

**45-DAY EXPRESS TERMS
FOR PROPOSED BUILDING STANDARDS
OF THE CALIFORNIA BUILDING STANDARDS COMMISSION
REGARDING THE 2022 INTERVENING CODE ADOPTION CYCLE,
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11
(BSC 04/22)**

The State agency shall draft the regulations in plain, straightforward language, avoiding technical terms as much as possible and using a coherent and easily readable style. The agency shall draft the regulation in plain English. A notation shall follow the express terms of each regulation listing the specific statutes authorizing the adoption and listing specific statutes being implemented, interpreted, or made specific (Government Code Section 11346.2(a)(1)).

If using assistive technology, please adjust your settings to recognize underline, strikeout and ellipsis.

LEGEND for EXPRESS TERMS (California only codes - Parts 1, 6, 8, 11, 12)

- Existing California amendments appear upright
- Amended or new California amendments appear underlined
- Repealed California language appears ~~upright and in strikeout~~
- Ellipses (...) indicate existing text remains unchanged

INITIAL EXPRESS TERMS

ITEM 1

Chapter 2 DEFINITIONS, Section 202 (Electric Vehicle Related Definitions)

[Defined Electric Vehicle Terms published in 2022 CALGreen Code and effective January 1, 2023 are shown for context only.]

AUTOMATIC LOAD MANAGEMENT SYSTEM (ALMS). [BSC-CG, DSA-SS and HCD]

A system designed to manage load across one or more electric vehicle supply equipment (EVSE) to share electrical capacity and/or automatically manage power at each connection point.

ELECTRIC VEHICLE (EV). [BSC-CG, HCD] 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.

ELECTRIC VEHICLE (EV) CAPABLE SPACE. [BSC-CG, DSA-SS and HCD] A vehicle space with electrical panel space and load capacity to support a branch circuit and necessary raceways, both underground and/or surface mounted, to support EV charging.

ELECTRIC VEHICLE (EV) CHARGER. [HCD] Off-board charging equipment used to

charge an electric vehicle.

ELECTRIC VEHICLE CHARGING SPACE (EV SPACE). [HCD] A space intended for future installation of EV charging equipment and charging of electric vehicles.

ELECTRIC VEHICLE CHARGING STATION (EVCS). [HCD] One or more electric vehicle charging spaces served by electric vehicle charger(s) or other charging equipment allowing charging of electric vehicles. Electric vehicle charging stations are not considered parking spaces.

ELECTRIC VEHICLE (EV) READY SPACE. [HCD] A vehicle space which is provided with a branch circuit; any necessary raceways, both underground and/or surface mounted; to accommodate EV charging, terminating in a receptacle **or a charger**.

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). [BSC-CG, DSA-SS and HCD] The conductors, including the ungrounded, grounded and equipment grounding conductors and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

LEVEL 2 ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). [HCD] The 208/240 Volt 40-ampere branch circuit, and the electric vehicle charging connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

LOW POWER LEVEL 2 ELECTRIC VEHICLE (EV) CHARGING RECEPTACLE. [HCD] A 208/240-volt 20-ampere minimum branch circuit and a receptacle for use by an EV driver to charge their electric vehicle or hybrid electric vehicle.

*[Propose to **co-adopt and amend HCD's existing** EV definitions as shown in underlined below]*

ELECTRIC VEHICLE (EV) CHARGER. [BSC-CG] Off-board charging equipment used to charge an electric vehicle.

ELECTRIC VEHICLE CHARGING STATION (EVCS). [BSC-CG] One or more electric vehicle charging spaces served by **EVSE** or receptacle(s).

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). [BSC-CG] The conductors, including the ungrounded, grounded and equipment grounding conductors and the electric vehicle connectors, attachment plugs, personnel protection system, and all other fittings, devices, power outlets or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

[Propose to co-adopt and amend HCD's existing EV definitions shown in underlined below]

LEVEL 2 ELECTRIC VEHICLE (EV) CHARGER. [BSC-CG] A 208/240-volt **30**-ampere minimum electric vehicle charger connected to the premises electrical system capable of charging electric vehicles.

40A conductors x 80% for duty = **32A** max equipment

LEVEL 2 ELECTRIC VEHICLE SUPPLY EQUIPMENT. [BSC-CG] The 208/240 Volt 40-ampere **branch** circuit, and the electric vehicle charging connectors, attachment

plugs, and all other fittings, devices, power outlets or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

LOW POWER LEVEL 2 ELECTRIC VEHICLE (EV) CHARGING RECEPTACLE.

[BSC-CG] A 208/240 Volt 20-ampere **minimum** branch circuit and a receptacle.

Notation:

Authority: Health & Safety Code Sections 18930.5 and 18941.10.

Reference(s): Health & Safety Code Sections 18930.5 and 18941.10.

ITEM 2

Chapter 2 DEFINITIONS, Section 202 (Bird Friendly Related Definitions)

[Propose to adopt new bird-friendly definitions as shown in underline below]

2 X 2 RULE. [BSC-CG] Visual markers are the most effective collision deterrents if spaced no more than 2 inches (5.1 cm) apart, a distance through which most birds cannot fly.

ADHESIVE MARKER. [BSC-CG] An individual marker(s) applied to the first surface of glass (surface 1) in a pattern or as a custom decal.

FILM. [BSC-CG] A material adhered to the first surface of glass (surface 1), perforated or printed with patterns as visual markers.

GLASS, ACID ETCHED. [BSC-CG] Glass with hydrofluoric acid washed across the entire first surface (surface 1), which can result in a variety of patterns as visual markers.

GLASS, FRITTED. [BSC-CG] Glass manufactured with ceramic-based paint applied in various patterns as visual markers.

GLASS SURFACE. [BSC-CG] The exterior surface is the first surface (surface 1) where visual markers are usually applied, and subsequent interior surfaces are numbered in ascending order.

MATURE TREE CANOPY. [BSC-CG] The top of the mature trees or vegetation typical of a region.

ULTRAVIOLET (UV). [BSC-CG] Electromagnetic radiation on the first surface of glass (surface 1), with wavelengths between 300 and 400 nanometers (optimum at 370) visible to birds.

VISUAL MARKER. [BSC-CG] Usually applied to the first surface of glass (surface 1), a pattern, solid shape, or treatment visible to birds. If markers are applied on an inside surface, surface 1 should have maximum 15% reflectivity.

Notation:

Authority: Health & Safety Code Section: 18930.5

Reference(s): Health & Safety Code Section 18930.5

ITEM 3

Chapter 2 DEFINITIONS, Section 202 (CALGreen Carbon Reduction Related Definitions)

BUY CLEAN CALIFORNIA ACT. [BSC-CG] The Buy Clean California Act (BCCA) (Public Contract Code Sections 3500-3505), targets carbon emissions associated with the production of structural steel (hot-rolled sections, hollow structural sections, and plate), concrete reinforcing steel, flat glass, and mineral wool board insulation. The maximum acceptable global warming potential (GWP) limit are established by the Department of General Services (DGS), in consultation with the California Air Resources Board (CARB).

CRADLE-TO-GATE. [BSC-CG] Activities associated with a product or building's life cycle from the extraction stage through production stage, and covering modules A1 through A3 in accordance with ISO Standards 14025 and 21930.

CRADLE-TO-GRAVE. [BSC-CG] Activities associated with a product or building's life cycle from the extraction stage through disposal stage, and covering modules A1 through C4 in accordance with ISO Standards 14025 and 21930.

DECONSTRUCTION. [BSC-CG] BSC is withdrawing the definition.

TYPE III ENVIRONMENTAL PRODUCT DECLARATION (EPD). [BSC-CG] A third-party verified report that summarizes how a product impacts the environment. Type III EPDs can be either product-specific, factory-specific, or industry-wide EPDs. See CRADLE-TO-GATE.

PRODUCT-SPECIFIC EPD. [BSC-CG] A Type III EPD in which the environmental impacts can be attributed to a product design and manufacturer across multiple facilities.

FACTORY-SPECIFIC EPD. [BSC-CG] A product-specific Type III EPD in which the environmental impacts can be attributed to a single manufacturer and manufacturing facility.

INDUSTRY-WIDE EPD (IW-EPD). [BSC-CG] A Type III EPD in which the environmental impacts are an average of the typical manufacturing impacts for a range of products within the same product category for a group of manufacturers.

REFERENCE STUDY PERIOD. [BSC-CG] The period of use for the building, in years, that will be assumed for life cycle assessment.

Notation:

Authority: Health and Safety Code Section 18928.1, 18930.5,

Reference(s): Health and Safety Code Section 18928.1, 18930.5

ITEM 4

Chapter 5 NONRESIDENTIAL MANDATORY MEASURES, DIVISION 5.1- PLANNING AND DESIGN, SECTION 5.105 DECONSTRUCTION AND REUSE OF EXISTING STRUCTURES

SECTION 5.105, DECONSTRUCTION AND REUSE OF EXISTING STRUCTURES (Reserved)

5.105.1 Scope. [BSC-CG] Effective July 1, 2024, alteration(s) to existing building(s) where the combined altered floor area is 100,000 square feet or greater shall comply with either Section 5.105.2, 5.409.2, or 5.409.3. Addition(s) to existing building(s) where the total floor area combined with the existing building(s) is 100,000 square feet or greater shall comply with either Section 5.105.2, Section 5.409.2, or Section 5.409.3. Effective January 1, 2026, the combined floor area shall be 50,000 square feet or greater.

Exception: Combined addition(s) to existing building(s) of two times the area or more of the existing building(s) is not eligible to meet compliance with Section 5.105.2.

5.105.2 Reuse of existing building. An alteration or addition to an existing building shall maintain at a minimum 45 percent combined of the existing building's primary structural elements (foundations; columns, beams, walls, and floors; and lateral elements) and existing building enclosure (roof framing, wall framing and exterior finishes). Window assemblies, insulation, portions of buildings deemed structurally unsound or hazardous, and hazardous materials that are remediated as part of the project shall not be included in the calculation.

5.105.2.1 Verification of compliance. Documentation shall be provided in the construction documents to demonstrate compliance with Section 5.105.2.

Note: Sample Worksheet WS-3 in Chapter 8 may be used to assist in documenting compliance with this section.

5.105.3 Deconstruction (reserved)

Notation:

Authority: Health and Safety Code Section 18930.5

Reference(s): Health and Safety Code Section 18930.5

ITEM 5

Section 5.106 SITE DEVELOPMENT, Section 5.106.5.3

5.106.5.3 Electric vehicle (EV) charging. [N] [BSC-CG] Construction to provide electric vehicle infrastructure and facilitate electric vehicle charging shall comply with Section 5.106.5.3.1 EV capable spaces, Section 5.106.5.3.2 Electric vehicle charging stations and associated Table 5.106.5.3.1, or Section 5.106.5.3.6 Electric vehicle charging stations (EVCS)-Power allocation method and associated Table 5.106.5.3.6 and shall be provided in accordance with regulations in the *California Building Code* and the *California Electrical Code*.

Exceptions:

1. On a case-by-case basis where the local enforcing agency has determined compliance with this section is not feasible based upon one of the following conditions:
 - a. Where there is **no local** utility power supply.
 - b. Where the local utility is **unable** to supply adequate power.
 - c. Where there is **evidence suitable** to the local enforcement agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section

5.106.5.3, may adversely impact the construction cost of the project.

2. Parking spaces accessible only by automated mechanical car parking systems are not required to comply with this code section.

5.106.5.3.1 EV capable spaces. [N] EV capable spaces shall be provided in accordance with Table 5.106.5.3.1 and the following requirements:

1. Raceways complying with the *California Electrical Code* and no less than 1-inch (25 mm) diameter shall be provided and shall originate at a service panel or a subpanel(s) serving the area, and shall terminate in close proximity to the proposed location of the EV capable space and into a suitable listed cabinet, box, enclosure or equivalent. A common raceway may be used to serve multiple EV capable spaces.
2. A service panel or subpanel(s) shall be provided with panel space and electrical load capacity for a dedicated 208/240 volt, 40-ampere minimum branch circuit for each EV capable space, with delivery of 30-ampere minimum to an installed EVSE at each EVCS.
3. The electrical system and any on-site distribution transformers shall have sufficient capacity to supply full rated amperage at each EV capable space.
4. The service panel or subpanel circuit directory shall identify the reserved overcurrent protective device space(s) as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE."

Note: A parking space served by electric vehicle supply equipment or designed as a future EV charging space shall count as at least one standard automobile parking space only for the purpose of complying with any applicable minimum parking space requirements established by an enforcement agency. See Vehicle Code Section 22511.2 for further details.

5.106.5.3.2 Electric vehicle charging stations (EVCS). EV capable spaces shall be provided with electric vehicle supply equipment (EVSE) to create EVCS in the number indicated in Table 5.106.5.3.1. The EVCS required by Table 5.106.5.3.1 ~~may~~ shall be provided with Level 2 EVSE or DCFC as permitted in Section 5.106.5.3.2.1. in any combination of Level 2 and Direct Current Fast Charging (DCFC), except that at least one Level 2 EVSE shall be provided. At least one Level 2 EVSE shall be provided.

One EV charger with multiple connectors capable of charging multiple EVs simultaneously shall be permitted if the electrical load capacity required by Section 5.106.5.3.1 for each EV capable space is accumulatively supplied to the EV charger.

5.106.5.3.2.1 The installation of each DCFC EVSE shall be permitted to reduce the minimum number of required EV capable spaces without EVSE or EVCS with Level 2 EVSE by five and reduce proportionally the required electrical load capacity to the service panel or subpanel.

5.106.5.3.2.2 The installation of two Low Power Level 2 EV charging receptacles shall be permitted to reduce the minimum number of required EV capable spaces without EVSE in Table 5.106.5.3.1 by one.

5.106.5.3.3 Use of automatic load management systems (ALMS). ALMS shall be permitted...multiple EVs. *[No change to text.]*

5.106.5.3.4 Accessible electric vehicle charging station (EVCS). When EVSE is installed, accessible EVCS shall be provided in accordance with the California Building Code Chapter 11B Section 11B-228.3.

Note: For EVCS signs, refer to Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its successor(s)

5.106.5.3.5 Electric vehicle charging station signage. Electric vehicle charging stations shall be identified by signage or pavement markings in compliance with Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its successor(s).

TABLE 5.106.5.3.1

TOTAL NUMBER OF ACTUAL PARKING SPACES	NUMBER OF REQUIRED EV CAPABLE SPACES	NUMBER OF EVCS (EV CAPABLE SPACES PROVIDED WITH EVSE) ^{2 & 3}
0-9	0	0
10-25	4	0
26-50	8	2
51-75	13	3
76-100	17	4
101-150	25	6
151-200	35	9
201 and over	20 percent of total actual parking spaces ¹	25 percent of EV capable spaces ¹

1. Calculation for spaces shall be rounded up to the nearest whole number.
2. The number of required EVCS (EV capable spaces provided with EVSE) in column 3 count toward the total number of required EV capable spaces shown in column 2.
3. At least one Level 2 EVSE shall be provided.

5.106.5.3.6 Electric vehicle charging stations (EVCS)-Power allocation method. The Power allocation method may be used as an alternative to the requirements in Section 5.106.5.3.2 and associated Table 5.106.5.3.1. Use Table 5.106.5.3.6 to determine the total power in kVA required based on the total number of actual parking

spaces.

Power allocation method to create EVCS shall include the following:

1. Use any kVA combination of EV capable spaces, Low Power Level 2, Level 2 or DCFC EVSEs.
2. At least one Level 2 EVSE shall be provided.
3. EV capable spaces shall meet the requirements of Section 5.106.5.3.1 EV capable spaces.

Where does 6.6kVA come from?

$$\text{kVA} = V \times A = 208V \times 40A \times 80\% \text{ derating} = 6.6\text{kVA}$$

40A capacity per "space"

100 spaces =

1. 17-4=13 Capable + 4 L2 EVSE
2. Using 2 DCFC "harvests" 10 spaces, leaving 7, 6 Capable, 1 L2 EVSE
3. Using 3 DCFC "harvests" 15 spaces, leaving 2, 1 Capable, 1 L2 EVSE
4. P.A. = One 150kVA fast charger + 1 L2 (not great that zero Capable conduits are ready for the future)

TABLE 5.106.5.3.6

<u>TOTAL NUMBER OF ACTUAL PARKING SPACES</u>	<u>MINIMUM TOTAL KVA @ 6.6 kVA</u>	<u>TOTAL KVA REQUIRED IN ANY COMBINATION OF EV CAPABLE³, LOW POWER LEVEL 2, LEVEL 2^{1,2}, OR DCFC</u>
<u>0-9</u>	<u>0</u>	<u>0</u>
<u>10-25</u>	<u>26.4</u>	<u>26.4</u>
<u>26-50</u>	<u>52.8</u>	<u>52.8</u>
<u>51-75</u>	<u>85.8</u>	<u>85.8</u>
<u>76-100</u>	<u>112.2</u>	<u>112.2</u>
<u>101-150</u>	<u>165</u>	<u>165</u>
<u>151-200</u>	<u>231</u>	<u>231</u>
<u>201 and over</u>	<u>20 percent of actual parking spaces x 6.6</u>	<u>Total required kVA =P x .20 x 6.6 Where P=Parking spaces in facility</u>

1. Level 2 EVSE @ 6.6 kVA minimum.
2. At least one Level 2 EVSE shall be provided.

3. Maximum allowed kVA to be utilized for EV capable spaces is 75 percent. Editorial note 25% minimum must be for LPL2 or EVSE

Notation:

Authority: Health & Safety Code Sections 18930.5 and 18941.10.

Reference(s): Health & Safety Code Sections 18930.5 and 18941.10.

ITEM 6

Chapter 5 SITE DEVELOPMENT, Section 5.106.5.4

5.106.5.4 Additions or Alterations to existing buildings or parking facilities [A]. [BSC-CG] Existing buildings or parking facilities being modified by one of the following, shall comply with Section 5.106.5.4.1 or 5.106.5.4.2. When EVSE is installed, accessible EVCS shall be provided in accordance with the California Building Code, Chapter 11B, Section 11B-228.3.

1. When the scope of construction work includes an increase in power supply to an electric service panel as part of a parking facility addition or alteration.
2. When a new photovoltaic system is installed covering existing parking spaces.
3. When additions or alterations to existing buildings are triggered pursuant to code Section 301.3 and the scope of work includes an increase in power supply to an electric service panel.

Exceptions:

1. On a case-by-case basis where the local enforcing agency has determined compliance with this section is not feasible based upon one of the following conditions:
 - a. Where there is no local utility power supply.
 - b. Where the local utility is unable to supply adequate power.
 - c. Where there is evidence suitable to the local enforcement agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the project.
 - d. Where demonstrated as impracticable excluding local utility service or utility infrastructure issues.
2. Remote parking facilities that do not have access to the building service panel.
3. Parking area lighting upgrades where no trenching is part of the scope of work.
4. Emergency repairs including but not limited to, water line break in parking facilities, natural disaster repairs, etc.

5.106.5.4.1 Existing buildings or parking areas without previously installed EV capable infrastructure [A]. When EV capable infrastructure does not exist at an existing parking facility or building, and the parking facility or building undergoes an addition or alteration listed in Section 5.106.5.4, construction shall include electric vehicle charging in compliance with either Section 5.106.5.3 and associated Table

5.106.5.3.1, or Section 5.106.5.3.6 and associated Table 5.106.5.3.6 for the total number of actual parking spaces being added or altered.

5.106.5.4.2 Existing buildings or parking areas with previously installed EV capable infrastructure [A]. When EV capable infrastructure is available at an existing parking facility or building, and the parking facility or building is undergoing an addition or alteration listed in Section 5.106.5.4, construction shall include electric vehicle charging in compliance with either Section 5.106.5.3 and associated Table 5.106.5.3.1, or Section 5.106.5.3.6 and associated Table 5.106.5.3.6 utilizing the existing EV capable allocated power and infrastructure for the total number of actual parking spaces being added or altered. If the area being added or altered exceeds the existing EV capable capacity, allocated power and infrastructure, provide additional EV charging as needed to comply with this section.

Authority: Health & Safety Code Sections 18930.5 and 18941.10.

Reference(s): Health & Safety Code Sections 18930.5 and 18941.10.

ITEM 7

Chapter 5 SITE DEVELOPMENT, Section 5.106.5.5

5.106.5.4-5 Electric vehicle (EV) charging: medium-duty and heavy-duty. [N] **[BSC-CG]** Construction shall comply with Section 5.106.5.4-5.1 to facilitate future installation of electric vehicle supply equipment (EVSE). Construction for warehouses, grocery stores, retail stores, office buildings, and manufacturing facilities with planned off-street loading spaces shall also comply with Section 5.106.5.4-5.1 for future installation of medium- and heavy-duty EVSE.

Exceptions:

1. On a case-by-case basis where the local enforcing agency has determined compliance with this section is not feasible based upon one of the following conditions:

- a. Where there is no local utility power supply.
- b. Where the local utility is unable to supply adequate power.
- c. Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the project.

When EVSE(s) is/are installed, it shall be in accordance with the *California Building Code*, the *California Electrical Code* and as follows:

5.106.5.4-5.1 Electric vehicle charging readiness requirements for warehouses, grocery stores and retail stores, office buildings, and manufacturing facilities with planned off-street loading spaces [N]

In order to avoid future demolition when adding EV supply and distribution equipment, spare raceway(s) or busway(s) and adequate capacity for transformer(s), service panel(s) or subpanel(s) shall be installed at the time of construction in accordance with the *California Electrical Code*. Construction plans and specifications shall include, but are not limited to, the following:

1. The transformer, main service equipment and subpanels shall meet the minimum power requirement in Table 5.106.5.4-5.1 to accommodate the dedicated branch circuits for the future installation of EVSE.
2. The construction documents shall indicate one or more location(s) convenient to the planned off-street loading space(s) reserved for medium- and heavy-duty ZEV charging cabinets and charging dispensers, and a pathway reserved for routing of conduit from the termination of the raceway(s) or busway(s) to the charging cabinet(s) and dispenser(s), as shown in Table 5.106.5.4-5.1.
3. Raceway(s) or busway(s) originating at a main service panel or a subpanel(s) serving the area where potential future medium- and heavy-duty EVSE will be located and shall terminate in close proximity to the potential future location of the charging equipment for medium- and heavy-duty vehicles.
4. The raceway(s) or busway(s) shall be of sufficient size to carry the minimum additional system load to the future location of the charging for medium- and heavy-duty ZEVs as shown in Table 5.106.5.4-5.1.

TABLE 5.106.5.4-5.1, RACEWAY CONDUIT AND PANEL POWER REQUIREMENTS FOR MEDIUM-AND-HEAVY-DUTY EVSE [N]

Building type	Building Size (sq. ft.)	Number of Off-street loading spaces	Additional capacity Required (kVa) for Raceway & Busway and Transformer & Panel
Grocery
Retail
Warehouse
<u>Manufacturing Facilities</u>	<u>10,000 to 50,000</u>	<u>1 or 2</u>	<u>200</u>
	<u>10,000 to 50,000</u>	<u>3 or Greater</u>	<u>400</u>
	<u>Greater than 50,000</u>	<u>1 or Greater</u>	<u>400</u>
<u>Office Buildings</u>	<u>10,000 to 135,000</u>	<u>1 or 2</u>	<u>200</u>
	<u>10,000 to 135,000</u>	<u>3 or Greater</u>	<u>400</u>
	<u>Greater than 135,000</u>	<u>1 or Greater</u>	<u>400</u>

Notation:

Authority: Health & Safety Code Sections 18930.5 and 18941.10.

Reference(s): Health & Safety Code Sections 18930.5 and 18941.10.

ITEM 8

Chapter 5-NONRESIDENTIAL MANDATORY MEASURES, DIVISION 5.4-MATERIAL CONSERVATION AND RESOURCE EFFICIENCY, SECTION 5.401 GENERAL

SECTION 5.401, GENERAL

5.401.1 Scope. The provisions of this chapter shall ~~outline means~~ specify the requirements of achieving material conservation, and resource efficiency, and greenhouse gas (GHG) emission reduction through protection of buildings from exterior moisture, construction waste diversion, employment of techniques to reduce pollution through recycling of materials, the installation of products with lower GHG emissions and building commissioning or testing and adjusting.

Notation:

Authority: Health and Safety Code Section 18930.5

Reference(s): Health and Safety Code Section 18930.5

ITEM 9

Section 5.402, DEFINITIONS

5.402 Definitions. The following terms are defined in Chapter 2.

ADJUST.

BALANCE.

BUILDING COMMISSIONING.

BUY CLEAN CALIFORNIA ACT (BCCA).

CRADLE-TO-GRAVE.

TYPE III ENVIRONMENTAL PRODUCT DECLARATION (EPD).

PRODUCT-SPECIFIC EPD.

FACTORY-SPECIFIC EPD.

INDUSTRY-WIDE EPD (IW-EPD).

ORGANIC WASTE.

REFERENCE BASELINE BUILDING.

TEST.

Notation:

Authority: Health and Safety Code Section 18930.5

Reference(s): Health and Safety Code Section 18930.5

ITEM 10

Section 5.408, CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

5.408.1 Construction waste management. Proposed code changes withdrawn.

Notation:

Authority: Health and Safety Code Section 18930.5

Reference(s): Health and Safety Code Section 18930.5

ITEM 11

Section 5.409, LIFE CYCLE ASSESSMENT (Reserved)

5.409.1 Scope. [BSC-CG] Effective July 1, 2024, projects consisting of newly constructed building(s) with a combined floor area of 100,000 square feet or greater shall comply with either Section 5.409.2, or Section 5.409.3. Alteration(s) to existing building(s) where the combined altered floor area is 100,000 square feet or greater shall comply with either 5.105.2, 5.409.2, or 5.409.3. Addition(s) to existing building(s) where the total floor area combined with the existing building(s) is 100,000 square feet or greater shall comply with either Section 5.105.2, Section 5.409.2, or Section 5.409.3. Effective January 1, 2026, the combined floor area 50,000 square feet or greater.

5.409.2 Whole building life cycle assessment. Projects shall conduct a cradle-to-grave whole building life cycle assessment performed in accordance with ISO 14040 and ISO 14044, excluding operating energy, and demonstrating a minimum 10 percent reduction in global warming potential (GWP) as compared to a reference baseline building of similar size, function, complexity, type of construction, material specification, and location that meets the requirements of the *California Energy Code* currently in effect. Software used to conduct the whole building life cycle assessment, including reference baseline building, shall have a data set compliant with ISO-14044, and ISO 21930 or EN 15804, and the software shall conform to ISO 21931 and/or EN 15978.

5.409.2.1 Building components. Building enclosure components included in the assessment shall be limited to glazing, insulation, and exterior finishes. Primary and secondary structural members included in the assessment shall be limited to footings and foundations, and structural columns, beams, walls, roofs, and floors.

5.409.2.2 Reference study period. The reference study period of the proposed building shall be equal to the reference baseline building and shall be 60 years.

5.409.2.3 Verification of compliance. A summary of the GWP analysis produced by the software shall be provided in the construction documents as documentation of compliance. A copy of the whole building life cycle assessment which includes the GWP analysis produced by the software, in addition to maintenance and training information, shall be included in the operation and maintenance manual and shall be provided to the owner at the close of construction.

Note: Software for calculating whole building life cycle assessment is available for free at Athena Sustainable Materials Institute (<https://calculateca.com/software/impact-estimator/>) and OneClick LCA - Planetary (www.oneclicklca.com/planetary). Paid versions include, but are not limited to, Sphera GaBi Solutions (gabi.sphera.com), SimaPro (simapro.com), OneClick LCA (www.oneclicklca.com) and Tally for Revit (apps.autodesk.com).

[Note 2 is withdrawn]

Notation:

Authority: Health and Safety Code Section 18928.1, 18930.5

Reference(s): Health and Safety Code Section 18928.1, 18930.5

ITEM 12

Chapter 5 NONRESIDENTIAL MANDATORY MEASURES, DIVISION 5.4- MATERIAL CONSERVATION AND RESOURCE EFFICIENCY, SECTION 5.409 LIFE CYCLE ASSESSMENT

5.409.3 Product GWP compliance – prescriptive path. [BSC-CG] Each product that is permanently installed and listed in Table 5.409.3 shall have a Type III environmental product declaration (EPD), either product-specific or factory-specific.

5.409.3.1 Products shall not exceed the maximum GWP value specified in Table 5.409.3.

Exception: Concrete may be considered one product category to meet compliance with this section. A weighted average of the maximum GWP for all concrete mixes installed in the project shall be less than the weighted average maximum GWP allowed per Table 5.409.3 using Exception Equation 5.409.3.1. Calculations shall be performed with consistent units of measurement for the material quantity and the GWP value. For the purposes of this exception, industry wide EPD's are acceptable.

Exception EQUATION 5.409.3.1

$$GWP_n < GWP_{allowed}$$

where

$$GWP_n = (\sum GWP_n)(v_n) \text{ and } GWP_{allowed} = (\sum GWP_{allowed})(v_n)$$

and

n = each concrete mix installed in the project

GWP_n = the GWP for concrete mix *n* per concrete mix EPD, in kg/m³

GWP_{allowed} = the GWP potential allowed for concrete mix *n* per Table 5.409.3

v_n = the volume of concrete mix *n* installed in the project, in kg³

5.409.3.2. Verification of compliance. Calculations to demonstrate compliance, and Type III EPDs for products required to comply, if included in the project, shall be provided on the construction documents. Updated EPDs for products used in construction shall be provided to the owner at the close of construction and to the enforcement entity upon request.

Note: The note is withdrawn.

TABLE 5.409.3
PRODUCT GWP LIMITS

<u>Buy Clean California Materials Product Category</u> ¹	<u>Maximum acceptable GWP value (unfabricated) (GWP allowed)</u>	<u>Unit of Measurement</u>
<u>Hot-rolled structural steel sections</u>	<u>1.77</u>	<u>MT CO_{2e}/MT</u>
<u>Hollow structural sections</u>	<u>3.00</u>	<u>MT CO_{2e}/MT</u>
<u>Steel plate</u>	<u>2.61</u>	<u>MT CO_{2e}/MT</u>
<u>Concrete reinforcing steel</u>	<u>1.56</u>	<u>MT CO_{2e}/MT</u>
<u>Flat glass</u>	<u>2.50</u>	<u>kg CO_{2e}/MT</u>
<u>Light-density mineral wool board insulation</u>	<u>5.83</u>	<u>kg CO_{2e}/1 m²</u>
<u>Heavy-density mineral wool board insulation</u>	<u>14.28</u>	<u>kg CO_{2e}/1 m²</u>

<u>Concrete, Ready Mixed</u> ^{2,3}		
<u>Concrete Product Category</u>	<u>Maximum GWP allowed value (GWP allowed)</u>	<u>Unit of Measurement</u>
<u>up to 2499 psi</u>	<u>450</u>	<u>kg CO_{2e}/m³</u>
<u>2500-3499 psi</u>	<u>489</u>	<u>kg CO_{2e}/m³</u>
<u>3500-4499 psi</u>	<u>566</u>	<u>kg CO_{2e}/m³</u>
<u>4500-5499 psi</u>	<u>661</u>	<u>kg CO_{2e}/m³</u>
<u>5500-6499 psi</u>	<u>701</u>	<u>kg CO_{2e}/m³</u>
<u>6500 psi and greater</u>	<u>799</u>	<u>kg CO_{2e}/m³</u>

<u>Concrete, Lightweight Ready Mixed ²</u>		
<u>Concrete Product Category</u>	<u>Maximum GWP allowed value (GWP allowed)</u>	<u>Unit of Measurement</u>
up to 2499 psi	875	kg CO _{2e} /m ³
2500-3499 psi	956	kg CO _{2e} /m ³
3500-4499 psi	1,039	kg CO _{2e} /m ³

Footnotes:

1. The GWP values of the products listed in Table 5.409.3 are based on 175 percent of Buy Clean California Act (BCCA) GWP values, except for concrete products which are not included in BCCA.
2. For concrete, 175 percent of the National Ready Mix Concrete Association (NRMCA) 2021 version 3 Pacific Southwest regional benchmark values are used for the GWP allowed, except for High Early strength.
3. Concrete High Early Strength ready-mixed shall be calculated at 130 percent of the Ready mixed concrete GWP allowed values for each product category.

Notation:

Authority: Health and Safety Code Section 18930.5

Reference(s): Health and Safety Code Section 18930.5

ITEM 13

Chapter 5, DIVISION 5.4-MATERIAL CONSERVATION AND RESOURCE EFFICIENCY, Section 5.410 BUILDING MAINTANANCE AND OPERATION

5.410.1 Recycling by applicants. Provide readily accessible...restrictive.

...

5.410.2 Commissioning. [N] New buildings 10,000 square feet and over. For new buildings... Sections 5.410.2 through 5.410.2.6 shall apply.

Note: For energy-related systems ...

Commissioning requirements shall include:

1. Owner's or owner ...
2. Basis of design.
3. Commissioning ...
4. Commissioning ...
5. Functional ...
6. Documentation ...
7. Commissioning ...

Exceptions:

1. Unconditioned ...
2. Areas less than 10,000 ...
3. Tenant improvements ...
4. Open parking garages...

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

Informational Notes:

- ~~1. 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. AC 476 does not certify individuals to conduct functional performance tests or to adjust and balance systems.~~
2. 1 Functional performance testing for heating, ventilation, air conditioning systems and lighting controls must be performed in compliance with the *California Energy Code*.

Notation:

Authority: Health & Safety Code Section: 18930.5

Reference(s): Health & Safety Code Section 18930.5

ITEM 14

Chapter 6 REFERENCED ORGANIZATIONS AND STANDARDS

**SECTION 601
GENERAL**

601.1 This chapter lists the organizations and standards that are referenced in various sections of this document. The standards are listed ~~herein by~~ according to the promulgating agency of the standard.

[Entire table not shown, just new reference standards]

ORGANIZATION	STANDARD	REFERENCED SECTION
.....		
ACI AMERICAN CONCRETE INSTITUTE		
American Concrete Institute	<u>ACI CT-21</u>	<u>A5.405.5.2.1.1</u>
ASTM ASTM International		
	<u>ASTM C31/C31M-19</u>	<u>A5.405.5.3.4</u>
	<u>ASTM C1798/C1798M-19</u>	<u>A5.405.5.3.5</u>
	<u>ASTM C1866/C1866M-20</u>	<u>A5.405.5.2</u>
	<u>ASTM D7612-2021</u>	<u>A5.405.2.1</u>
EN EUROPEAN STANDARDS		
European and International standards online store - European Standards (en-standard.eu)	<u>EN 15804-2012 + A2:2019</u>	<u>5.409.2, A5.409.2.1, A5.409.2.2</u>
	<u>EN 15978:2011</u>	<u>5.409.2, A5.409.2.1, A5.409.2.2</u>
...		
ISO International Organization for Standardization		
<u>ISO Central Secretariat Chemin de Blandonnet 8 CP 401 - 1214 Vernier, Geneva, Switzerland https://www.iso.org</u>	<u>ISO 14040-2006+A1:2020</u>	<u>5.409.2, A5.409.2.1, A5.409.2.2</u>
	<u>ISO 14044:2006+A1:2020</u>	<u>5.409.2, A5.409.2.1, A5.409.2.2</u>
	<u>ISO 21930-2017</u>	<u>5.409.2, A5.409.2.1, A5.409.2.2</u>
	<u>ISO 21931-2017</u>	<u>5.409.2, A5.409.2.1, A5.409.2.2</u>

Notation:

Authority: Health and Safety Code Section 18928.1, 18930.5

Reference(s): Health and Safety Code Section 18928.1, 18930.5

ITEM 15

Chapter 8 COMPLIANCE FORMS, WORKSHEETS AND REFERENCE MATERIAL

WORKSHEET (WS-3)
BUILDING REUSE

DOCUMENTATION OF COMPLIANCE OF EXISTING BUILDING REUSE

Area of Existing Building(s) _____ SF

Area of Aggregate Addition(s) (if applicable) _____ SF

	<u>Existing Total Area (A)</u>	<u>Retained Total Area (B)</u>	<u>% of Retained Structure (B)/(A)</u>
<u>Primary Structural Elements of Existing Building(s)</u> (foundations; columns, beams, walls, and floors; and lateral elements)	_____ SF	_____ SF	_____ %
<u>Building Enclosure of Existing Building(s)</u> (roof framing, wall framing and exterior finishes only)	_____ SF	_____ SF	_____ %

Total % Reuse of Required Elements = ≥45% _____ %

WORKSHEET (WS-4) and WORKSHEET (WS-5) are withdrawn from the original express terms, and WS-6 renumbered to WS-4.

WORKSHEET (WS-4)

**DOCUMENTATION OF COMPLIANCE OF EXISTING BUILDING REUSE
TIER 1 AND TIER 2**

Area of Existing Building _____ **SF**

	<u>Existing Total Area (A)</u>	<u>Retained Total Area (B)</u>	<u>% of Retained Structure (B)/(A)</u>
<u>Primary Structural Elements of Existing Building</u> (foundations; <u>columns, beams, walls, and floors; and lateral elements</u>)	_____ SF	_____ SF	_____ %
<u>Building Enclosure of Existing Building</u> (roof framing, wall <u>framing and exterior finishes only</u>)	_____ SF	_____ SF	_____ %
<u>Interior Nonstructural Elements</u> (interior walls, <u>doors, floor coverings, ceiling systems applicable for voluntary Tier 2 compliance</u>)	_____ SF	_____ SF	_____ %

Total % Reuse of Required Elements _____ **%**

WORKSHEET (WS-7) Withdrawn

Notation:

Authority: Health and Safety Code Section 18930.5

Reference(s): Health and Safety Code Section 18930.5

ITEM 16

Appendix A5 - NONRESIDENTIAL VOLUNTARY MEASURES, DIVISION A5.1 – PLANNING AND DESIGN

SECTION A5.105, DECONSTRUCTION AND REUSE OF EXISTING STRUCTURES

~~A5.105.1 If feasible, disassemble existing buildings instead of demolishing to allow reuse or recycling of building materials.~~

~~**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.~~

~~**Exceptions:**~~

- ~~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.~~

~~**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).~~

~~**Exception:** A project with an addition of more than two times the square footage of the existing building.~~

~~**A5.105.1.3 Salvage.** Salvage additional items in good condition such as light fixtures, plumbing fixtures and doors as follows. Document the weight or number of the items salvaged.~~

- ~~1. Salvage for reuse on the project items that conform to other provisions of Title 24 in an on-site storage area.~~
- ~~2. Nonconforming items may be salvaged in dedicated collection bins for exempt projects or other uses.~~

~~**A5.105.1 Scope.** Projects with the area limits specified shall comply with Section A5.105.2 to achieve Tier 1 or Tier 2 compliance.~~

- ~~1. Alteration(s) to existing building(s) where the combined altered floor area is 50,000 square feet or greater shall comply with either Section A5.105.2, Section A5.409.2, or Section A5.409.3.~~
- ~~2. Addition(s) to existing building(s) where the total floor area combined with the existing building(s) is 50,000 square feet or greater shall comply with either Section A5.105.2, Section A5.409.2, or Section A5.409.3~~

~~**Exception:** Combined addition(s) to existing building(s) of two times the area or more of the existing building(s) is not eligible to meet compliance with Section A5.105.2.~~

- ~~3. Alteration(s) to existing building(s) where the aggregate floor area is less than 50,000 square feet shall comply with either Section 5.105.2, Section 5.409.2 or~~

Section 5.409.3 for Tier 1 compliance, and either Section A5.105.2.1, Section A5.409.2.1, or A5.409.3 Tier 1 requirements for Tier 2 compliance.

4. Addition(s) to an existing building where the total floor area combined with the existing building(s) is less than 50,000 square feet shall comply with either Section 5.105.2, Section 5.409.2 or Section 5.409.3 for Tier 1 compliance, and either Section A5.105.2.1, Section A5.409.2.1, or A5.409.3 Tier 1 requirements for Tier 2 compliance.

Exception: Combined addition(s) to existing building(s) of two times the area or more of the existing building(s) is not eligible to meet compliance with Section 5.105.2 or Section A5.105.2.

A5.105.2 Reuse of existing building. Projects that include the reuse of an existing building shall meet the minimum requirements of Section A5.105.2.

A5.105.2.1 Tier 1: An alteration or addition to an existing building shall maintain at least 75 percent combined of the existing building's primary structural elements (foundations; columns, beams, walls, and floors; and lateral elements) and existing building enclosure (roof framing, wall framing and exterior finishes). Window assemblies, insulation, portions of buildings deemed structurally unsound or hazardous, and hazardous materials that are remediated as part of the project shall not be included in the calculation.

A5.105.2.2 Tier 2: An alteration or addition to an existing building shall maintain at least 75 percent combined of the existing building's primary structural elements (foundations; columns, beams, walls, and floors; and lateral elements) and existing building enclosure (roof framing, wall framing and exterior finishes). In addition, an alteration to an existing building shall maintain 30% of existing interior nonstructural elements (interior walls, doors, floor coverings, ceiling systems). Window assemblies, insulation, portions of buildings deemed structurally unsound or hazardous, and hazardous materials that are remediated as part of the project shall not be included in the calculation.

A5.105.2.3 Verification of compliance. Documentation shall be provided in the construction documents to demonstrate compliance with Section A5.105.2.

Note: Sample Worksheet WS-4 in Chapter 8 may be used to assist in documenting compliance with this section.

A5.105.3 Deconstruction (reserved)

Notation:

Authority: Health and Safety Code Section 18930.5

Reference(s): Health and Safety Code Section 18930.5, 18941.5

ITEM 17

Chapter A5, DIVISION A5.106 PLANNING AND DESIGN, Section A5.106 SITE DEVELOPMENT

A5.106.5.1 Designated parking for clean air vehicles. In new projects or additions or alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of zero-emitting, ~~fuel-efficient~~ high efficient and carpool/vanpool vehicles as listed in code Sections A5.106.5.1.1 or A5.106.5.1.2.

A5.106.5.1.1 Tier 1. Provide 35 percent designated parking spaces of the total number of parking spaces, for any combination of zero-emitting, ~~fuel-efficient~~ high efficient and carpool/vanpool vehicles. Calculation for spaces shall be rounded up to the nearest whole number.

Note: Designated parking for clean air vehicles shall count toward the total parking spaces required by the local enforcing agencies.

A5.106.5.1.2 Tier 2. Provide 50 percent designated parking spaces of the total number of parking spaces, for any combination of zero-emitting, ~~fuel-efficient~~ high efficient and carpool/van pool vehicles. Calculation for spaces shall be rounded up to the nearest whole number.

Note: Designated parking for clean air vehicles shall count toward the total parking spaces required by the local enforcing agencies.

A5.106.5.1.3 Future charging spaces. Future EV charging spaces qualify as designated parking as described in Section A5.106.5.1 Designated parking for clean air vehicles.

Note: Future EV charging spaces shall count toward the total parking spaces required by the local enforcing agencies.

~~A5.106.5.1.3~~ A5.106.5.1.4 parking stall markings. Paint, in the paint used for stall stripping...parked vehicle.

CLEAN AIR/ VANPOOL/EV

Note: Vehicles bearing ...designated parking spaces.

A5.106.5.1.4 5 Vehicle designations. Building managers may...parking stickers.

Notes:

1. Information on...following sources:

- a. California Drive Clean.
- b. California Air...Board
- c. US EPA...standards.
- d. DMV Registration Operations.

2. Purchasing policy...General Services

...

Authority: Health & Safety Code Sections 18930.5 and 18941.10.

Reference(s): Health & Safety Code Sections 18930.5 and 18941.10.

ITEM 18

Chapter A5, DIVISION A5.106 PLANNING AND DESIGN, Section A5.106 SITE DEVELOPMENT

A5.106.5.3 Electric vehicle (EV) charging. [N] Construction shall comply with Section A5.106.5.3.1 Tier 1 or A5.106.5.3.2 ~~3~~ Tier 2, and in accordance with regulations in the *California Building Code* and the *California Electrical Code*.

A5.106.5.3.1 Tier 1. ~~Comply with Section 5.106.5.3.1 EV capable spaces, Section 5.106.5.3.2 Electric vehicle charging stations and associated Table A5.106.5.3.1 Tier 1, or comply with Section A5.106.5.3.2 Electric vehicle charging stations (EVCS)-Power allocation method and associated Table A5.106.5.3.2 Tier 1. Table A5.106.5.3.1 shall be used to determine the number of EV capable spaces required. Refer to Section 5.106.5.3 for design space requirements.~~

~~When EV capable spaces are provided with EVSE to create EVCS per Table A5.106.5.3.1, r~~ Refer to Section 5.106.5.3.2 for the ~~allowed~~ permitted use of Level 2 or Direct Current Fast Charger (DCFC) to create EVCS. Refer to Section 5.106.3.2.1 for the allowed use of DCFC to comply with both EV capable spaces and Level 2 EVSE. and Refer to Section 5.106.5.3.3 for the allowed use of Automatic Load Management System (ALMS).

TABLE A5.106.5.3.1 Tier 1

TOTAL NUMBER OF ACTUAL PARKING SPACES	TIER 1 NUMBER OF REQUIRED EV CAPABLE SPACES	TIER 1 NUMBER OF EVCS (EV CAPABLE SPACES PROVIDED WITH EVSE) ^{2,3}
0-9	2	0
10-25	5	2
26-50	11	4
51-75	19	6
76-100	26	9
101-150	38	13
151-200	53	18
201 and over	30 percent of actual total parking spaces ¹	33 percent of EV capable spaces ¹

1. Calculation for spaces shall be rounded up to the nearest whole number.
2. The number of required EVCS (EV capable spaces provided with EVSE) in column 3 count toward the total number of required EV capable spaces shown in column 2.
3. **At least one Level 2 EVSE shall be provided.**

A5.106.5.3.2 Electric vehicle charging stations (EVCS)-Power allocation method. The Power allocation method may be used as an alternative to the requirements in Section 5.106.5.3.2 and associated Table A5.106.5.3.1 Tier 1. Use Table A5.106.5.3.2 Tier 1 to determine the total power in kVA required based on the total number of actual parking spaces.

Power allocation method to create EVCS shall include the following:

1. Use any kVA combination of EV capable spaces, Low Power Level 2, Level 2 or DCFC EVSEs.
2. At least one Level 2 EVSE shall be provided.
3. EV capable spaces shall meet the requirements of Section 5.106.5.3.1 EV capable spaces.

TABLE A5.106.5.3.2 Tier 1

<u>TOTAL NUMBER OF ACTUAL PARKING SPACES</u>	<u>MINIMUM TOTAL kVA @ 6.6 kVA</u>	<u>TOTAL kVA REQUIRED IN ANY COMBINATION OF EV CAPABLE³, LOW POWER LEVEL 2 LEVEL 2^{1, 2}, OR DCFC</u>
<u>0-9</u>	<u>13.2</u>	<u>13.2</u>
<u>10-25</u>	<u>33</u>	<u>33</u>
<u>26-50</u>	<u>72.6</u>	<u>72.6</u>
<u>51-75</u>	<u>125.4</u>	<u>125.4</u>
<u>76-100</u>	<u>171.6</u>	<u>171.6</u>
<u>101-150</u>	<u>250.8</u>	<u>250.8</u>
<u>151-200</u>	<u>349.8</u>	<u>349.8</u>
<u>201 and over</u>	<u>30 percent of actual parking spaces x 6.6</u>	<u>Total required kVA = P x .30 x 6.6 Where P=Parking spaces in facility</u>

1. Level 2 EVSE @ 6.6 kVA minimum.
2. At least one Level 2 EVSE shall be provided.
3. Maximum allowed kVA to be utilized for EV capable spaces is 67 percent.

A5.106.5.3.2 3Tier 2. Comply with Section 5.106.5.3.1 EV capable spaces, Section 5.106.5.3.2 Electric vehicle charging stations and associated Table A5.106.5.3.3 Tier 2, or Section A5.106.5.3.4 Electric vehicle charging stations (EVCS)-Power allocation method and associated Table A5.106.5.3.4 Tier 2. Table A5.106.5.3.2 shall be used to determine the number of EV capable spaces required. Refer to Section 5.106.5.3 for design requirements.

When EV capable spaces are provided with EVSE to create EVCS per Table A5.106.5.3.2, refer to Section 5.106.5.3.2 for the allowed permitted use of Level 2 or Direct Current Fast Charger (DCFC) to create EVCS. Refer to Section 5.106.3.2.1 for the allowed use of DCFC to comply with both EV capable spaces and Level 2 EVSE. and Refer to Section 5.106.5.3.3 for the allowed use of Automatic Load Management System (ALMS).

TABLE A5.106.5.3.2-3 Tier 2

TOTAL NUMBER OF ACTUAL PARKING SPACES	TIER 2 NUMBER OF REQUIRED EV CAPABLE SPACES	TIER 2 NUMBER OF EVCS (EV CAPABLE SPACES PROVIDED WITH EVSE) ^{2,3}
0-9	3	0
10-25	8	3
26-50	17	6
51-75	28	9
76-100	40	13
101-150	57	19
151-200	79	26
201 and over	45 percent of total <u>actual</u> parking spaces ¹	33 percent of EV capable spaces ¹

1. Calculation for spaces shall be rounded up to the nearest whole number.
2. The number of required EVCS (EV capable spaces provided with EVSE) in column 3 count toward the total number of required EV capable spaces shown in column 2.
3. At least one Level 2 EVSE shall be provided.

A5.106.5.3.4 Electric vehicle charging stations (EVCS)-Power allocation method.

The Power allocation method may be used as an alternative to the requirements in Section 5.106.5.3.2 and associated Table A5.106.5.3.3 Tier 2. Use Table A5.106.5.3.4 Tier 2 to determine the total power in kVA required based on the total number of actual parking spaces.

Power allocation method to create EVCS shall include the following:

1. Use any kVA combination of EV capable spaces, Low Power Level 2, Level 2 or DCFC EVSEs.
2. At least one Level 2 EVSE shall be provided.
3. EV capable spaces shall meet the requirements of Section 5.106.5.3.1 EV capable spaces.

TABLE A5.106.5.3.4 Tier 2

<u>TOTAL NUMBER OF ACTUAL PARKING SPACES</u>	<u>MINIMUM TOTAL KVA @ 6.6 kVA</u>	<u>TOTAL KVA REQUIRED IN ANY COMBINATION OF EV CAPABLE³, LOW POWER LEVEL 2, LEVEL 2^{1,2}, OR DCFC</u>
<u>0-9</u>	<u>28.8</u>	<u>28.8</u>
<u>10-25</u>	<u>76.8</u>	<u>76.8</u>
<u>26-50</u>	<u>163.2</u>	<u>163.2</u>
<u>51-75</u>	<u>268.8</u>	<u>268.8</u>
<u>76-100</u>	<u>384</u>	<u>384</u>
<u>101-150</u>	<u>547.2</u>	<u>547.2</u>
<u>151-200</u>	<u>758.4</u>	<u>758.4</u>
<u>201 and over</u>	<u>45 percent of actual parking spaces x 6.6</u>	<u>Total required kVA = P x .45 x P x 6.6 Where P=Parking spaces in facility</u>

1. Level 2 EVSE @ 6.6 kVA minimum.
2. At least one Level 2 EVSE shall be provided.
3. Maximum allowed kVA to be utilized for EV capable spaces is 67 percent.

Notation:

Authority: Health & Safety Code Sections 18930.5 and 18941.10.

Reference(s): Health & Safety Code Sections 18930.5 and 18941.10.

ITEM 19

Chapter A5, DIVISION A5.106 PLANNING AND DESIGN, Section A5.106 SITE DEVELOPMENT

Section A5.106.11 Reduction of Heat island effect. Reduce nonroof heat island by requiring Section A5.106.11.1 Hardscape alternatives, and roof heat islands by in Section A5.106.11.2 Cool roofs, or Section A5.106.11.3 Shade trees.

A5.106.11.1 Hardscape alternatives. Use one or a combination of strategies 1 and 2 for 50 percent of site hardscape or put 50 percent of parking underground.

1. Use light colored materials with an initial solar reflectance value of at least 30 as determined in accordance with American Society for Testing and Materials (ASTM) Standards E1918 or C1549.
2. Use open-grid pavement system or pervious or permeable pavement

system.

A5.106.11.2 Cool roof for reduction of heat island effect. Use roofing materials having a minimum aged solar reflectance and thermal emittance complying with Sections A5.106.11.2.1 and A5.106.11.2.2 or a minimum aged Solar Reflectance Index (SRI) complying with Section A5.106.11.2.3 and as shown in Table A5.106.11.2.2 for Tier 1 or Table A5.106.11.2.3 for Tier 2.

Exceptions: *[No changes to exceptions or note]*

...

A5.106.11.3 2.4 Verification of compliance. If no documentation is available, an inspection shall be conducted to ensure roofing materials meet cool roof aged solar reflectance and thermal emittance or SRI values.

A5.106.11.3 Shade trees. [BSC-CG] In the absence of a local shade tree ordinance, comply with mandatory Section 5.106.12 Shade trees.

Notation:

Authority: Health and Safety Code Section 18930.5

Reference(s): Health and Safety Code Section 18930.5, 18941.5

ITEM 20

Chapter A5, DIVISION A5.106 PLANNING AND DESIGN, Sections A5.102 DEFINITIONS and A5.107 BIRD-FRIENDLY BUILDING DESIGN

SECTION A5.102

DEFINITIONS

A5.102.1 Definitions. (The following terms are defined in Chapter 2)

2 X 2 RULE

ADHESIVE MARKER

FILM

GLASS, ACID ETCHED

GLASS, FRITTED

GLASS SURFACE

MATURE TREE CANOPY

ULTRAVIOLET (UV)

VISUAL MARKER

SECTION A5.107

BIRD-FRIENDLY BUILDING DESIGN

A5.107 Bird-friendly building design. A newly constructed building, or an alteration of an existing building that includes the addition or replacement of 50 percent or more of the exterior glazing shall comply with the bird-friendly building design elements and features in Sections A5.107.1 through A5.107.3 the California Energy Code, and the fire hazard severity zone regulations in Chapter 7A of the California Building Code.

Exception: Alteration to the glazing in historical buildings per the California Historical Building Code.

A5.107.1 Required elevation treatment. Building elevation treatment shall incorporate bird-friendly mitigation strategies. No less than 90 percent of a building elevation, measured from grade to a height of 40 feet (12 m) above grade, or from grade to the height of an adjacent mature tree canopy (whichever is greater), shall incorporate bird-friendly mitigation strategies. No less than 60 percent of building elevation, 40 feet (12 m) above grade to the top of the building elevation, shall incorporate bird-friendly mitigation strategies.

Strategies to minimize the risk of birds colliding with buildings:

1. Glazing

Glazing with visual markers shall include, but is not limited to, the following:

- a. Etched or fritted glass with patterns of elements on the exterior having minimum dimensions of 1/4" (.64 cm) diameter for dots or 1/8" (.32 cm) width for stripes in a density of 2 inches (5.1 cm) maximum horizontally and vertically (the "2 X 2 Rule").

Note: If the visual markers are on glass surface 2, they can be effective if visible behind an exterior surface with reflectivity of 15% or less.

- b. Interior or exterior glazing film with 2 X 2 visual markers.
- c. Laminated glass with 2 X 2 visual markers, patterned Ultraviolet (UV) coating or use of contrasting patterned UV-absorbing and UV-reflecting films.

Note: Low-e coatings shall be behind the visual markers

- d. Glass block or channel glass.
- e. Developed glazing technologies, documented to reduce bird strikes, as tested by an independent third party and approved by the authority having jurisdiction; or

2. Slats, Screens, Netting, Louvers

Glazing protected by exterior features that create a visible barrier in front of the glazing, may include, but not be limited to:

- a. Horizontal or vertical slats of 1/8" (.32 cm) minimum face width with minimum 2" (5.1 cm) spacing that obscure 85% or more of glass when viewed from all feasible angles.
- b. Grilles, screens or 1/8" (.32 cm) dia. welded wire mesh with openings no more than 2" (5.1 cm) maximum horizontally and vertically installed parallel to and no more than 3 ¼ ft. (1 m) from the first surface of glass (glass surface 1).
- c. Netting with 1" (2.5 cm) maximum openings, installed taut at least 6" (15 cm) away from the first surface of glass; or
- d. Sunshades or louvers 9" (22.5 cm) deep vertically spaced a maximum 9" (22.5 cm) or 6" (15 cm) deep horizontally at maximum 6" (15 cm) spacing and parallel or angled to the glass surfaces.

A5.107.2 Special conditions. The following special conditions shall comply with the provisions in Section A5.107.1 (as appropriate)

1. Glass facades adjacent to vegetated roof.
2. Glass railings and guardrails.
3. Transparent corners that extend 5.5 feet (1.68 m) on either side of a building.
4. Glass passageways less than 5.5 feet (1.68 m) wide.
5. Auxiliary glass building such as a glass pavilion or atria exposed to the sky.
6. Auxiliary glass building such as a glass pavilion or atria exposed to a courtyard with a water feature or plants.
7. Stained glass windows insulated on the exterior with clear glazing.

A5.107.3 Nighttime conditions. Nighttime lighting at the top of the building, and in the interiors of all areas visible through exterior glazing, including lobby and atria, shall be controlled with time-switch control devices or occupancy sensors complying with the current *California Energy Code*. The control device shall be programmed so the lights are extinguished from 2 am to dawn.

Exception: Emergency lighting, lighting required for nighttime security and aeronautical beacon lighting required by the Federal Aviation Administration.

A5.107.3.1 Systems or operation and maintenance manual. Include written recommendations that lighting is extinguished pursuant to Section A5.107.3 and janitorial services to the building are scheduled between sunrise and sunset.

Notation:

Authority: Health & Safety Code Section: 18930.5

Reference(s): Health & Safety Code Section 18930.5

ITEM 21

Appendix A5 - NONRESIDENTIAL VOLUNTARY MEASURES, DIVISION A5.4 – MATERIAL CONSERVATION AND RESOURCE EFFICIENCY, SECTIONS A5.401 GENERAL, A5.402 DEFINITIONS, A5.405 MATERIAL SOURCES and A5.406 LIFE CYCLE ASSESSMENT

SECTION A5.401, GENERAL

A5.401.1 Scope. The provisions of this chapter specify the requirements shall outline means of achieving enhanced compliance with material conservation, and resource efficiency, and greenhouse gas (GHG) emissions reduction through reuse of existing building stock and materials; use of recycled, regional, rapidly renewable, and certified wood materials; and employment of techniques to reduce pollution through recycling of materials.

Notation:

Authority: Health and Safety Code Section 18928.1, 18930.5

Reference(s): Health and Safety Code Section 18928.1, 18930.5, 18941.5

ITEM 22

Section A5.402, DEFINITIONS

A5.402.1 Definitions. The following terms are defined in Chapter 2.

BUILDING COMMISSIONING

BUY CLEAN CALIFORNIA ACT (BCCA).

CRADLE-TO-GRAVE.

EMBODIED ENERGY

TYPE III ENVIRONMENTAL PRODUCT DECLARATION (EPD).

PRODUCT-SPECIFIC EPD.

FACTORY-SPECIFIC EPD.

INDUSTRY-WIDE EPD (IW-EPD).

EUTROPHICATION

LIFE CYCLE ASSESSMENT (LCA)

LIFE CYCLE INVENTORY (LCI)

OVE.

POST CONSUMER CONTENT

PRECONSUMER (or POSTINDUSTRIAL) CONTENT.

RECYCLED CONTENT.

RECYCLED CONTENT VALUE (RCV).

REFERENCE BASELINE BUILDING.

[No change to Sections A5.403 and A5.404]

Notation:

Authority: Health and Safety Code Section 18930.5

Reference(s): Health and Safety Code Section 18930.5, 18941.5

ITEM 23

Section A5.405, MATERIAL SOURCES

[No change to Sections A5.405.1 through A5.405.2]

A5.405.2.1 Reserved. Certified Wood Components - Sustainability

Standards. Provide wood products, for at least 50 percent of the project permanently installed products, that have been certified by independent third parties and labeled as having been produced in compliance with the accepted principles of sustainable forest management. The use of recycled and/or recovered wood products do not need to be certified. Comply with one or more of the following certifications of wood sustainability:

1. Sustainable Forestry Initiative (SFI).
2. Forest Stewardship Council (FSC)
3. Program for the Endorsement of Forest Certification (PEFC).
4. American Forest Foundation's American Tree Farm System® (ATFS).
5. Canadian Standards Association's Sustainable Forest Management System Standards (CSA Z809).
6. Manufacturer's fiber procurement system that has been audited by an approved agency as compliant with the provisions of ASTM D7612 as a responsible or certified source.

Notation:

Authority: Health & Safety Code Section: 18930.5

Reference(s): Health & Safety Code Section 18930.5

ITEM 24

Section A5.405, MATERIAL SOURCES

[No change to Sections A5.405.1 through A5.405.4]

A5.405.5 Cement and concrete. ~~Use~~ Cement and concrete made with recycled products ~~and complying with the following sections~~ shall comply with A5.405.

A5.405.5.1 Cement. Cement shall comply with one of the following standards:

1. Portland cement shall meet ASTM C150, Standard Specification for Portland Cement.
2. Blended cement shall meet ASTM C595, Standard Specification for Blended Hydraulic Cement or ASTM C1157, Standard Performance Specification for Hydraulic Cement.

- Other Hydraulic Cements shall meet ASTM C1157, Standard Performance Specification for Hydraulic Cement.

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.~~ Use concrete manufactured with cementitious materials in accordance with Section A5.405.2, as approved by the Engineer of Record.

A5.405.5.2.1 Supplementary cementitious materials (SCM). Use concrete made with one or more supplementary cementitious materials (SCM) conforming to the following standards:

- Fly ash conforming to ASTM C618, Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
- Slag cement (GGBFS) conforming to ASTM C989, Specification for Use in Concrete and Mortars.
- Silica fume conforming to ASTM C1240, Specification for Silica Fume Used in Cementitious Mixtures.
- Natural pozzolan conforming to ASTM C618, Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
- Blended supplementary cementitious materials conforming to ASTM C1697, Standard Specification for Blended Supplementary Cementitious Materials. The amount of each SCM in the blend will be used separately in calculating Equation A5.4-1. If Class C fly ash₁ is if used in the blend, it will be considered to be “SL” SL for the purposes of satisfying the equation.
- Ultra-fine fly ash (UFFA) conforming to ASTM C618, *Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete* and the following chemical and physical requirements:

Chemical Requirements	Percent
Sulfur Trioxide (SO ₃)	1.5 max.
Loss on ignition	1.2 max.
Available Alkalines (as Na ₂ O) equivalent	1.5 max.
Physical Requirements	Percent
Particle size distribution	
Less than 3.5 microns	50
Less than 9.0 microns	90
Strength Activity Index with portland cement	
7 days	95 (minimum % of control)
28 days	110 (minimum % of control)
Expansion at 16 days when testing job materials in conformance with ASTM C1567*	0.10 max.

* In the test mix, cement shall be replaced with at least 12% UFFA by weight.

- Metakaolin conforming to ASTM C618, *Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete*,

the following chemical and physical requirements:

Chemical Requirements	Percent
Silicon Dioxide (SiO ₂) + Aluminum Oxide (Al ₂ O ₃)	92.0 min.
Calcium Oxide (CaO)	1.0 max.
Sulfur Trioxide (SO ₃)	1.0 max.
Loss on ignition	1.2 max.
Available Alkalies (as Na ₂ O) equivalent	1.0 max.
Physical Requirements	Percent
Particle size distribution Less than 45 microns	95
Strength Activity Index with portland cement	
7 days	100 (minimum % of control)
28 days	100 (minimum % of control)

8. Ground-Glass Pozzolan per ASTM C1866/C1866M.

9.8. Other materials with comparable or superior environmental benefits, as approved by the Engineer of Record and enforcing authority.

A5.405.5.2.1.1 Mix design equation. Use any combination of one or more SCM, satisfying Equation A5.4-14. When ASTM C595 or ASTM C1157 cement is used, the amount of SCM in these cements shall be used in calculating Equation A5.4-14.

Exception: Minimums in mix designs approved by the Engineer of Record may be lower where high early strength is needed for concrete products or to meet an accelerated project schedule. High early strength shall be defined as outlined in ACI CT.

$F/25 + SL/50 + UF/12 \geq 1$ (**Equation A5.4-14**) where:

F = Fly ash, natural pozzolan or other approved SCM, or blended SCM, as a percent of total cementitious material for concrete on the project.

SL = GGBFS, as a percent of total cementitious material for concrete on the project.

UF = Silica fume, metakaolin or UFFA, as a percent of total cementitious material for concrete on the project.

~~**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.~~

~~**A5.405.5.3.1 Cement.** The following measures shall be permitted to be used in the manufacture of cement.~~

~~**A5.405.5.3.1.1 Alternative fuels.** The use of alternative fuels where permitted by state or local air quality standards.~~

~~**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.~~

A5.405.5.3.2 Concrete manufacture. The following measures shall be permitted to be used in the manufacture of concrete, as approved by the Engineer of Record.

~~**A5.405.5.3.2.1 Alternative energy.** Renewable or alternative energy meeting the requirements of Section A5.211.~~

A5.405.5.3.2.2 .1 Recycled aggregates. Concrete made with one or more of the following materials:

1. Blast furnace slag as a lightweight aggregate in unreinforced concrete.
2. Recycled concrete aggregate (RCA) or crushed concrete aggregate (CCA) that meets grading requirements of ASTM C33, Standard Specification for Concrete Aggregates.
 - a. Recycled concrete aggregate (RCA) – created from existing concrete structures, including building foundations, parking areas, and sidewalks. It has been processed to create a recycled concrete aggregate, usable in many applications.
 - b. Crushed concrete aggregate (CCA) – created by taking concrete that was batched but not used in initial construction and is returned in the mixer truck to the concrete batch plant. As a recent mix and unplaced it is a clean product with known properties.
3. Other materials with comparable or superior environmental benefits, ~~as approved by the engineer and enforcing authority.~~

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 C1602, Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete.

A5.405.5.3.2.4 .3 High strength concrete. Concrete elements designed to reduce their total size compared to standard 3,000 psi concrete, thereby reducing the total volume of cement, aggregate and water used on the project, ~~as approved by the Engineer of Record.~~

A5.405.5.3.4 Later Ages of Maturity – An increase in the age of maturity of testing for determining compressive strength for acceptance of concrete from the current 28 days to 42 or 56 days, in compliance with ASTM C31/C31M.

A5.405.5.3.5 Returned Fresh Concrete – The use of returned fresh concrete in compliance with ASTM C1798/C1798M or Caltrans Section 90-9.

. . . [No change to Sections A5.406 and A5.408]

Notation:

Authority: Health and Safety Code Section 18928.1, 18930.5,

Reference(s): Health and Safety Code Section 18928.1, 18930.5, 18941.5

ITEM 25

**Appendix A5 NONRESIDENTIAL VOLUNTARY MEASURES, DIVISION A5.4-
MATERIAL CONSERVATION AND RESOURCE EFFICIENCY, SECTION A5.409,
LIFE CYCLE ASSESSMENT**

~~**A5.409.1 General.** Life cycle assessment shall be ISO 14044 compliant. The service life of the building and materials assemblies shall not be less than 60 years unless designated in the construction documents as having a shorter service life as approved by the enforcing agency.~~

[New Life Cycle Assessment voluntary measures]

A5.409.1 Scope. Projects with the area limits specified shall comply with Section A5.409.1 to achieve Tier 1 or Tier 2 compliance. Projects of any size shall comply with A5.409.5 to achieve Tier 2 compliance.

1. Projects consisting of newly constructed building(s) with a combined floor area of 50,000 square feet or greater shall comply with either Section A5.409.2 or Section A5.409.3.
2. Alteration(s) to existing building(s) where the combined altered floor area is 50,000 square feet or greater shall comply with either Section A5.105.2, Section A5.409.2 or Section A5.409.3.
3. Addition(s) to existing building(s) where the total floor area combined with the existing building(s) is 50,000 square feet or greater shall comply with either Section A5.105.2, Section A5.409.2 or Section A5.409.3.

Exception: Combined addition(s) to existing building(s) of two times the area or more of the existing building(s) is not eligible to meet compliance with Section A5.105.2.

4. Projects consisting of newly constructed building(s) with a combined floor area of less than 50,000 square feet shall comply with either Section 5.409.2 or Section 5.409.3 for Tier 1 compliance, and either Section A5.409.2.1 or A5.409.3 Tier 1 requirements for Tier 2 compliance.
5. Alteration(s) to existing building(s) where the aggregate floor area is less than 50,000 square feet shall comply with either Section 5.105.2, Section 5.409.2, or Section 5.409.3 for Tier 1 compliance, and either Section A5.105.2.1, Section A5.409.2.1, or Section A5.409.3 Tier 1 requirements for Tier 2 compliance.
6. Addition(s) to an existing building where the total floor area combined with the existing building(s) is less than 50,000 square feet shall comply with either Section 5.105.2, Section 5.409.2, or Section 5.409.3 for Tier 1 compliance, and

either Section A5.105.2.1, Section A5.409.2.1, or Section A5.409.3 Tier 1 requirements for Tier 2 compliance.

Exception: Combined addition(s) to existing building(s) of two times the area or more of the existing building(s) is not eligible to meet compliance with Section 5.105.2 or Section A5.105.2.

A5.409.2 Whole building life cycle assessment. Projects shall meet the minimum requirements of Section A5.409.2 for Tier 1 or Tier 2 compliance.

A5.409.2.1 Tier 1. Projects shall conduct a cradle-to-grave whole building life cycle assessment meeting the requirements of Section 5.409.2 and performed in accordance with ISO14040 and 14044, excluding operating energy, demonstrating a minimum 15 percent reduction in global warming potential (GWP) as compared to a reference baseline building of similar size, function, complexity, type of construction, material specification, and location that meets the requirements of all parts of the *California Building Standards Code* currently in effect. Software used to conduct the whole building life cycle assessment, including reference baseline building, shall have a data set compliant with ISO-14044, and ISO 21930-2017 or EN 15804, and the software shall conform to ISO 21931 and/or EN 15978.

Exception: For projects that include building reuse, the reference baseline building shall exclude the reused elements. The percent reduction in GWP shall be achieved through the design and construction of new project elements.

A5.409.2.2 Tier 2. Projects shall conduct a cradle-to-grave whole building life cycle assessment meeting the requirements of Section 5.409.2 and performed in accordance with ISO14040 and ISO 14044, excluding operating energy, demonstrating a minimum 20 percent reduction in GWP as compared to a reference baseline building of similar size, function, complexity, type of construction, material specification, and location that meets the requirements of all parts of the *California Building Standards Code* currently in effect. Software used to conduct the whole building life cycle assessment, including reference baseline building, shall have a data set compliant with ISO-14044, and ISO 21930 or EN 15804, and the software shall conform to ISO 21931 and/or EN 15978.

Exception: For projects that include building reuse, the reference baseline building shall not be of new construction and shall retain existing materials. The percent reduction in GWP shall be achieved through the design and construction of new project elements.

A5.409.3 Product GWP compliance – prescriptive path. Products shall comply with the requirements for product GWP performance in accordance with Section 5.409.3 using for the maximum acceptable GWP value for the product category listed in Table A5.409.3 for Tier 1 or Tier 2 compliance for the verified reduction calculation resulting in a minimum 15 percent reduction in total GWP. Each product that is permanently

installed and listed in Table A5.409.3, shall have a Type III environmental product declaration (EPD), either product-specific or factory-specific.

Exception: Concrete may be considered one product category to meet compliance with this section. A weighted average of the maximum GWP for all concrete mixes installed in the project shall be less than the weighted average maximum GWP allowed per Table A5.409.3 using Exception Equation A5.409.3.1. Calculations shall be performed with consistent units of measurement for the material quantity and the GWP value. For the purposes of this exception, industry wide EPD's are acceptable.

Exception EQUATION A5.409.3.1

$$GWP_n < GWP_{allowed}$$

where

$$GWP_n = (\sum GWP_n)(v_n) \text{ and } GWP_{allowed} = (\sum GWP_{allowed})(v_n)$$

and

n = each concrete mix installed in the project

GWP_n = the GWP for concrete mix n per concrete mix EPD, in kg/m³

GWP_{allowed} = the GWP potential allowed for concrete mix n per Table 5.409.3

v_n = the volume of concrete mix n installed in the project, in kg³

A5.409.3.2. Verification of compliance. Calculations to demonstrate compliance, and Type III EPDs for products required to comply, if included in the project, shall be provided on the construction documents. Updated EPDs for products used in construction shall be provided to the owner at the close of construction and to the enforcement entity upon request.

Note: Withdrawn

TABLE A5.409.3
PRODUCT GWP LIMITS TIER 1 AND TIER 2

<u>Buy Clean California Product Category ¹</u>	<u>Tier 1 Maximum acceptable GWP value (unfabricated) (GWP allowed)</u>	<u>Tier 2 Maximum acceptable GWP value (unfabricated) (GWP allowed)</u>	<u>Unit of Measurement</u>
<u>Hot-rolled structural steel sections</u>	<u>1.52</u>	<u>1.01</u>	<u>MT CO_{2e}/MT</u>
<u>Hollow structural sections</u>	<u>2.57</u>	<u>1.71</u>	<u>MT CO_{2e}/MT</u>
<u>Steel plate</u>	<u>2.24</u>	<u>1.49</u>	<u>MT CO_{2e}/MT</u>

<u>Buy Clean California Product Category</u> ¹	<u>Tier 1 Maximum acceptable GWP value (unfabricated) (GWP allowed)</u>	<u>Tier 2 Maximum acceptable GWP value (unfabricated) (GWP allowed)</u>	<u>Unit of Measurement</u>
<u>Concrete reinforcing steel</u>	<u>1.34</u>	<u>0.89</u>	<u>MT CO_{2e}/MT</u>
<u>Flat glass</u>	<u>2.15</u>	<u>1.43</u>	<u>kg CO_{2e}/MT</u>
<u>Light-density mineral wool board insulation</u>	<u>5.00</u>	<u>3.33</u>	<u>kg CO_{2e}/1 m²</u>
<u>Heavy-density mineral wool board insulation</u>	<u>12.24</u>	<u>8.16</u>	<u>kg CO_{2e}/1 m²</u>

Concrete, Ready-mixed^{2, 3}

<u>Concrete Product Category</u>	<u>Tier 1 Maximum acceptable GWP value (unfabricated) (GWP allowed)</u>	<u>Tier 2 Maximum acceptable GWP value (unfabricated) (GWP allowed)</u>	<u>Unit of Measurement</u>
<u>up to 2499 psi</u>	<u>386</u>	<u>257</u>	<u>kg CO_{2e}/m³</u>
<u>2500-3499 psi</u>	<u>419</u>	<u>279</u>	<u>kg CO_{2e}/m³</u>
<u>3500-4499 psi</u>	<u>485</u>	<u>323</u>	<u>kg CO_{2e}/m³</u>
<u>4500-5499 psi</u>	<u>567</u>	<u>378</u>	<u>kg CO_{2e}/m³</u>
<u>5500-6499 psi</u>	<u>601</u>	<u>401</u>	<u>kg CO_{2e}/m³</u>
<u>6500 psi and greater</u>	<u>685</u>	<u>456</u>	<u>kg CO_{2e}/m³</u>

Concrete, Lightweight Ready-mixed²

<u>Concrete Product Category</u>	<u>Tier 1 Maximum acceptable GWP value (unfabricated) (GWP allowed)</u>	<u>Tier 2 Maximum acceptable GWP value (unfabricated) (GWP allowed)</u>	<u>Unit of Measurement</u>
<u>up to 2499 psi</u>	<u>750</u>	<u>500</u>	<u>kg CO_{2e}/m³</u>

<u>Concrete Product Category</u>	<u>Tier 1 Maximum acceptable GWP value (unfabricated) (GWP allowed)</u>	<u>Tier 2 Maximum acceptable GWP value (unfabricated) (GWP allowed)</u>	<u>Unit of Measurement</u>
<u>2500-3499 psi</u>	<u>819</u>	<u>546</u>	<u>kg CO_{2e}/m³</u>
<u>3500-4499 psi</u>	<u>891</u>	<u>594</u>	<u>kg CO_{2e}/m³</u>

Footnotes:

- 1- The GWP values of the products listed in Table A5.409.3 are based on 150% of Buy Clean California Act (BCCA) GWP values, except for concrete products which are not included in BCCA.
- 2- For concrete, Tier 1 is 150%, Tier 2 is 100% of the National Ready Mixed Concrete Association (NRMCA) 2021 version 3 Pacific Southwest regional benchmark values are used for the GWP allowed, except for High Early strength.
- 3- Concrete High Early Strength ready-mixed shall be calculated at 130% of the Ready mixed concrete GWP allowed values for each product category.

(Renumbered and moved lower in this section)

A5.409.25 Whole building life cycle assessment of additional impacts. Maintaining compliance with the requirements of Section 5.409.2, Conduct a cradle-to-grave whole building life assessment performed in accordance with ISO 14044, including operating energy, showing that the building project achieves at least a and demonstrating a minimum 10 percent improvement for at least three of the a minimum of two additional impacts listed in Section A5.409.2.24.1, one of which shall be climate change, as compared to a reference baseline building of similar size, function, complexity, type of construction, material specification, location and operating energy performance, and meeting that meets the 2016 requirements of the California Energy Code at a minimum currently in effect.

A5.409.2.1 Building components. The building envelope, structural elements, including footings and foundations, interior ceilings, walls and floors; and exterior finishes shall be considered in the assessment.

Exceptions:

1. Plumbing, mechanical and electrical systems and controls; fire and smoke detection and alarm systems and controls; and conveying systems.
2. Interior finishes are not required to be included.

Notes:

1. Software for calculating whole building life cycle assessments includes those found at the Athena Institute website (Impact Estimator software), the PE International website (GaBi software), and the PRe Consultants website (SimaPro software).

~~2. Interior finishes, if included, may be assessed using the NIST BEES tool.~~

A5.409.2.25.1 Impacts to be considered. Select from the following impacts in the assessment:

- ~~1. Climate change (greenhouse gases).~~
2. 1. Fossil fuel depletion.
3. 2. Stratospheric ozone depletion.
4. 3. Acidification of land and water sources.
- ~~5. 4. Eutrophication.~~
6. 5. Photochemical oxidants (smog).

A5.409.3 Materials and system assemblies. ~~If whole building analysis of the project is not elected, select a minimum of 50 percent of materials or assemblies based on life cycle assessment of at least three of the impacts listed in Section A5.409.2.2, one of which shall be climate change.~~

Note: ~~Software for calculating life cycle assessments for assemblies and materials may be found at the Athena Institute web site and the NIST BEES web site.~~

A5.409.4 Substitution for prescriptive standards. ~~Performance of a life cycle assessment completed in accordance with Section A5.409.2 may be substituted for other prescriptive Material Conservation and Resource Efficiency provisions of Division A5.4, including those made mandatory through local adoption of Tier 1 or Tier 2 in Division A5.6.~~

A5.409.5 Verification of compliance. ~~Documentation of compliance shall be provided as follows:~~

- ~~1. The assessment is performed in accordance with ISO 14044.~~
- ~~2. The project meets the requirements of other parts of Title 24.~~
- ~~3. A copy of the analysis shall be made available to the enforcement authority.~~
- ~~4. A copy of the analysis and any maintenance or training recommendations shall be included in the operation and maintenance manual.~~

Notation:

Authority: Health and Safety Code Section 18928.1, 18930.5

Reference(s): Health and Safety Code Section 18928.1, 18930.5, 18941.5

ITEM 26

Chapter A5, DIVISION A5.601 CALGreen Tier 1 and Tier 2, Section A5.601 SITE DEVELOPMENT

Division A5.6 - VOLUNTARY 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 for newly constructed nonresidential buildings as well as additions and alterations. 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. Refer to the provisions in Section 301.3 for nonresidential additions and alterations scope and application.

A5.601.2 CALGreen Tier 1

A5.601.2.1 Prerequisites. To achieve *CALGreen* tier status, a project must meet all of the mandatory measures in Chapter 5 and, in addition, meet the provisions of this section.

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

A5.601.2.3 Tier 1. Comply with the energy efficiency requirements in Section A5.203.1.1 and Section A5.203.1.2.1.

A5.601.2.4 Voluntary measures for Tier 1. In addition to the provisions of Sections A5.601.2.1 and A5.601.2.3 above, compliance with the following voluntary measures from Appendix A5 is required for Tier 1:

1. From Division A5.1,
 - a. Comply with the designated parking requirements for ~~fuel~~ high efficient vehicles for a minimum of 35 percent of parking capacity per Section A5.106.5.1
 - b. Electric vehicle (EV) charging [N] and Table A5.106.5.3.1 w/ footnotes.
 - c. Comply with thermal emittance, solar reflectance or SRI values for cool roofs in Section A5.106.11.2 and Table A5.106.11.2.4 2.¹
 - d. Comply with one elective measure selected from this division.
2. From Division A5.2 comply with ONE of the following:
 1. Outdoor lighting as described in A5.203.1.1.1.
 2. Service water heating in restaurants as described in A5.203.1.1.2.
 3. Warehouse Dock Seal Doors A5.203.1.1.3.
 4. Daylight Design Power Adjustments 5.203.1.1.4.
 5. Exhaust Air Heat Recovery A5.203.1.1.5.

...

A5.601.3 CALGreen Tier 2.

A5.601.3.1 Prerequisites. To achieve *CALGreen* tier status, a project must meet all of the mandatory measures in Chapter 5 and, in addition, meet the provisions of this section.

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

A5.601.3.3 Tier 2. Comply with the energy efficiency requirements in Section A5.203.1.1 and Section A5.203.1.2.2.

A5.601.3.4 Voluntary measures for Tier 2. In addition to the provisions of Sections A5.601.3.1 and A5.601.3.3 above, compliance with the following voluntary

measures from Appendix A5 and ~~additional elective measures shown in Table A5.601.3.4~~ is required for Tier 2:

1. From Division A5.1,

- a. Comply with the designated parking requirements for fuel efficient vehicles for a minimum of 50 percent of parking capacity per Section A5.106.5.1.
- b. Electric vehicle (EV) charging [N] and Table A5.106.5.3.2 w/ footnotes.
- c. Comply with thermal emittance, solar reflectance or SRI values for cool roofs in Section A5.106.11.2 and Table A5.106.11.2.2.4-3¹
- d. Comply with three elective measures selected from this division.

2. From Division A5.2 comply with TWO of the following:

- 1. Outdoor lighting as described in A5.203.1.1.1.
- 2. Service water heating in restaurants as described in A5.203.1.1.2.
- 3. Warehouse Dock Seal Doors A5.203.1.1.3.
- 4. Daylight Design Power Adjustments 5.203.1.1.4.
- 5. Exhaust Air Heat Recovery A5.203.1.1.5.

...

Notation:

Authority: Health & Safety Code Section: 18930.5

Reference(s): Health & Safety Code Section 18930.5

ITEM 27

Chapter A5, DIVISION A5.602, VERIFICATION GUIDELINES

MANDATORY MEASURES CHECKLIST, TIER 1 CHECKLIST AND TIER 2 CHECKLIST

[Note: These checklists tables will be updated based on the the final proposed code updates for both the mandatory and voluntary code sections]

**A5.602,
CALGreen VERIFICATION GUIDELINES
MANDATORY MEASURES CHECKLIST**

...

Chapter 5 Divisions

DIVISION 5.1 Planning and Design

Requirement	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
<u>Mandatory</u>	<u>Deconstruction and reuse of existing structures, Scope w/ Exception</u>	<u>5.105.1</u>					

Requirement	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
<u>Mandatory</u>	<u>Reuse of existing building & Verification of compliance with note</u>	<u>5.105.2</u> <u>5.105.2.1</u>					
Mandatory	Electric vehicle (EV) charging. [N] w/exceptions	5.106.5.3					
Mandatory	EV capable spaces [N]	5.106.3.1					
Mandatory	Electric vehicle charging stations (EVCS)	5.106.5.3.2					
Mandatory	Use of automatic load management systems (ALMS)	5.106.5.3.3					
Mandatory	Accessible EVCS	5.106.5.3.4					
Mandatory	Note for EVCS signs						
Mandatory	Table 5.106.5.3.1 w/ footnotes	5.106.5.3.1, 5.106.5.3.2 and 5.106.5.3.3					
<u>Mandatory</u>	<u>Electric vehicle (EV) charging [N] with Section 5.106.3.1, 5.106.5.3.2 and associated Table 5.106.5.3.1</u> <u>OR</u> <u>Power Allocation Method: Section 5.106.5.3.6 and associated Table 5.106.5.3.6</u>	<u>5.106.5.3.1, 5.106.5.3.2, Table 5.106.5.3.1, 5.106.5.3.2.1, 5.106.5.3.2.2, 5.106.5.3.3, 5.106.5.3.4 and 5.106.5.3.5.</u> <u>OR</u> <u>5.106.5.3.6, Table 5.106.5.3.6 5.106.5.3.3, 5.106.5.3.4 and 5.106.5.3.5.</u>					

Requirement	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
<u>Mandatory</u>	<u>Additions or Alterations to existing buildings or parking facilities [A] w/ Exceptions</u>	<u>5.106.5.4</u>					
<u>Mandatory</u>	<u>Existing buildings or parking areas without previously installed EV capable infrastructure [A].</u>	<u>5.106.5.4.1</u>					
<u>Mandatory</u>	<u>Existing buildings or parking areas with previously installed EV capable infrastructure [A].</u>	<u>5.106.5.4.2</u>					
Mandatory	Electric vehicle (EV) charging: medium-duty and heavy-duty. [N]	5.106.5.-4 <u>5</u>					
Mandatory	Electric vehicle charging readiness requirements for warehouses, grocery stores and retail stores with planned off-street loading spaces [N]	5.106.5.-4 <u>5</u> .1					
Mandatory	Table 5.106.5.-4 <u>5</u> .1	5.106.5.-4 <u>5</u> And 5.106.5.-4 <u>5</u> .1					
Mandatory	Light pollution reduction [N] (with exceptions, notes and table)	5.106.8					
...					

DIVISION 5.2 Energy Efficiency
(No change to table)

DIVISION 5.3 Water Efficiency and Conservation

(No change to table)

DIVISION 5.4 Material Conservation and Resource Efficiency

Requirement	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
...					
Mandatory	Excavated soil and landscape debris (100% reuse or recycle) <u>w/ Exception and Notes</u>	5.408.3					
<u>Mandatory</u>	<u>Life Cycle Assessment, Scope</u>	<u>5.409.1</u>					
<u>Mandatory</u>	<u>Whole building life cycle assessment</u> <u>Building Components</u> <u>Reference study periods</u> <u>Verification of Compliance w/ Note</u>	<u>5.409.2</u> <u>5.409.2.1</u> <u>5.409.2.2</u> <u>5.409.2.3</u>					
<u>Mandatory</u>	<u>Product GWP compliance – prescriptive path</u> <u>Exception and Equation</u> <u>Verification of compliance</u> <u>Table 5.409.3 Product GWP Limits w/ Footnotes</u>	<u>5.409.3</u> <u>5.409.3.1</u> <u>5.409.3.2</u> <u>Table</u> <u>5.409.3</u>					
Mandatory	Recycling by occupants (with exceptions)	5.410.1					
...					
Mandatory	Inspection and reports	5.410.4.5.1					

DIVISION 5.5 Environmental Quality

(No change to table)

**A5.602.1,
CALGreen VERIFICATION GUIDELINES
TIER 1 CHECKLIST**

...

Chapter 5 Divisions

DIVISION 5.1 Planning and Design (Select one elective from DIVISION 5.1)

Requirement	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
<u>Mandatory</u>	<u>Deconstruction and reuse of existing structures, Scope w/ Exception</u>	<u>5.105.1</u>					
<u>Mandatory</u>	<u>Reuse of existing building</u>	<u>5.105.2</u>					
<u>Mandatory</u>	<u>Verification of compliance w/ Note</u>	<u>5.105.2.1</u>					
Mandatory	Stormwater pollution ...land	5.106.1					
...					
<i>Tier 1 prerequisite</i>	<i>Designated parking-35% of parking capacity w/ future charging spaces, parking stall markings and vehicle designation stall identification</i>	<i>A5.106.5.1, A5.106.5.1.1, A5.106.5.1.3, A5.106.5.1.4, A5.106.5.1.5</i>					
Mandatory	Electric vehicle (EV) charging. [N] w/ exceptions	5.106.5.3					
Mandatory	EV capable spaces [N]	5.106.5.3.1					
Mandatory	Electric vehicle charging stations (EVCS)	5.106.5.3.2					
Mandatory	Use of automatic load management systems (ALMS)	5.106.5.3.2.3					
Mandatory	Accessible EVCS	5.106.5.3.4					
Mandatory	Note for EVCS signs						

Requirement	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
Mandatory	Table 5.106.5.3.1 w/ footnotes	5.106.5.3.1, 5.106.5.3.2 and 5.106.5.3.3					
Tier 1 prerequisite	<p><u>Electric vehicle (EV) charging [N] with Section 5.106.3.1, 5.106.5.3.2 and associated Table A5.106.5.3.1 Tier 1</u></p> <p><u>OR</u></p> <p><u>Power Allocation Method: Section A5.106.5.3.2 and associated Table A5.106.5.3.2 Tier 1</u></p>	<p><u>5.106.5.3.1, 5.106.5.3.2, Table A5.106.5.3.1 Tier 1, 5.106.5.3.2.1, 5.106.5.3.2.2, 5.106.5.3.3, 5.106.5.3.4 and 5.106.5.3.5,</u></p> <p><u>OR</u></p> <p><u>A5.106.5.3.2, Table A5.106.5.3.2 Tier 1, 5.106.5.3.3, 5.106.5.3.4 and 5.106.5.3.5.</u></p>					
Mandatory	<u>Additions or Alterations to existing buildings or parking facilities [A] w/ Exceptions</u>	<u>5.106.5.4</u>					
Mandatory	<u>Existing buildings or parking areas without previously installed EV capable infrastructure [A].</u>	<u>5.106.5.4.1</u>					
Mandatory	<u>Existing buildings or parking areas with previously installed EV capable infrastructure [A].</u>	<u>5.106.5.4.2</u>					

Requirement	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
Mandatory	Electric vehicle (EV) charging: medium-duty and heavy-duty. [N]	5.106.5.4 <u>5</u>					
Mandatory	Electric vehicle charging readiness requirements for warehouses, grocery stores and retail stores with planned off-street loading spaces [N]	5.106.5.4 <u>5</u> .1					
Mandatory	Table 5.106.5.4 <u>5</u> .1	5.106.5.4 <u>5</u> and 5.106.5.4 <u>5</u> .1					
Mandatory	Light pollution reduction [N] (with exceptions, notes and table)	5.106.8					
...	...						
<i>Tier 1 Prerequisite</i>	<i>Cool roof....</i>	<i>A5.106.11.2</i>					
<i>Elective</i>	<i>Community connectivity</i>	<i>A5.103.1</i>					
...					
<i>Elective</i>	<i>Disassemble and reuse existing building structure (75%) with exceptions</i>	<i>A5.105.1.1</i>					
<i>Elective</i>	<i>Disassemble and reuse existing nonstructural elements (50%) with exceptions</i>	<i>A5.105.1.2</i>					
<i>Elective</i>	<i>Salvage</i>	<i>A5.105.1.3</i>					

Requirement	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
<u>Elective</u>	<u>Deconstruction and reuse of existing structures. Scope w/ Exceptions</u>	<u>A5.105.1</u>					
<u>Elective</u>	<u>Reuse of existing building</u>	<u>A5.105.2</u>					
<u>Elective</u>	<u>Reuse of existing building, Tier 1</u>	<u>A5.105.2.1</u>					
<u>Elective</u>	<u>Verification of compliance w/ Note</u>	<u>A5.105.2.3</u>					
<u>Elective</u>	<u>Storm water design</u>	<u>A5.106.2- A5.106.2.2</u>					
...					
<u>Elective</u>	<u>Changing room</u>	<u>A5.106.4.3</u>					
...					
<u>Elective</u>	<u>Reduction of Heat Island effect</u>	<u>A5.106.11</u>					
<u>Elective</u>	<u>Hardscape alternatives</u>	<u>A5.106.11.1</u>					
<u>Elective</u>	<u>Cool roof w/ Exception</u>	<u>A5.106.11.2</u>					
<u>Elective</u>	<u>Verification of compliance</u>	<u>A5.106.11.2.4</u>					
<u>Elective</u>	<u>Shade trees</u>	<u>A5.106.11.3</u>					
<u>Elective</u>	<u>Bird-friendly building design</u>	<u>A5.107</u>					
<u>Elective</u>	<u>Required elevation treatment options 1 & 2</u>	<u>A5.107.1</u>					
<u>Elective</u>	<u>Special conditions</u>	<u>A5.107.2</u>					
<u>Elective</u>	<u>Nighttime conditions w/ Exception</u>	<u>A5.107.3</u>					

Requirement	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
<u>Elective</u>	<u>Systems or operation and maintenance manual</u>	<u>A5.107.4</u>					

DIVISION 5.2 Energy Efficiency

(No change to table)

DIVISION 5.3 Water Efficiency and Conservation

(No change to table)

DIVISION 5.4 Material Conservation and Resource Efficiency

(Select one elective from DIVISION 5.4)

Requirement	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
...					
Mandatory	Excavated soil and landscape debris (100% reuse or recycle) <u>w/ Exception and Notes</u>	5.408.3					
<u>Mandatory</u>	<u>Life Cycle Assessment, Scope</u>	<u>5.409.1</u>					
<u>Mandatory</u>	<u>Whole building life cycle assessment</u>	<u>5.409.2</u>					
<u>Mandatory</u>	<u>Building components</u>	<u>5.409.2.1</u>					
<u>Mandatory</u>	<u>Reference study period</u>	<u>5.409.2.2</u>					
<u>Mandatory</u>	<u>Verification of compliance w/ Note</u>	<u>5.409.2.3</u>					
<u>Mandatory</u>	<u>Product GWP compliance – prescriptive path</u>	<u>5.409.3</u>					

Requirement	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
<u>Mandatory</u>	<u>5.409.3.1 w/ Exception and Exception EQUATION 5.409.3.1</u>	<u>5.409.3.1</u>					
<u>Mandatory</u>	<u>Verification of compliance</u>	<u>5.409.3.2</u>					
<u>Mandatory</u>	<u>Table 5.409.3 Product GWP Limits w/ Footnotes</u>	<u>5.409.3.1 and 5.409.3.2</u>					
Mandatory	Recycling by occupants (with exceptions)	5.410.1					
...					
Mandatory	Inspection and reports	5.410.4.5.1					
<i>Elective</i>	<i>Wood framing or OVE / Note</i>	<i>A5.404.1</i>					
...					
<i>Elective</i>	<i>Bio-based materials</i>	<i>A5.405.2</i>					
<u>Elective</u>	<u>Certified Wood Components - Sustainability Standards</u>	<u>A5.405.2.1</u>					
...					
<i>Elective</i>	<i>Cement and concrete: concrete with SCM & Mix</i>	<i>A5.405.5.2 through A5.405.5.2.1.1</i>					
<i>Elective</i>	<i>Cement and concrete- additional means of compliance</i>	<i>A5.405.5.3 through</i>					
<u>Elective</u>	<u>Concrete manufacture</u>	<u>A5.405.3</u>					
<u>Elective</u>	<u>Recycled aggregates</u>	<u>A5.405.3.1</u>					
<u>Elective</u>	<u>Mixing water</u>	<u>A5.405.3.2</u>					
<u>Elective</u>	<u>High strength concrete</u>	<u>A5.405.3.3</u>					
<u>Elective</u>	<u>Later Ages of Maturity</u>	<u>A5.405.3.4</u>					
<u>Elective</u>	<u>Returned Fresh Concrete</u>	<u>A5.405.3.5</u>					
...					

Requirement	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
<i>Elective</i>	<i>Life cycle assessment: general <u>Scope w/ exceptions</u></i>	<i>A5.409.1</i>					
<i>Elective</i>	<i>Whole building life cycle assessment <u>Tier 1 w/ Exception</u></i>	<i>A5.409.2, A5.409.2.1, A5.409.2.2</i>					
<i>Elective</i>	<i>Materials and systems assemblies</i>	<i>A5.409.3</i>					
<i>Elective</i>	<i>Product GWP compliance – prescriptive path w/ Exception and Exception Equation A5.409.3.1</i>	<i>A5.409.3</i>					
<i>Elective</i>	<i>Verification of compliance</i>	<i>A5.409.3.2</i>					
<i>Elective</i>	<i>TABLE A5.409.3 PRODUCT GWP LIMITS TIER 1 w/ footnotes</i>	<i>A5.409.3.2</i>					
<i>Elective</i>	<i>Materials and system assemblies</i>	<i>A5.409.3</i>					
<i>Elective</i>	<i>Substitution for prescriptive standards</i>	<i>A5.409.4</i>					
<i>Elective</i>	<i>Verification of compliance</i>	<i>A5.409.5</i>					
<i>Elective</i>	<i>Whole building life cycle assessment of additional impacts</i>	<i>A5.409.5</i>					
<i>Elective</i>	<i>Impacts to be considered</i>	<i>A5.409.5.1</i>					

DIVISION 5.5 Environmental Quality
(No change to table)

...

**A5.602.2,
CALGreen VERIFICATION GUIDELINES
TIER 2 CHECKLIST**

...

Chapter 5 Divisions

DIVISION 5.1 Planning and Design (*Select two electives from DIVISION 5.1*)

Requirement	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
<u>Mandatory</u>	<u>Deconstruction and reuse of existing structures, Scope w/ Exception</u>	<u>5.105.1</u>					
<u>Mandatory</u>	<u>Reuse of existing building</u>	<u>5.105.2</u>					
<u>Mandatory</u>	<u>Verification of compliance w/ Note</u>	<u>5.105.2.1</u>					
Mandatory	Stormwater pollution ...land	5.106.1					
...					
<i>Tier 2 prerequisite</i>	<i>Designated parking-50% of parking capacity w/ future charging spaces, parking stall markings and vehicle designation stall identification</i>	<i>A5.106.5.1, A5.106.5.1.2, A5.106.5.1.3, A5.106.5.1.4, <u>A5.106.5.1.5</u></i>					
Mandatory	Electric vehicle (EV) charging. [N]	5.106.5.3					
Mandatory	EV capable spaces [N]	5.106.5.3.1					
Mandatory	Electric vehicle charging stations (EVCS)	5.106.5.3.2					
Mandatory	Use of automatic load management systems (ALMS)	5.106.5.3.2.3					
Mandatory	Accessible (<u>EVCS</u>)	5.106.5.3.4					

Requirement	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
Mandatory	Note for EVCS signs						
Mandatory	Table 5.106.5.3.1 w/ footnotes	5.106.5.3.1, 5.106.5.3.2 and 5.106.5.3.3					
Tier 2 prerequisite	<p><u>Electric vehicle (EV) charging [N] with Section 5.106.3.1, 5.106.5.3.2 and associated Table A5.106.5.3.3 Tier 2</u></p> <p><u>OR</u></p> <p><u>Power Allocation Method: Section A5.106.5.3.4 and associated Table A5.106.5.3.4 Tier 2</u></p>	<p><u>5.106.5.3.1, 5.106.5.3.2, Table A5.106.5.3.3 Tier 2, 5.106.5.3.2.1, 5.106.5.3.2.2, 5.106.5.3.3, 5.106.5.3.4 and 5.106.5.3.5,</u></p> <p><u>OR</u></p> <p><u>A5.106.5.3.4, Table A5.106.5.3.4 Tier 2, 5.106.5.3.3, 5.106.5.3.4 and 5.106.5.3.5.</u></p>					
Mandatory	<u>Additions or Alterations to existing buildings or parking facilities [A] w/ Exceptions</u>	<u>5.106.5.4</u>					
Mandatory	<u>Existing buildings or parking areas without previously installed EV capable infrastructure [A].</u>	<u>5.106.5.4.1</u>					

Requirement	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
<u>Mandatory</u>	<u>Existing buildings or parking areas with previously installed EV capable infrastructure [A].</u>	<u>5.106.5.4.2</u>					
Mandatory	Electric vehicle (EV) charging: medium-duty and heavy-duty. [N]	5.106.5.-4 <u>5</u>					
Mandatory	Electric vehicle charging readiness requirements for warehouses, grocery stores and retail stores with planned off-street loading spaces [N]	5.106.5.-4 <u>5.1</u>					
Mandatory	Table 5.106.5.-4 <u>5.1</u>	5.106.5.-4 <u>5</u> and 5.106.5.-4 <u>5.1</u>					
Mandatory	Light pollution reduction [N] (with exceptions, notes and table)	5.106.8					
...	...						
<i>Tier 1 Prerequisite</i>	<i>Cool roof....</i>	<i>A5.106.11.2</i>					
<i>Elective</i>	<i>Community connectivity</i>	<i>A5.103.1</i>					
...					
<i>Elective</i>	<i>Disassemble and reuse existing building structure (75%) with exceptions</i>	<i>A5.105.1.1</i>					

Requirement	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
<i>Elective</i>	Disassemble and reuse existing nonstructural elements (50%) with exceptions	<i>A5.105.1.2</i>					
<i>Elective</i>	<i>Salvage</i>	<i>A5.105.1.3</i>					
<i>Elective</i>	<u>Deconstruction and reuse of existing structures, Scope w/ Exceptions</u>	<u>A5.105.1</u>					
<i>Elective</i>	<u>Reuse of existing building</u>	<u>A5.105.2</u>					
<i>Elective</i>	<u>Reuse of existing building, Tier 2</u>	<u>A5.105.2.2</u>					
<i>Elective</i>	<u>Verification of compliance w/ Note</u>	<u>A5.105.2.3</u>					
<i>Elective</i>	<i>Storm water design</i>	<i>A5.106.2- A5.106.2.2</i>					
...					
<i>Elective</i>	<i>Changing room</i>	<i>A5.106.4.3</i>					
...					
<i>Elective</i>	<u>Reduction of Heat Island effect</u>	<i>A5.106.11</i>					
<i>Elective</i>	<u>Hardscape alternatives</u>	<u>A5.106.11.1</u>					
<i>Elective</i>	<u>Cool roof w/ Exception</u>	<u>A5.106.11.2</u>					
<i>Elective</i>	<u>Verification of compliance</u>	<u>A5.106.11.2.4</u>					
<i>Elective</i>	<u>Shade trees</u>	<u>A5.106.11.3</u>					
<i>Elective</i>	<u>Bird-friendly building design</u>	<u>A5.107</u>					

Requirement	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
<u>Elective</u>	<u>Required elevation treatment options 1 & 2</u>	<u>A5.107.1</u>					
<u>Elective</u>	<u>Special conditions</u>	<u>A5.107.2</u>					
<u>Elective</u>	<u>Nighttime conditions w/ Exception</u>	<u>A5.107.3</u>					
<u>Elective</u>	<u>Systems or operation and maintenance manual</u>	<u>A5.107.4</u>					

DIVISION 5.2 Energy Efficiency

(No change to table)

DIVISION 5.3 Water Efficiency and Conservation

(No change to table)

DIVISION 5.4 Material Conservation and Resource Efficiency

(Select two electives from DIVISION 5.4)

Requirement	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
...					
Mandatory	Excavated soil and landscape debris (100% reuse or recycle) <u>w/ Exception and Notes</u>	5.408.3					
<u>Mandatory</u>	<u>Life Cycle Assessment, Scope</u>	<u>5.409.1</u>					
<u>Mandatory</u>	<u>Whole building life cycle assessment</u>	<u>5.409.2</u>					
<u>Mandatory</u>	<u>Building components</u>	<u>5.409.2.1</u>					
<u>Mandatory</u>	<u>Reference study period</u>	<u>5.409.2.2</u>					

Requirement	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
<u>Mandatory</u>	<u>Verification of compliance w/ Note</u>	<u>5.409.2.3</u>					
<u>Mandatory</u>	<u>Product GWP compliance – prescriptive path</u>	<u>5.409.3</u>					
<u>Mandatory</u>	<u>5.409.3.1 w/ Exception and Exception EQUATION 5.409.3.1</u>	<u>5.409.3.1</u>					
<u>Mandatory</u>	<u>Verification of compliance</u>	<u>5.409.3.2</u>					
<u>Mandatory</u>	<u>Table 5.409.3 Product GWP Limits w/ Footnotes</u>	<u>5.409.3.1 and 5.409.3.2</u>					
<u>Mandatory</u>	<u>Recycling by occupants (with exceptions)</u>	<u>5.410.1</u>					
...					
<u>Mandatory</u>	<u>Inspection and reports</u>	<u>5.410.4.5.1</u>					
<i>Elective</i>	<i>Wood framing or OVE / Note</i>	<i>A5.404.1</i>					
...					
<i>Elective</i>	<i>Bio-based materials</i>	<i>A5.405.2</i>					
<u>Elective</u>	<u>Certified Wood Components - Sustainability Standards</u>	<u>A5.405.2.1</u>					
...					
<i>Elective</i>	<i>Cement and concrete: concrete with SCM & Mix</i>	<i>A5.405.5.2 through A5.405.5.2.1.1</i>					
<i>Elective</i>	<i>Cement and concrete- additional means of compliance</i>	<i>A5.405.5.3 through</i>					
<u>Elective</u>	<u>Concrete manufacture</u>	<u>A5.405.3</u>					
<u>Elective</u>	<u>Recycled aggregates</u>	<u>A5.405.3.1</u>					
<u>Elective</u>	<u>Mixing water</u>	<u>A5.405.3.2</u>					

Requirement	SECTION TITLE	CODE SECTION	Y	N	N/A	O	PLAN SHEET, SPEC, OR ATTACH REFERENCE
<u>Elective</u>	<u>High strength concrete</u>	<u>A5.405.3.3</u>					
<u>Elective</u>	<u>Later Ages of Maturity</u>	<u>A5.405.3.4</u>					
<u>Elective</u>	<u>Returned Fresh Concrete</u>	<u>A5.405.3.5</u>					
...					
<u>Elective</u>	<u>Life cycle assessment: general Scope w/ exceptions</u>	<u>A5.409.1</u>					
<u>Elective</u>	<u>Whole building life cycle assessment Tier 2 w/ Exception</u>	<u>A5.409.2, A5.409.2.2</u>					
<u>Elective</u>	<u>Materials and systems assemblies</u>	<u>A5.409.3</u>					
<u>Elective</u>	<u>Product GWP compliance – prescriptive path w/ Exception and Exception Equation A5.409.3.1</u>	<u>A5.409.3</u>					
<u>Elective</u>	<u>Verification of compliance</u>	<u>A5.409.3.2</u>					
<u>Elective</u>	<u>TABLE A5.409.3 PRODUCT GWP LIMITS TIER 1 w/ footnotes</u>	<u>A5.409.3.2</u>					
<u>Elective</u>	<u>Materials and system assemblies</u>	<u>A5.409.3</u>					
<u>Elective</u>	<u>Substitution for prescriptive standards</u>	<u>A5.409.4</u>					
<u>Elective</u>	<u>Verification of compliance</u>	<u>A5.409.5</u>					
<u>Elective</u>	<u>Whole building life cycle assessment of additional impacts</u>	<u>A5.409.5</u>					
<u>Elective</u>	<u>Impacts to be considered</u>	<u>A5.409.5.1</u>					

DIVISION 5.5 Environmental Quality
(No change to table)

Notation:

Authority: Health & Safety Code Sections 18930.5 and 18931.7(b).

Reference(s): Health & Safety Code Sections 18930.5 and 18931.7(b).