3.4

<u>Total number of parking spaces</u>	<u>TIER 2 Number of required spaces</u>
<u>0-50</u>	<u>2</u>
<u>51-75</u>	<u>3</u>
<u>76-100</u>	<u>4</u>
<u>101-200</u>	<u>7</u>
<u>201 and over</u>	<u>6%¹</u>

1. Calculation for spaces shall be rounded up to the nearest whole number.

~~**A5.106.5.3.5 Labeling requirement.** A label stating “EV CAPABLE” shall be posted in a conspicuous place at the service panel or subpanel and the EV charging space.~~

~~**Identification.** The service panel or subpanel circuit directory shall identify the reserved overcurrent protective device space(s) for future EV charging as “EV CAPABLE”. The raceway termination location shall be permanently and visibly marked as “EV CAPABLE.”~~

A5.106.5.3.6 Future charging spaces qualify as designated parking as described in Section A5.106.5.1 Designated parking.

Notes:

1. The California Department of Transportation adopts and publishes the California Manual on Uniform Traffic Control Devices (California MUTCD) to provide uniform standards and specifications for all official traffic control devices in California. Zero Emission Vehicle Signs and Pavement Markings can be found in the New Policies & Directives number 13-01. www.dot.ca.gov/hq/traffops/signtech/signdel/policy.htm
2. See Vehicle Code Section 22511 EV charging spaces signage in offstreet parking facilities and for use of EV charging spaces.
3. The Governor’s Office of Planning and Research published a Zero-Emission Vehicle Community Readiness Guidebook which provides helpful information for local governments, residents and businesses. http://opr.ca.gov/docs/ZEV_Guidebook.pdf

...

Notation:

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901.

9. CBSC Proposes to amend voluntary regulations in Division A5.1, Section A5.106 related to Cool Roof

**SECTION A5.106
SITE DEVELOPMENT**

...

A5.106.11.2.3 Solar reflectance index alternative. Solar Reflectance Index (SRI) equal to or greater than the values specified in Table A5.106.11.2.2 for Tier 1 and Table A5.106.11.2.3 for Tier 2 ...

...

**TABLE A5.106.11.2.2 [BSC]
TIER 1**

Roof Slope		Climate Zone	Minimum Aged Solar Reflectance	Thermal Emittance	SRI
≤ 2 : 12		1 – 16	0.55 <u>0.63</u>	0.75	64 <u>75</u>
> 2 : 12					
		1 – 16	0.20	0.75	16

**TABLE A5.106.11.2.3 [BSC]
TIER 2**

Roof Slope		Climate Zone	Minimum Aged Solar Reflectance	Thermal Emittance	SRI
≤ 2 : 12		1 – 16	0.65 <u>0.68</u>	0.85	78 <u>82</u>
> 2 : 12					
		1 – 16	0.30 <u>0.28</u>	0.85	30 <u>27</u>

Notation:

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901.

10. CBSC Proposes to amend voluntary regulations in Division A5.1, Section A5.303 related to Indoor Water Use

**SECTION A5.303
INDOOR WATER USE**

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A5.303.2.3.1 Tier 1 – ~~30~~ 12 percent savings. [BSC] A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 30 12 percent 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 12-percent reduction in potable water use shall be demonstrated by one of the following methods:

1. Prescriptive method. Each plumbing fixture and fitting shall not exceed the maximum flow rate at greater than or equal to 30 12-percent reduction as specified in Table A5.303.2.1, ~~or~~ A5.303.2.3.1; or
2. Performance method. A calculation demonstrating a 30 12-percent reduction in the building “water use baseline” as established in Table A5.303.2.2 shall be provided.

A5.303.2.3.2 Tier 2 – ~~35~~ 20-percent savings.

A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 35 20 percent shall be provided. A calculation demonstrating a 35 20-percent reduction in the building “water use baseline” as established in Table A5.303.2.2 shall be provided.

A5.303.2.3.3 ~~40~~ 25-percent savings.

A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 40 25 percent shall be provided. A calculation demonstrating a 40 25 percent reduction in the building “water use baseline” as established in Table A5.303.2.2 shall be provided.

A5.303.2.3.4 Nonpotable water systems for indoor use.

Utilizing nonpotable water systems (such as captured rainwater, treated graywater and recycled water) intended to supply water closets, urinals, and other allowed uses, may be used in the calculations demonstrating the 30 12, 35 20 or 40- 25 percent reduction. The nonpotable water systems shall comply with the current edition of the *California Plumbing Code*.

**TABLE A5.303.2.2
WATER USE BASELINE 3**

FIXTURE TYPE	BASELINE FLOW RATE	DURATION	DAILY USES	OCCUPANTS ²
Showerheads	2.0 gpm @ 80 psi	5 min.	1	X ^{2a}
Lavatory faucets nonresidential	0.5 gpm @ 60 psi	.25 min.	3	X ^{2b}
Kitchen faucets	2.6 1.8 gpm @ 60 psi	4 min.	1	X
Replacement aerators	2.6 2 gpm @ 60 psi			X
Wash fountains	2.2 1.8 gpm/20 [rim space (in.) @ 60 psi]			X
Metering faucets	0.25 0.20 gallons/cycle	.25 min.	3	X

Metering faucets for wash fountains	0.25 <u>0.20</u> gpm/20 [rim space (in.) @ 60 psi]	.25 min.	¹ 1 male 3 female	X
Gravity tank type water closets	1.28 gallons/flush	1 flush	¹ 1 male 3 female	X
Flushometer tank water closets	1.28 gallons/flush	1 flush	¹ 1 male 3 female	X
Flushometer valve water closets	1.28 gallons/flush	1 flush	¹ 1 male 3 female	X
Electromechanical hydraulic water closets	1.28 gallons/flush	1 flush	¹ 1 male 3 female	X
Urinals	0.5 gallons/flush	1 flush	2 male	X

- The daily use number shall be increased to three if urinals are not installed in the room.
- Refer to Table A, Chapter 4, 2013 *California Plumbing Code*, for occupant load factors.
 - Shower use by occupants depends on the type of use of a building or portion of a building, e.g., total occupant load for a health club, but only a fraction of the occupants in an office building as determined by the anticipated number of users.
 - ~~Nonresidential~~ kitchen faucet use is determined by the occupant load of the area served by the fixture.
- Use worksheet WS-1 to calculate baseline water use.

**TABLE A5.303.2.3.1
FIXTURE FLOW RATES**

FIXTURE TYPE	² BASELINE FLOW-RATE	MAXIMUM FLOW RATE AT 30 <u>12</u> PERCENT REDUCTION
Showerheads	2.0 gpm @ 80 psi	1.8 gpm @ 80 psi
³ Lavatory faucets nonresidential	0.5 gpm @ 60 psi	0.35 gpm @ 60 psi
³ Kitchen faucets	2.2 <u>1.8</u> gpm @ 60 psi	1.6 gpm @ 60 psi
Wash fountains	2.2 <u>1.8</u> gpm/20 [rim space(in.) @ 60 psi]	1.6 [rim space(in.)/20 gpm @ 60 psi]
Metering faucets	0.25-0.20 gallon/cycle	0.18 gallons/cycle
Metering faucets for wash fountains	0.25-0.20 gpm/20 [rim space(in.)/ @ 60 psi]	0.18 [rim space(in.)/20 gpm @ 60 psi]
Gravity tank type water closets	1.28 gallons/flush	¹ 1.12 gallons/flush
Flushometer tank water closets	1.28 gallons/flush	¹ 1.12 gallons/flush
Flushometer valve water closets	1.28 gallons/flush	¹ 1.12 gallons/flush
Electromechanical hydraulic water closets	1.28 gallons/flush	¹ 1.12 gallons/flush
Urinals	0.5 gallons/flush	0.5 <u>0.44</u> gallons/flush

- Includes water closets with an effective flush rate of 1.12 gallons or less when tested per ASME A 112.19.2 and ASME A 112.19.14.
- See Table A5.503.2.3.2 for additional notes and references.
- Where complying faucets are unavailable, aerators rated at 0.35 gpm or other means may be used to achieve reduction.

Notation:

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901.

11. CBSC Proposes to amend voluntary regulations in Division A5.1, Section A5.408 related to Construction Waste Reduction, Disposal and Recycling

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

A5.408.3.1 Enhanced construction waste reduction – Tier 1 [BSC]. Divert to recycle or salvage at least ~~65%~~ 80% of nonhazardous construction and demolition waste generated at the site.

A5.408.3.1.1 Enhanced construction waste reduction – Tier 2 [BSC]. Divert to recycle or salvage at least ~~80%~~ 90% of nonhazardous construction and demolition waste generated at the site.

...

Notation:

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901.

12. CBSC Proposes to amend voluntary regulations in Division A5.1, Section A5.504 related to Pollutant Control

**SECTION A5.504
POLLUTANT CONTROL**

...

A5.504.4.7 Resilient flooring systems, Tier 1. [BSC] For 90 percent of floor area receiving resilient flooring, install resilient flooring that is

1. Certified under ...;
2. Compliant with the VOC...;
3. ~~Defined in the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on is High Performance Database~~ Compliant with the Collaborative for High Performance Schools California (CA-CHPS) Criteria Interpretation for EQ 7.0 and EQ 7.1 (formerly EQ 2.2) dated July 2012 and listed in the CHPS High Performance Product Database ;or
4. ~~Products Compliant with CDPH criteria as~~ certified under UL GREENGUARD Gold (formerly the Greenguard Children's & Schools Program).

A5.504.4.7.1 Resilient flooring systems, Tier 2. [BSC]. For 100 percent of floor area receiving resilient flooring, install resilient flooring that is

1. Certified under the Resilient Floor Covering Institute (RFCI) FloorScore program;
2. Compliant with the VOC-emission limits and testing requirements specified in the California Department of Public Health's 2010 Standard Method for the Testing and Evaluation Chambers, Version 1.1, February 2010;
3. ~~Defined in the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on is High Performance Database~~ Compliant with the Collaborative for High Performance Schools California (CA-CHPS) Criteria Interpretation for EQ 7.0 and EQ 7.1 (formerly EQ2.2) dated July 2012 and listed in the CHPS High Performance Product Database ;or
4. ~~Products Compliant with CDPH criteria as~~ certified under UL GREENGUARD Gold (formerly the Greenguard Children's & Schools Program).

Exception: . . .

Notation:

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901.

13. CBSC Proposes to amend Table A5.601

**TABLE A5.601 NONRESIDENTIAL BUILDINGS:
Green Building Standards Code Proposed Performance Approach**

Note: This table is intended only as an aid in illustrating the nonresidential tier structure

CATEGORY	ENVIRONMENTAL PERFORMANCE GOAL	TIER 1	TIER 2
All	Minimum Mandatory	Meet all of the provisions of Chapter 5	Meet all of the provision of Chapter 5
Planning and Design	Designated Parking for Fuel Efficient Vehicles	10% of total spaces	12% of total spaces
	<u>Electric Vehicle Charging</u>	<u>Approx. 4% of total spaces</u>	<u>Approx. 6% of total spaces</u>
	Cool Roof to Reduce Heat Island Effect	Roof Slope < 2:12 SRI 64 <u>75</u> Roof Slope > 2:12 SRI 16	Roof Slope < 2:12 SRI 78 <u>82</u> Roof Slope > 2:12 SRI 30 <u>27</u>
		1 additional Elective from Division A5.1	3 additional Electives from Division A5.1
Energy Efficiency	Energy Performance ^{2,3}	Outdoor lighting power 90% of Part 6 allowance	Outdoor lighting power 90% of Part 6 allowance
		If applicable, solar water-heating system with minimum solar savings fraction of 0.15	If applicable, solar water-heating system with minimum solar savings fraction of 0.15
		If applicable, certain functional areas comply with residential indoor lighting requirements	If applicable, certain functional areas comply with residential indoor lighting requirements
		Energy Budget 95% or 90% of Part 6 calculated value of allowance	Energy Budget 90% or 85% of Part 6 calculated value of allowance
Water Efficiency and Conservation	Indoor Water Use	30 <u>12</u> % Savings	35 <u>20</u> % Savings
	Outdoor Water Use	Not to exceed 60% of ETo times the landscape area	Not to exceed 55% of ETo times the landscape area
		1 additional Elective from Division A5.3	3 additional Electives from Division A5.3
Material Conservation and Resource Efficiency ⁴	Construction Waste Reduction	At least 65 <u>80</u> % reduction	At least 80 <u>90</u> % reduction
	Recycled Content	Utilize recycled content materials for 10% of total material cost	Utilize recycled content materials for 15% of total material cost
		1 additional Elective from Division A5.4	3 additional Electives from Division A5.4
Environmental Quality	Low-VOC Resilient Flooring	90% of flooring meets VOC limits	100% of flooring meets VOC limits ¹
	Low-VOC Thermal Insulation	Comply with VOC limits	Install no-added formaldehyde insulation and comply with VOC limits

		1 additional Elective from Division A5.5	3 additional Electives from Division A5.5
Additional Measures	Added measures shall be achieved across at least 3 categories	1 Additional Elective	3 Additional Electives
Approximate Total Measures		14	24

1. Exception: Allowance may be permitted in Tier 2 for up to 5-percent specialty purpose flooring. Exceptions for solar water-heating system requirement:
2. Buildings with a natural gas service water heater with a minimum of 95-percent thermal efficiency.
3. Buildings where greater than 75 percent of the total roof area has annual solar access that is less than 70 percent. Solar access is the ratio of solar insolation including shade to the solar insolation without shade. Shading from obstructions located on the roof or any other part of the building shall not be included in the determination of annual solar access.
4. Life cycle assessment compliant with Section A5.409.4 in this code may be substituted for prescriptive measures from Division A5.4.

Notation:

Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901.

14. CBSC Proposes to amend Table A5.602

SECTION A5.602

NONRESIDENTIAL OCCUPANCIES APPLICATION CHECKLISTS

[Due to formatting issues, the check boxes in mandatory and voluntary columns may be in accurate at this time.]

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY	
		CALGreenTier 1	CALGreenTier 2
Requirements			
Project meets all of the requirements of Divisions 5.1 through 5.5.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Planning and Design			
Site Selection			
A5.103.1 Community connectivity. Locate project on a previously developed site within a ½ - mile radius of at least ten basic services, listed in Section A5.103.1.		<input type="checkbox"/>	<input type="checkbox"/>
A5.103.2 Brownfield or greyfield site redevelopment or infill area development. Select for development a brownfield in accordance with Section A5.103.2.1 or on a greyfield or infill site as defined in Section A5.102.		<input type="checkbox"/>	<input type="checkbox"/>
A5.103.3.1 Brownfield redevelopment. Develop a site documented as contaminated and fully remediated or on a site defined as a brownfield.			
Site Preservation			
A5.104.1.1 Local zoning requirement in place. Exceed the zoning's open space requirement for vegetated open space on the site by 25 percent.		<input type="checkbox"/>	<input type="checkbox"/>
A5.104.1.2 No local zoning requirement in place. Provide vegetated open space area adjacent to the building equal to the building footprint area.		<input type="checkbox"/>	<input type="checkbox"/>
A5.104.1.3 No open space required in zoning ordinance. Provide vegetated open space equal to 20 percent of the total		<input type="checkbox"/>	<input type="checkbox"/>

project site area.		1	
APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY	
		CALGreenTier 1	CALGreenTier 2
Deconstruction and Reuse of Existing Structures			
<p>A5.105.1.1 Existing building structure. Maintain at least 75 percent of existing building structure (including structural floor and roof decking) and envelope (exterior skin and framing) based on surface area.</p> <p>Exceptions:</p> <ol style="list-style-type: none"> 1. Window assemblies and nonstructural roofing material. 2. Hazardous materials that are remediated as a part of the project. 3. A project with an addition of more than two times the square footage of the existing building. 		<input type="checkbox"/>	<input type="checkbox"/>
<p>A5.105.1.2 Existing nonstructural elements. Reuse existing interior nonstructural elements (interior walls, doors, floor coverings and ceiling systems) in at least 50 percent of the area of the completed building (including additions).</p> <p>Exception: A project with an addition of more than two times the square footage of the existing building.</p>		<input type="checkbox"/>	<input type="checkbox"/>
<p>A5.105.1.3 Salvage. Salvage additional items in good condition such as light fixtures, plumbing fixtures and doors for reuse on this project in an onsite storage area or for salvage in dedicated collection bins. Document the weight or number of the items salvaged.</p>		<input type="checkbox"/>	<input type="checkbox"/>
Site Development			
<p>5.106.1 Storm water pollution prevention. Newly constructed projects <u>and additions</u> which disturb less than one acre of land shall prevent the pollution of stormwater runoff from the construction activities through local ordinance in Section 5.106.1.1</p> <p>Or</p> <p>Best management practices (BMP) in Section 5.106.1.2.</p> <p>A5.106.2 Storm water design. Design storm water runoff rate and quantity in conformance with Section A5.106.3.1 and storm water runoff quality by Section A5.106.3.2 or by local requirements, whichever are stricter.</p> <p>A5.106.2.1 Storm water runoff rate and quantity. Implement a storm water management plan resulting in no net increase in rate and quantity of storm water runoff from existing to developed conditions.</p> <p>Exception: If the site is already greater than 50 percent impervious, implement a storm water management plan resulting in a 25-percent decrease in rate and quantity.</p> <p>A5.106.2.2 Storm water runoff quality. Use post construction treatment control best management practices (BMPs) to mitigate (infiltrate, filter or treat) storm water runoff from the 85th percentile 24-hour runoff event (for volume-based BMPs) or the runoff produced by a rain event equal to two times the 85th percentile hourly intensity (for flow-based BMPs).</p>	<input type="checkbox"/> or <input checked="" type="checkbox"/>		
<p>A5.106.3 Low impact development (LID). Reduce peak runoff in compliance with Section 5.106.3.1. Employ at least two of the following methods or other best management practices to allow rainwater to soak into the ground, evaporate into the air or collect in storage receptacles for irrigation or other beneficial uses. LID strategies include, but are not limited to those listed in Section A5.106.4.</p>		<input type="checkbox"/>	<input type="checkbox"/>
<p>5.106.4 Bicycle parking. Comply with Sections 5.106.4.1,</p>	<input checked="" type="checkbox"/>		

<p>A5.106.11.2.2 and A5.106.11.2.3 or a minimum aged or Solar Reflectance Index (SRI)³ equal to or greater than the values shown in:</p> <p>Table A5.106.11.2.2 – Tier 1 or Table A5.106.11.2.3 – Tier 2</p> <p>Exceptions:</p> <ol style="list-style-type: none"> 1.Roof constructions that have a thermal mass over the roof membrane, including areas of vegetated (green) roofs, weighing at least 25 lb/sf. 2.Roof area covered by building integrated solar photovoltaic and building integrated solar thermal panels. 		☒	☒
<p>Energy Efficiency</p> <p>Performance Requirements</p>			
<p>5.201.1 Scope. Building meets or exceeds the requirements of the California Building Energy Efficiency Standards.³</p>	☒ ²	☒ ²	☒ ²
<p>A5.203.1 Energy efficiency. Nonresidential, high-rise residential and hotel/motel buildings that include lighting and/or mechanical systems shall comply with Sections A5.203.1.1 and either A5.203.1.2.1 or A5.203.1.2.2. Newly constructed buildings, as well as additions and alterations, are included in the scope of these sections. Buildings permitted without lighting or mechanical systems shall comply with Section A5.203.1.1 but are not required to comply with Sections A5.203.1.1.2 or A5.203.1.2.</p>		☐	☐
<p>A5.203.1.1.1 Outdoor lighting. Newly installed outdoor lighting power is no greater than 90 percent of the Title 24, Part 6 calculated value of allowed outdoor lighting power.</p>		☒ ²	☒ ²
<p>A5.203.1.1.2 Service water heating in restaurants. Newly constructed restaurants 8,000 square feet or greater and with service water heaters rated 75,000 Btu/h or greater installed a solar water-heating system with a minimum solar savings fraction of 0.15 or meet one of the exceptions.</p>		☒ ²	☒ ²
<p>A5.203.1.1.3 Functional areas where compliance with residential lighting standards is required. For newly constructed high-rise residential dwelling units and hotel and motel guest rooms, indoor lighting complies with the applicable requirements in Appendix A4 Residential Voluntary Measures, Division A4.2 – Energy Efficiency, Section A4.203.1.1.3. For additions and alterations to high-rise residential dwelling units and hotel and motel guest rooms, indoor lighting complies with the applicable requirements in Appendix A4 Residential Voluntary Measures, Division A4.2 – Energy Efficiency, Section A4.204.1.1.1.</p>		☒ ²	☒ ²
<p>A5.203.1.2.1 Tier 1. For building projects that include indoor lighting or mechanical systems, but not both, the Energy Budget is no greater than 95 percent of the Title 24, Part 6, Energy Budget for the Proposed Design Building. For building projects that include indoor lighting and mechanical systems, the Energy Budget is no greater than 90 percent of the Title 24, Part 6, Energy Budget for the Proposed Design Building.</p>		☒ ²	
<p>A5.203.1.2.2 Tier 2. For building projects that include indoor lighting or mechanical systems, but not both, the Energy Budget is no greater than 90 percent of the Title 24, Part 6, Energy Budget for the Proposed Design Building. For building projects that include indoor lighting and mechanical systems, the Energy Budget is no greater than 85 percent of the Title 24, Part 6, Energy Budget for the Proposed Design Building.</p>			☒ ²
<p>Renewable Energy</p>			
<p>A5.211.1 On-site renewable energy. Use on-site renewable energy for at least 1 percent of the electrical service overcurrent</p>			

<p>building or an addition that is projected to consume more than 1,000 gal/day (3800 L/day).</p>			
<p>5.303.2 Water reduction. Plumbing fixtures shall meet the maximum flow rate values shown in Table 5.303.2.3. Exception: Buildings that demonstrate 20 percent overall water use reduction. In this case, a calculation demonstrating a 20-percent reduction in the building "water use baseline," as established in Table 5.303.2.2, shall be provided. 5.303.2.1 Areas of additions or alteration. For those occupancies within the authority of the California Building Standards Commission as specified in Section 103, the provisions of Section 5.303.2 and Section 5.303.3 shall apply to new fixtures in additions or areas of alterations to the building. A5.303.2.3.1 Tier 1 – 30 12-percent savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 30 12percent shall be provided. A5.303.2.3.2 Tier 2 – 35 20-percent savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 35 20 percent shall be provided. A5.303.2.3.3 Forty 25-percent savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 40 25 percent shall be provided (Calculate savings by Water Use Worksheets) A5.303.2.3.4 Nonpotable water systems for indoor use. Utilizing nonpotable water systems (such as captured rainwater, treated graywater, and recycled water) intended to supply water closets, urinals, and other allowed uses, may be used in the calculations demonstrating the 30-12, 35 20 or 40 25 percent reduction. The nonpotable water systems shall comply with the current edition of the <i>California Plumbing Code</i>.</p>	<p><input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/></p> <p><input type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p>
<p>5.303.3 Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following: 5.303.3.1 Water closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-Type Toilets. Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush. 5.303.3.2 Urinals. The effective flush volume of urinals shall not exceed 0.5 gallons per flush. 5.303.3.3 Showerheads. 5.303.3.3.1 Single showerhead. Showerheads shall have a maximum flow rate of not more than 2.0 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads. 5.303.3.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in</p>	<p><input checked="" type="checkbox"/></p>		

<p><u>local agencies if certain conditions are met.</u></p> <p>6. Combination ovens shall not consume more than 10 gph (38 L/h) in the full operational mode.</p> <p>7. Commercial pre-rinse spray valves manufactured on or after January 1, 2006 shall function at equal to or less than 1.6 gpm (0.10 L/s) at 60 psi (414 kPa) and</p> <ol style="list-style-type: none"> Be capable of cleaning 60 plates in an average time of not more than 30 seconds per plate Be equipped with an integral automatic shutoff Operate at static pressure of at least 30 psi (207 kPa) when designed for a flow rate of 1.3 gpm (0.08 L/s) or less 		□	□
<p>5.303.4- 5 Wastewater reduction. [N] Each building shall reduce the generation of wastewater by one of the following methods:</p> <ol style="list-style-type: none"> The installation of water-conserving fixtures or Utilizing nonpotable water systems. 	<p>As applicable</p> <p style="text-align: center;">☒ ☒</p>	□	□
<p>A5.303.5 Dual plumbing. New buildings and facilities shall be dual plumbed for potable and recycled water systems. <u>New buildings and facilities shall be dual plumbed for potable and recycled water systems for toilet flushing when recycled water is available as determined by the enforcement authority.</u></p>		□	□
<p>5.303.6 Standards for plumbing fixtures and fittings. Plumbing fixtures and fittings shall be installed in accordance with the <i>California Plumbing Code</i>, and shall meet the applicable standards referenced in Table 1401.1 of the <i>California Plumbing Code</i> and in Chapter 6 of this code.</p>	<p>As applicable</p> <p style="text-align: center;">☒</p>		
Outdoor Water Use			
<p>5.304.1 Water budget. A water budget shall be developed for landscape irrigation use. ³ Applies to additions or alterations.</p>	☒		
<p>5.304.2 Outdoor potable water use. For new water service, separate meters or submeters shall be installed for indoor and outdoor potable water use for landscaped areas of at least 1,000 square feet but not more than 5,000 square feet, separate submeters shall be installed for outdoor potable water use. Applies to additions or alterations.</p> <p>A5.304.2.1 Outdoor potable water use. For new water service not subject to the provisions of <i>Water Code</i> Section 535, separate meters or submeters shall be installed for outdoor potable water use for landscaped areas of at least 500 square feet but not more than 1,000 square feet (the level at which Section 5.304.2 applies).</p>	☒	□	□
<p>5.304.3 Irrigation design. In new nonresidential projects with at least 1,000 square feet but not more than 2,500 square feet of landscaped area (the level at which the MLO applies), install irrigation controllers and sensors which include the following criteria and meet manufacturer's recommendations. Applies to additions or alterations.</p> <p>5.304.3.1 Irrigation controllers. Automatic irrigation system controllers installed at the time of final inspection shall comply with the following:</p> <ol style="list-style-type: none"> Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change. Weather-based controllers without integral rain sensors or communication systems that account for local rainfall 	<p style="text-align: center;">☒</p> <p>As applicable</p> <p style="text-align: center;">☒</p>		

shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.			
<p>A5.304.4 Potable water reduction. Provide water efficient landscape irrigation design that reduces by the use of potable water. Provide water efficient landscape irrigation design that <u>reduces the use of potable water beyond the initial requirements for plant installation and establishment in accordance with Section A5.304.4.1 or A5.304.4.2. Calculations for the reduction shall be based on the water budget developed pursuant to Section 5.304.1.</u></p> <p>A5.304.4.1 Tier 1 – Reduce the use of potable water to a quantity that does not exceed 60 percent of ETo times the landscape area.</p> <p>A5.304.4.2 Tier 2 –Reduce the use of potable water to a quantity that does not exceed 55 percent of ETo times the landscape area.</p> <p>Note: Methods used to accomplish the requirements of this section shall include, but not be limited to, the items listed in A5.304.4.</p> <p>A5.304.4.3 Verification of compliance. A calculation demonstrating the applicable potable water use reduction required by this section shall be provided.</p>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<p>A5.304.5 Potable water elimination. Provide a water efficient landscape irrigation design that eliminates the use of potable water beyond the initial requirements for plant installation and establishment.</p> <p>Methods used to accomplish the requirements of this section shall include, but not be limited to, the items listed in Section A5.304.4.</p>		<input type="checkbox"/>	<input type="checkbox"/>
A5.304.6 Restoration of areas disturbed by construction. Restore all areas disturbed during construction by planting with local native and/or noninvasive vegetation.		<input type="checkbox"/>	<input type="checkbox"/>
A5.304.7 Previously developed sites. On previously developed or graded sites, restore or protect at least 50 percent of the site area with native and/or noninvasive vegetation.		<input type="checkbox"/>	<input type="checkbox"/>
A5.304.8 Graywater irrigation system. Install graywater collection system for onsite subsurface irrigation using graywater <u>collected from bathtubs, showers, bathroom wash basins and laundry water.</u> See <i>California Plumbing Code</i> .		<input type="checkbox"/>	<input type="checkbox"/>
Water Reuse			
A5.305.1 Nonpotable water systems. Nonpotable water systems for indoor and outdoor use shall comply with the current edition of the <i>California Plumbing Code</i> .		<input type="checkbox"/>	<input type="checkbox"/>
A5.305.2 Irrigation systems. Irrigation systems regulated by a local water efficient landscape ordinance or by the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELo) shall use recycled water.		<input type="checkbox"/>	<input type="checkbox"/>
Material Conservation and Resource Efficiency			
Efficient Framing Systems			
A5.404.1 Wood framing. Employ advanced wood framing techniques or OVE, as permitted by the enforcing agency.		<input type="checkbox"/>	<input type="checkbox"/>
Material Sources			
A5.405.1 Regional materials. Select building materials or products for permanent installation on the project that have been harvested or manufactured in California or within 500 miles of the project site,		<input type="checkbox"/>	<input type="checkbox"/>

meeting the criteria listed in Section A5.405.1.			
<p>A5.405.2 Bio-based materials. Select bio-based building materials per Section A5.405.2.1 or A5.405.2.2.</p> <p>A5.405.2.1 Certified wood products. Certified wood is an important component of green building strategies and the California Building Standards Commission will continue to develop a standard through the next code cycle.</p> <p>A5.405.2.2 Rapidly renewable materials. Use materials made from plants harvested within a ten-year cycle for at least 2.5 percent of total materials value, based on estimated cost.</p>		<input type="checkbox"/>	<input type="checkbox"/>
<p>A5.405.3 Reused materials. Use salvaged, refurbished, refinished or reused materials for at least 5 percent of the total value, based on estimated cost of materials on the project.</p>		<input type="checkbox"/>	<input type="checkbox"/>
<p>A5.405.4 Recycled content. Use materials, equivalent in performance to virgin materials, with a total (combined) recycled content value (RCV) of:</p> <p>Tier 1. The RCV shall not be less than 10 percent of the total material cost of the project.</p> <p>Tier 2. The RCV shall not be less than 15 percent of the total material cost of the project.</p> <p>Note: Use the equations in the subsections for calculating total materials cost, recycled content, RCV of materials and assemblies, and total RCV.</p>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<p>A5.405.5 Cement and concrete. Use cement and concrete made with recycled products and complying with the following sections:</p> <p>A5.405.5.1 Cement. Cement shall comply with one of the following standards:</p> <ol style="list-style-type: none"> 1. Portland cement shall meet ASTM C 150. 2. Blended hydraulic cements shall meet ASTM C 595. 3. Other Hydraulic Cements shall meet ASTM C 1157. <p>A5.405.5.2 Concrete. Unless otherwise directed by the Engineer of Record, use concrete manufactured with cementitious materials in accordance with Sections A5.405.5.2.1 and A5.405.5.2.1.1, as approved by the enforcing agency.</p> <p>A5.405.5.2.1 Supplementary cementitious materials (SCMs). Use concrete made with one or more of the SCMs listed in Section A5.405.5.2.1.</p> <p>A5.405.5.2.1.1 Mix design equation. Use any combination of one or more SCMs, satisfying Equation A4.5-14.</p> <p>Exception: Minimums in mix designs approved by the Engineer of Record may be lower where high early strength is needed.</p> <p>A5.405.5.3 Additional means of compliance. Any of the following measures shall be permitted to be employed for the production of cement or concrete, depending on their availability and suitability, in conjunction with Section A5.405.5.2.</p> <p>A5.405.5.3.1 Cement. The following measures may be used in the manufacture of cement.</p> <p>A5.405.5.3.1.1 Alternative fuels. Where permitted by state or local air quality standards.</p> <p>A5.405.5.3.1.2 Alternative power. Alternate electric power generated at the cement plant and/or green power purchased from the utility meeting the requirements of Section A5.211.</p>		<input type="checkbox"/>	<input type="checkbox"/>
<p>A5.405.5.3.2 Concrete. The following measures may be used in the manufacture of concrete,</p> <p>A5.405.5.3.2.1 Alternative energy. Renewable or alternative energy meeting the requirements of Section</p>		<input type="checkbox"/>	<input type="checkbox"/>

<p>A5.211.</p> <p>A5.405.5.3.2.2 Recycled aggregates. Concrete made with one or more of the materials listed in Section A5.405.5.3.2.2.</p> <p>A5.405.5.3.2.3 Mixing water. Water recycled by the local water purveyor or water reclaimed from manufacturing processes and conforming to ASTM C 1602.</p> <p>A5.405.5.3.2.4 High strength concrete. Concrete elements designed to reduce their total size compared to standard 3,000 psi concrete, as approved by the Engineer of Record.</p>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Enhanced Durability and Reduced Maintenance			
<p>A5.406.1.1 Service life. Select materials for longevity and minimal deterioration under conditions of use.</p> <p>A5.406.1.2 Reduced maintenance. Select materials that require little, if any, finishing.</p> <p>A5.406.1.3 Recyclability. Select materials that can be re-used or recycled at the end of their service life.</p>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Weather Resistance and Moisture Management			
<p>5.407.1 Weather protection. Provide a weather-resistant exterior wall and foundation envelope as required by <i>California Building Code</i>, Section 1403.2 and <i>California Energy Code</i>, Section 150, manufacturer's installation instructions or local ordinance, whichever is more stringent.³</p>	<input type="checkbox"/>		
<p>5.407.2 Moisture control. Employ moisture control measures by the following methods;</p> <p>5.407.2.1 Sprinklers. <u>Design and maintain landscape irrigation systems to prevent irrigation spray on structures.</u></p> <p>5.407.2.2 Entries and openings. Design exterior entries and openings to prevent water intrusion into <u>buildings as follows.</u></p> <p>5.407.2.2.1 Exterior door protection. Primary exterior entries shall <u>be covered to prevent water intrusion by using nonabsorbent floor and wall finishes within at least 2 feet around and perpendicular to such openings plus at least one of the following:</u></p> <ol style="list-style-type: none"> 1. <u>An installed awning at least 4 feet in depth.</u> 2. <u>The door is protected by a roof overhang at least 4 feet in depth.</u> 3. <u>The door is recessed at least 4 feet.</u> 4. <u>Other methods which provide equivalent protection.</u> <p>5.407.2.2.2 Flashing. Install flashings integrated with a drainage <u>plane.</u></p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
Construction Waste Reduction, Disposal and Recycling			
<p>5.408.1 Construction waste management. Recycle and/or salvage for reuse a minimum of 50% 65% of the non- hazardous construction waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent.</p> <p>5.408.1.1 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance that is more stringent, submit a construction waste management plan that complies with Items 1 through 4 of this section.</p> <p>5.408.1.2 Waste management company. Utilize a waste management company that can provide verifiable</p>	<input type="checkbox"/> or <input type="checkbox"/> <input type="checkbox"/>		

<p>based on ASHRAE 52.1-1992. Replace all filters immediately prior to occupancy. Applies to additions or alterations.</p>			
<p>A5.504.2 IAQ postconstruction. Flush out the building per Section A5.504.2 prior to occupancy or if the building is occupied.</p> <p>A5.504.2.1 IAQ Testing. A testing alternative may be employed after all interior finishes have been installed, using testing protocols recognized by the United State Environmental Protection Agency (U.S. EPA) and in accordance with Section A5.504.2.1.2. Retest as required in Section A5.504.2.1.3.</p> <p>A5.504.2.1.1 Maximum levels of contaminants. Allowable levels of contaminant concentrations measured by testing shall not exceed the following:</p> <ol style="list-style-type: none"> 1. Carbon Monoxide (CO): 9 parts per million, not to exceed outdoor levels by 2 parts per million; 2. Formaldehyde: 27 parts per billion; 3. Particulates (PM10): 50 micrograms per cubic meter; 4. 4-Phenylcyclohexene (4-PCH): 6.5 micrograms per cubic meter; and 5. Total Volatile Organic Compounds (TVOC): 300 micrograms per cubic meter. <p>A5.504.2.1.2 Test protocols. Testing of indoor air quality should include the elements listed in Items 1 through 4.</p> <p>A5.504.2.1.3 Noncomplying building areas. For each sampling area of the building exceeding the maximum concentrations specified in Section A5.504.2.1.1, flush out with outside air and retest samples taken from the same area. Repeat the procedures until testing demonstrates compliance.</p>		<p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p>As applicable</p> <p><input type="checkbox"/></p>	<p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p>As applicable</p> <p><input type="checkbox"/></p>
<p>5.504.3 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation and during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which may enter the system.</p>	<p><input checked="" type="checkbox"/></p>		
<p>5.504.4 Finish material pollutant control. Finish materials shall comply with Sections 5.504.4.1 through 5.504.4.4.</p> <p>5.504.4.1 Adhesives, sealants, caulks. Adhesives and sealants used on the project shall meet the requirements of the following standards.</p> <ol style="list-style-type: none"> 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. 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 <i>California Code of Regulations</i>, Title 17, commencing with Section 94507. <p>5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with Table 5.504.4.3 unless more stringent local limits apply.</p> <p>5.504.4.3.1 Aerosol paints and coatings. Aerosol paints and coatings shall meet the Product-Weighted MIR Limits for</p>	<p><input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/></p>		

<p>ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances (CCR, Title 17, Section 94520, et seq.).</p> <p>5.504.4.3.2 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency.</p> <p>5.504.4.4 Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of one of the standards listed in Section 5.504.4.4.</p> <p>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's Green Label program.</p> <p>5.504.4.4.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 5.504.4.1.</p> <p>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 Table 5.504.4.5.</p> <p>A5.504.4.5.1 Early compliance with formaldehyde limits, Tier 1. Meet the requirements contained in Table A5.504.8.5 before the compliance dates.</p> <p>A5.504.4.5.2 1 No added formaldehyde, Tier 2. Use composite wood products approved by the ARB as no-added formaldehyde (NAF) based resins or ultra-low emitting formaldehyde (ULEF) resins.</p> <p>5.504.4.5.3 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:</p> <ol style="list-style-type: none"> 1. Product certifications and specifications. 2. Chain of custody certifications. 3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.). 4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269 or European 636 3S standards. 5. Other methods acceptable to the enforcing agency. 	<p><input checked="" type="checkbox"/></p> <p>As applicable</p> <p><input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p> <p><input type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p> <p><input type="checkbox"/></p>
<p>5.504.4.6 Resilient flooring systems. For 80 percent of floor area receiving resilient flooring, install resilient flooring which meets one of the following:</p> <p>Comply with the VOC emission limits defined in the 2012 CHPS criteria and listed on its High Performance Products Database; products compliant with CHPS criteria certified under the Greenguard Children & Schools program; certified under the FloorScore program of the Resilient Floor Covering Institute; or meet California Department of Public Health 2010 Specification.</p> <ol style="list-style-type: none"> 1. <u>Certified under the Resilient Floor Covering Institute (RFCI) FloorScore program;</u> 2. <u>Compliant with the VOC-emission limits and testing requirements specified in the California Department of Public Health's 2010 Standard Method for the Testing and Evaluation Chambers, Version 1.1, February 2010;</u> 3. <u>Compliant with the Collaborative for High Performance Schools California (CA-CHPS) Criteria Interpretation for EQ 7.0 and 7.1 (formerly EQ. 2.2) dated July 2012 and</u> 	<p><input checked="" type="checkbox"/></p>		

<p><u>listed in the CHPS High Performance Product Database</u> ;or</p> <p><u>4. Products certified under UL GREENGUARD Gold (formerly the Greenguard Children's & Schools Program).</u></p> <p>A5.504.4.6.1 Verification of compliance. Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.</p> <p>A5.504.4.7 Resilient flooring systems, Tier 1 [BSC]. For 90 percent of floor area receiving resilient flooring, installed resilient flooring shall meet at least one of the following: complying with the VOC emission limits defined in the 2009 CHPS criteria and listed on its High Performance Products Database; products compliant with CHPS criteria certified under the Greenguard Children & Schools program; certified under the FloorScore program of the Resilient Floor Covering Institute; or meet California Department of Public Health 2010 Specification 01350.</p> <ol style="list-style-type: none"> 1. <u>Certified under the Resilient Floor Covering Institute (RFCI) FloorScore program;</u> 2. <u>Compliant with the VOC-emission limits and testing requirements specified in the California Department of Public Health's 2010 Standard Method for the Testing and Evaluation Chambers, Version 1.1, February 2010;</u> 3. <u>Compliant with the Collaborative for High Performance Schools California (CA-CHPS) Criteria Interpretation for EQ 7.0 and 7.1 (formerly EQ. 2.2) dated July 2012 and listed in the CHPS High Performance Product Database</u> ;or 4. <u>Products certified under UL GREENGUARD Gold (formerly the Greenguard Children's & Schools Program).</u> <p>A5.504.4.7.1 Resilient flooring systems, Tier 2 [BSC]. For 100 percent of floor area to scheduled to receive resilient flooring, installed resilient flooring shall meet at least one of the following: complying with the VOC emission limits defined in the 2009 CHPS criteria and listed on its High Performance Products Database; products compliant with CHPS criteria certified under the Greenguard Children & Schools program; certified under the FloorScore program of the Resilient Floor Covering Institute; or meet California Department of Public Health 2010 Specification 01350.</p> <ol style="list-style-type: none"> 1. <u>Certified under the Resilient Floor Covering Institute (RFCI) FloorScore program;</u> 2. <u>Compliant with the VOC-emission limits and testing requirements specified in the California Department of Public Health's 2010 Standard Method for the Testing and Evaluation Chambers, Version 1.1, February 2010;</u> 3. <u>Compliant with the Collaborative for High Performance Schools California (CA-CHPS) Criteria Interpretation for EQ 7.0 and 7.1 (formerly EQ. 2.2) dated July 2012 and listed in the CHPS High Performance Product Database</u> ;or 4. <u>Products certified under UL GREENGUARD Gold (formerly the Greenguard Children's & Schools Program).</u> <p>A5.504.4.7.2 Verification of compliance. Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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used in refrigerant systems except as noted below.

5.508.2.1.1 Threaded pipe. Threaded connections are permitted at the compressor rack.

5.508.2.1.2 Copper pipe. Copper tubing with an OD less than ¼ inch may be used in systems with a refrigerant charge of 5 pounds or less.

5.508.2.1.2.1 Anchorage. ¼ inch OD tubing shall be securely clamped to a rigid base to keep vibration levels below 8 mils.

5.508.2.1.3 Flared tubing connections. Double-flared tubing connections may be used for pressure controls, valve pilot lines and oil.

Exception: Single-flared tubing connections may be used with a multiring seal coated with industrial sealant suitable for use with refrigerants and tightened in accordance with manufacturer's recommendations.

5.508.2.1.4 Elbows. Short radius elbows are only permitted where space limitations prohibit use of long radius elbows.

5.508.2.2 Valves. Valves and fittings shall comply with the *California Mechanical Code* and as follows.

5.508.2.2.1 Pressure relief valves. For vessels containing high-GWP refrigerant, a rupture disc shall be installed between the outlet of the vessel and the inlet of the pressure relief valve.

5.508.2.2.1.1 Pressure detection. A pressure gauge, pressure transducer or other device shall be installed in the space between the rupture disc and the relief valve inlet to indicate a disc rupture or discharge of the relief valve.

5.508.2.2.2 Access valves. Only Schrader access valves with a brass or steel body are permitted for use.

5.508.2.2.2.1 Valve caps. For systems with a refrigerant charge of 5 pounds or more, valve caps shall be brass or steel and not plastic.

5.508.2.2.2.2 Seal caps. If designed for it, the cap shall have a neoprene O-ring in place.

5.508.2.2.2.2.1 Chain tethers. Chain tethers to fit over the stem are required for valves designed to have seal caps.

Exception: Valves with seal caps that are not removed from the valve during stem operation.

5.508.2.3 Refrigerated service cases. Refrigerated service cases holding food products containing vinegar and salt shall have evaporator coils of corrosion-resistant material, such as stainless steel; or be coated to prevent corrosion from these substances.

5.508.2.3.1. Coil coating. Consideration shall be given the heat transfer efficiency of coil coating to maximize energy efficiency.

5.508.2.4 Refrigerant receivers. Refrigerant receivers with capacities greater than 200 pounds shall be fitted with a device that indicates the level of refrigerant in the receiver.

5.508.2.5 Pressure testing. The system shall be pressure tested during installation prior to evacuation and charging.

5.508.2.5.1 Minimum pressure. The system shall be charged with regulated dry nitrogen and appropriate tracer

<p>gas to bring system pressure up to 300 psig minimum.</p> <p>5.508.2.5.2 Leaks. Check the system for leaks, repair any leaks, and retest for pressure using the same gauge.</p> <p>5.508.2.5.3 Allowable pressure change. The system shall stand, unaltered, for 24 hours with no more than a +/- one pound pressure change from 300 psig, measured with the same gauge.</p> <p>5.508.2.6 Evacuation. The system shall be evacuated after pressure testing and prior to charging.</p> <p>5.508.2.6.1 First vacuum. Pull a system vacuum down to at least 1000 microns (+/- 50 microns), and hold for 30 minutes.</p> <p>5.508.2.6.2 Second vacuum. Pull a second system vacuum to a minimum of 500 microns and hold for 30 minutes.</p> <p>5.508.2.6.3 Third vacuum. Pull a third vacuum down to a minimum of 300 microns, and hold for 24 hours with a maximum drift of 100 microns over a 24-hour period.</p>		
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1. Green building measures in this table may be mandatory if adopted by a city, county, or city and county as specified in Section 101.7.
2. Required prerequisite for this Tier.
3. These measures are currently required elsewhere in statute or in regulation.
4. This application checklist is non-regulatory, intended only as an aid to the user and may not contain complete code language. Refer Chapter 5 and Appendix Chapter A5 for complete code provisions.

Notation:
Authority – Health and Safety Code Sections 18930.5, 18934.5 and 18938 (b).
Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901.