



BUILDING SAFETY DIVISION

CITY OF CULVER CITY

9770 CULVER BOULEVARD, CULVER CITY, CALIFORNIA 90232-0507

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PROJECT INFORMATION

Plan Check Number:	Owner's Name:
Project Address:	
Description of Work:	
Designer Responsible for CALGreen Compliance:	Phone:
Signature of Designer Responsible for CALGreen Compliance:	Date:

INSTRUCTIONS

The Owner or the Owner's Agent shall employ a Design Professional experienced with the 2019 *California Green Building Standards Code* to assure that all required work described herein is properly planned and implemented in the project.

The Design Professional shall complete this checklist, and in the Plan Reference column provide the applicable plan Sheet number and detail/note where CALGreen compliance is detailed. The completed and signed checklist shall be printed on all final sets of plans.

MANDATORY FEATURE OR MEASURE

Plan Reference

Chapter 1 - ADMINISTRATION

101.3 Scope. The provisions of the CALGreen code shall apply to the planning, design, operation, construction, use and occupancy of every newly constructed building or structure.

102.2 Information on construction documents. The construction documents shall be of sufficient clarity to indicate the location, nature and scope of the proposed green building features and show that it will conform to the provisions of this code, the *California Building Standards Code* and other relevant laws, ordinances, rules and regulations.

102.3 Verification. Documentation of conformance for applicable green building measures shall be provided. All projects shall submit a completed CALGreen Checklist including mandatory measures and Tier 1 or Tier 2 as applicable.

Chapter 3 – GREEN BUILDING

301.1 Scope. Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code.

302.1 Mixed occupancy buildings. In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy.

MANDATORY FEATURE OR MEASURE	Plan Reference
Section 4.106 & CCMC 15.02.1120 - SITE DEVELOPMENT	
<p>4.106.2 Storm water drainage and retention during construction. Projects, which disturb less than 1 acre of soil and are not part of a larger common plan of development shall manage storm water drainage during construction.</p> <p>Erosion and sediment control devices Best Management Practices (BMPs) shall be implemented around the construction site to prevent discharges to the street and adjacent properties. BMPs shall be identified and shown on the plan. Control measures must also be taken to prevent street surface water from entering the site.</p> <p>Refer to the State Water Resources Control Board for projects which disturb one acre or more of soil or are part of a larger common plan of development which in total disturbs one acre or more of soils.</p>	
<p>4.106.3 Grading and paving. Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings.</p>	
<p>4.106.3.1 Water permeable surfaces for low-rise residential building. Not less than 20% of new parking, walking or patio surfaces shall be permeable [CCMC 15.02.1120]</p> <p>Exceptions:</p> <ol style="list-style-type: none"> 1. The primary driveway, primary entry walkway and entry porch or landing shall not be included when calculating the area required to be a permeable surface. 2. Required accessible routes for persons with disabilities as required by California Code of Regulations, Title 24, Part 2, Chapter 11A and/or Chapter 11B as applicable. 	
Section 4.106.4 - ELECTRIC VEHICLE (EV) CHARGING FOR NEW CONSTRUCTION	
<p>4.106.4 Electric vehicle (EV) charging for new construction. New construction shall comply with Section 4.106.4.1, 4.106.4.2, or 4.106.4.3, to facilitate for future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the <i>California Electrical Code</i>, Article 625.</p>	
Section 4.106.4.1- EV CHARGING FOR 1- & 2- FAMILY DWELLINGS AND TOWNHOUSES	
<p>4.106.4.1 New one- and two-family dwellings and townhouses with attached private garages.</p> <ul style="list-style-type: none"> • For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. • The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). • The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. • Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. • The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device. <p>4.106.4.1.1 The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as “EV CAPABLE”. The raceway termination location shall be permanently and visibly marked as “EV CAPABLE”.</p>	
Section 4.106.4.2 - EV CHARGING FOR MULTI-FAMILY DWELLINGS	
<p>4.106.4.2 EV charging for new multifamily dwellings – If residential parking is available, twenty-five (25) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future EVSE and five (5) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging stations (EVCS). Calculations for the required number of EV spaces and EVCS shall be rounded up to the nearest whole number. [CCMC 15.02.150]</p>	
<p>4.106.4.2.1 EV charging space (EV space) locations for multifamily dwellings. Construction documents shall indicate the location of proposed EV spaces. Where common use parking is provided at least one EV space shall be located in the common use parking area and shall be available for use by all residents.</p> <p>4.106.4.2.1.1 Electric vehicle charging stations (EVCS). When EV chargers are installed, EV spaces required by Section 4.106.4.2.2, Item 3, shall comply with at least one of the following options:</p> <ol style="list-style-type: none"> 1. The EV space shall be located adjacent to an accessible parking space meeting the requirements of the <i>California Building Code</i>, Chapter 11A, to allow use of the EV charger from the accessible parking space. 2. The EV space shall be located on an accessible route to the building, as defined in the <i>California Building Code</i>, Chapter 2. 	

MANDATORY FEATURE OR MEASURE	Plan Reference
<p>4.106.4.2.2 EV charging space (EV space) dimensions for multifamily dwellings</p> <ol style="list-style-type: none"> 1. The minimum length of each EV space shall be 18 feet. 2. The minimum width of each EV space shall be 9 feet. 3. One in every 25 EV spaces, but not less than one, shall also have an 8-foot wide minimum aisle. A 5-foot wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet. <ol style="list-style-type: none"> a. Surface slope for this EV space and aisle shall not exceed one unit vertical in 48 units horizontal (2.083% slope) in any direction. 	
<p>4.106.4.2.3 Single EV space required for multifamily dwellings</p> <ul style="list-style-type: none"> • Install listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. • The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). • The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the proposed location of the EV space. • Construction documents shall identify the raceway termination point. • The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device. 	
<p>4.106.4.2.4 Multiple EV spaces required for multifamily dwellings</p> <ul style="list-style-type: none"> • Construction documents shall indicate the raceway termination point and proposed location of future EV spaces and EV chargers. • Construction documents shall also provide information on amperage of future EVSE, raceway method(s), wiring schematics and electrical load calculations to verify that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at full rated amperage of the EVSE. • Plan design shall be based upon a 40-ampere minimum branch circuit. • Required raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction. 	
<p>4.106.4.2.5 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as “EV CAPABLE” in accordance with the <i>California Electrical Code</i>.</p>	
Section 4.106.4.3 - EV CHARGING FOR NEW HOTELS AND MOTELS	
<p>4.106.4.3 EV charging for new hotels and motels. All newly constructed hotels and motels shall provide EV spaces capable of supporting future installation of EVSE and EVCS. The construction documents shall identify the location of the EV spaces and EVCS. [CCMC 15.02.150]</p>	
<p>4.106.4.3.1 Number of required EV spaces and EVCS. The number of required EV spaces and EVCS shall be based on the total number of parking spaces provided for all types of parking facilities in accordance with Table 4.106.4.3.1. Calculations for the required number of EV spaces and EVCS shall be rounded up to the nearest whole number. Refer to amended Table 4.106.4.3.1. [CCMC 15.02.150]</p>	
<p>4.106.4.3.2 Electric vehicle charging space (EV space) dimensions for hotels and motels</p> <ol style="list-style-type: none"> 1. The minimum length of each EV space shall be 18 feet. 2. The minimum width of each EV space shall be 9 feet. 	
<p>4.106.4.3.3 Single EV space required. When a single EV space is required, the EV space shall be designed in accordance with Section 4.106.4.2.3.</p>	
<p>4.106.4.3.4 Multiple EV spaces required. When multiple EV spaces are required, the EV spaces shall be designed in accordance with Section 4.106.4.2.4.</p>	
<p>4.106.4.3.5 Identification. The service panels or subpanels shall be identified in accordance with Section 4.106.4.2.5.</p>	
<p>4.106.4.3.6 Accessible EV spaces. In addition to the requirements in Section 4.106.4.3, EV spaces for hotels/motels and all EVSE, when installed, shall comply with the accessibility provisions in the <i>California Building Code</i>, Chapter 11B.</p>	

MANDATORY FEATURE OR MEASURE	Plan Reference
Division 4.2 - ENERGY EFFICIENCY	
4.201. Building meets or exceeds the requirements of the 2019 <i>California Energy Code</i> .	
Section 4.303 - INDOOR WATER USE	
<p>4.303.1 Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the prescriptive requirements of 4.303.1.1 through 4.303.1.4.4.</p> <p>Noncompliant plumbing fixtures. All noncompliant plumbing fixtures in any residential real property shall be replaced with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy, or final permit approval. [See CA Civil Code 1101.1 for further information]</p>	
<p>4.303.1.1 Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the US EPA WaterSense Specification for Tank-type Toilets. The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.</p>	
<p>4.303.1.2 Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush. The effective flush volume of all other urinals shall not exceed 0.5 gallons per flush.</p>	
<p>4.303.1.3.1 Single showerhead. Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the US EPA WaterSense Specification for Showerheads.</p>	
<p>4.303.1.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time. Note: a hand-held shower shall be considered a showerhead.</p>	
<p>4.303.1.4.1 Residential lavatory faucets. The maximum flow rate of residential lavatory faucets shall not exceed 1.2 gallons per minute at 60 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons per minute at 20 psi.</p>	
<p>4.303.1.4.2 Lavatory faucets in common and public use areas. The maximum flow rate of lavatory faucets installed in common and public use areas (outside of dwellings or sleeping units) in residential buildings shall not exceed 0.5 gallons per minute at 60 psi.</p>	
<p>4.303.1.4.3 Metering faucets. Metering faucets when installed in residential buildings shall not deliver more than 0.2 gallons per cycle.</p>	
<p>4.303.1.4.4 Kitchen faucets. The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi. Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.</p>	
<p>4.303.2 Standards for plumbing fixtures and fittings. Plumbing fixtures and fittings shall be installed in accordance with the <i>California Plumbing Code</i>, and shall meet the applicable referenced standards.</p>	
Section 4.304 & CCMC15.02.1125 & CCMC 15.02.1130 - OUTDOOR WATER USE	
<p>4.304.1 Outdoor potable water use in landscape areas. Residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.</p>	
<p>4.304.2 Landscape irrigation controls for low-rise residential building. All new landscape irrigation shall utilize automatic irrigation controllers utilizing either evapotranspiration or soil moisture sensor data for irrigation scheduling [CCMC 15.02.1130]</p>	

MANDATORY FEATURE OR MEASURE	Plan Reference
<p>4.305.1 Recycled water supply systems. Newly constructed residential developments, where disinfected tertiary recycled water is available from a municipal source to a construction site, may be required to have recycled water supply systems installed, allowing the use of recycled water for residential landscape irrigation systems. See Chapter 15 of the <i>California Plumbing Code</i>.</p>	
<p>4.305.2 Gray water for low-rise residential building. When a low-rise residential building includes one or more dwelling units that contain a laundry connection within the dwelling unit, all of the dwelling units containing a laundry connection shall have a minimum of one (1) plumbing fixture constructed to divert gray water onto the subject property in full compliance with Chapter 15 of the California Plumbing Code. The plumbing fixture(s) connected to the gray water discharge system may be any fixture(s) allowed to discharge gray water under the California Plumbing Code. The gray water may be utilized for landscape irrigation or for percolation into the soil [CCMC 15.02.1125]</p>	
Section 4.406 - ENHANCED DURABILITY AND REDUCED MAINTENANCE	
<p>4.406.1 Rodent proofing. Annular spaces around pipes, electric cables, conduits or other openings in sole/bottom plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency.</p>	
Section 4.408 & CCMC 15.02.1140 - CONSTRUCTION WASTE REDUCTION DISPOSAL AND RECYCLING	
<p>4.408.1 Construction waste management. Recycle and/or salvage for reuse a minimum of 75% of the nonhazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4.[CCMC15.02.1140]</p>	
<p>4.408.2 Construction waste management plan. Submit a construction waste management plan meeting Items 1 through 5 in Section 4.408.2. Plans shall be updated as necessary and shall be available for examination during construction.</p>	
<p>4.408.3 Waste management company. The City of Culver City provides waste disposal and recycling services for all construction & demolition projects within city limits in accordance with CCMC 5.01.010. For further information, contact the Sanitation Division at (310) 253-6400.</p>	
<p>4.408.5 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with Sections 4.408.2, 4.408.3, or 4.408.4.</p>	
Section 4.410 - BUILDING MAINTENANCE AND OPERATION	
<p>4.410.1 Operation and maintenance manual. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which covers 10 specific subject areas shall be placed in the building.</p>	
<p>4.410.2 Recycling by occupants. Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible area(s) that serves all buildings on the site and is identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals.</p>	
Section 4.503 - FIREPLACES	
<p>4.503.1 General. Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances including South Coast Air Quality Management District regulations.</p>	
Section 4.504 - POLLUTANT CONTROL	
<p>4.504.1 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation, during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of water, dust and debris which may enter the system.</p>	

MANDATORY FEATURE OR MEASURE	Plan Reference
<p>4.504.2.1 Adhesives, sealants and caulks. Adhesives, sealants and caulks used on the project shall meet the requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply:</p> <ol style="list-style-type: none"> 1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in Tables 4.504.1 or 4.504.2, as applicable. Such products shall also comply with Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products as specified in Subsection 2 below. 2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than 1 pound and do not consist of more than 16 fluid ounces) shall comply with Statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of the California Code of Regulations (CCR), Title 17, commencing with Section 94507. 	
<p>4.504.2.2 Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the Air Resources Board Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as Flat, Nonflat, or Nonflat-high Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37, of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat, or Nonflat-high Gloss VOC limit in Table 4.504.3 shall apply.</p>	
<p>4.504.2.3 Aerosol paints and coatings. Aerosol paints and coatings shall meet the Product-Weighted MIR Limits for ROC in Section 94522(a)(2) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Section 94522(e)(1) and (f)(1) of the CCR, Title 17, commencing with Section 94520.</p>	
<p>4.504.2.4 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following:</p> <ol style="list-style-type: none"> 1. Manufacturer's product specification. 2. Field verification of on-site product containers. 	
<p>4.504.3 Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of one of the following:</p> <ol style="list-style-type: none"> 1. Carpet and Rug Institute's Green Label Plus Program 2. California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350) 3. NSF/ANSI 140 at the Gold level 4. Scientific Certifications Systems Indoor Advantage™ Gold 	
<p>4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label Program.</p>	
<p>4.504.3.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 4.504.1.</p>	
<p>4.504.4 Resilient flooring systems. Where resilient flooring is installed, at least 80% of floor area receiving resilient flooring shall comply with one or more of the following:</p> <ol style="list-style-type: none"> 1. Products compliant with the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350), certified as a CHPS Low-Emitting Material in the Collaborative for High Performance Schools (CHPS) High Performance Products Database. 2. Products certified under UL GREENGUARD Gold (formerly the Greenguard Children & Schools Program) 3. Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program 4. Meet the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350) 	

MANDATORY FEATURE OR MEASURE	Plan Reference
<p>4.504.5 Composite wood products. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in the Air Resources Board's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et. seq.), by or before the dates specified in those sections, as shown in Table 4.504.5.</p>	
<p>4.504.5.1 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the five specified methods.</p>	
Section 4.505 - INTERIOR MOISTURE CONTROL	
<p>4.505.2 Concrete slab foundations. Concrete slab foundations or concrete slab-on-ground floors required to have a vapor retarder by the <i>California Building Code</i>, Chapter 19, or the <i>California Residential Code</i>, Chapter 5, respectively, shall also comply with this section.</p>	
<p>4.505.2.1 Capillary break. A capillary break shall be installed in compliance with at least one of the following:</p> <ol style="list-style-type: none"> 1. A 4-inch thick base of 1/2-inch or larger clean aggregate shall be provided with a vapor retarder in direct contact with concrete and a concrete mix design, which will address bleeding, shrinkage, and curling shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06. 2. Other equivalent methods approved by the enforcing agency. 3. A slab design specified by a licensed design professional. 	
<p>4.505.3 Moisture content of building materials. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19% moisture content. Moisture content shall be verified in compliance with the following:</p> <ol style="list-style-type: none"> 1. Moisture content shall be determined with either a probe-type or a contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements in Section 101.8. 2. Moisture readings shall be taken at a point 2 feet to 4 feet from the grade-stamped end of each piece to be verified. 3. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing. Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure. 	
Section 4.506 - INDOOR AIR QUALITY AND EXHAUST	
<p>4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with the following:</p> <ol style="list-style-type: none"> 1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building. 2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control. <ol style="list-style-type: none"> a. Humidity controls shall be capable of adjustment between a relative humidity range of $\leq 50\%$ to a maximum of 80%. A humidity control may utilize manual or automatic means of adjustment. b. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in). <p>Notes:</p> <ol style="list-style-type: none"> 1. For the purposes of this section, a bathroom is a room which contains a bathtub, shower, or tub/shower combination. 2. Lighting integral to bathroom exhaust fans shall comply with the <i>California Energy Code</i>. 	
Section 4.507 - ENVIRONMENTAL COMFORT	
<p>4.507.2 Heating and air-conditioning system design. Heating and air conditioning systems shall be sized, designed, and equipment selected using the following methods:</p> <ol style="list-style-type: none"> 1. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J – 2016 (<i>Residential Load Calculation</i>), ASHRAE handbooks or other equivalent design software or methods. 2. Duct systems are sized according to ANSI/ACCA 1 Manual D – 2016 (<i>Residential Duct Systems</i>), ASHRAE handbooks or other equivalent design software or methods. 3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S – 2014 (<i>Residential Equipment Selection</i>) or other equivalent design software or methods. <p>Exception: Use of alternate design temperatures necessary to ensure the systems functions are acceptable.</p>	

MANDATORY FEATURE OR MEASURE	Plan Reference
Section 4.509 & CCMC 15.02.1135 - LIGHT POLLUTION REDUCTION	
<p>4.509 Light pollution reduction for low-rise residential building. All new outdoor lighting fixtures shall comply with the maximum allowable Backlight, Uplight and Glare (BUG) ratings listed in Table A4.106.10 of CALGreen. [CCMC 15.02.1135]</p>	
CHAPTER 7 - INSTALLER AND SPECIAL INSPECTOR QUALIFICATION	
<p>702.1 Installer training. HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program.</p>	
<p>702.2 Special. Special inspectors must be qualified and able to demonstrate competence to the enforcing agency in the discipline in which they are inspecting.</p>	
<p>703.1 Documentation. Documentation of compliance shall include, but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the local enforcing agency. Other specific documentation or special inspections necessary to verify compliance are specified in appropriate sections of CALGreen.</p>	

TABLE 4.504.1
ADHESIVE VOC LIMIT^{1,2}
Less Water and Less Exempt Compounds in Grams per Liter

ARCHITECTURAL APPLICATIONS	VOC LIMIT
Indoor carpet adhesives	50
Carpet pad adhesives	50
Outdoor carpet adhesives	150
Wood flooring adhesive	100
Rubber floor adhesives	60
Subfloor adhesives	50
Ceramic tile adhesives	65
VCT and asphalt tile adhesives	50
Drywall and panel adhesives	50
Cove base adhesives	50
Multipurpose construction adhesives	70
Structural glazing adhesives	100
Single-ply roof membrane adhesives	250
Other adhesives not specifically listed	50
SPECIALTY APPLICATIONS	
PVC welding	510
CPVC welding	490
ABS welding	325
Plastic cement welding	250
Adhesive primer for plastic	550
Contact adhesive	80
Special purpose contact adhesive	250
Structural wood member adhesive	140
Top and trim adhesive	250
SUBSTRATE SPECIFIC APPLICATIONS	
Metal to metal	30
Plastic foams	50
Porous material (except wood)	50
Wood	30
Fiberglass	80

1. If an adhesive is used to bond dissimilar substrates together, the adhesive with the highest VOC content shall be allowed.
2. For additional information regarding methods to measure the VOC content specified in this table, see South Coast Air Quality Management District Rule 1168.

TABLE 4.504.2
SEALANT VOC LIMIT
Less Water and Less Exempt Compounds in Grams per Liter

SEALANTS	VOC LIMIT
Architectural	250
Marine deck	760
Nonmembrane roof	300
Roadway	250
Single-ply roof membrane	450
Other	420
SEALANT PRIMERS	
Architectural	
Nonporous	250
Porous	775
Modified bituminous	500
Marine deck	760
Other	750

TABLE 4.504.3
VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS^{2,3}
Grams of VOC per Liter of Coating,
Less Water and Less Exempt Compounds

COATING CATEGORY	VOC LIMIT
Flat coatings	50
Nonflat coatings	100
Nonflat-high gloss coatings	150
SPECIALTY COATINGS	
Aluminum roof coatings	400
Basement specialty coatings	400
Bituminous roof coatings	50
Bituminous roof primers	350
Bond breakers	350
Concrete curing compounds	350
Concrete/masonry sealers	100
Driveway sealers	50
Dry fog coatings	150
Faux finishing coatings	350
Fire resistive coatings	350
Floor coatings	100
Form-release compounds	250
Graphic arts coatings (sign paints)	500
High temperature coatings	420
Industrial maintenance coatings	250
Low solids coatings ¹	120
Magnesite cement coatings	450
Mastic texture coatings	100
Metallic pigmented coatings	500
Multicolor coatings	250
Pretreatment wash primers	420
Primers, sealers, and undercoaters	100
Reactive penetrating sealers	350
Recycled coatings	250
Roof coatings	50
Rust preventative coatings	250
Shellacs	
Clear	730
Opaque	550
Specialty primers, sealers and undercoaters	100
Stains	250
Stone consolidants	450
Swimming pool coatings	340
Traffic marking coatings	100
Tub and tile refinish coatings	420
Waterproofing membranes	250
Wood coatings	275
Wood preservatives	350
Zinc-rich primers	340

1. Grams of VOC per liter of coating, including water and including exempt compounds.
2. The specified limits remain in effect unless revised limits are listed in subsequent columns in the table.
3. Values in this table are derived from those specified by the California Air Resources Board, Architectural Coatings Suggested Control Measure, February 1, 2008. More information is available from the Air Resources Board.

TABLE 4.504.5
FORMALDEHYDE LIMITS¹
Maximum Formaldehyde Emissions in Parts per Million

PRODUCT	CURRENT LIMIT
Hardwood plywood veneer core	0.05
Hardwood plywood composite core	0.05
Particleboard	0.09
Medium density fiberboard	0.11
Thin medium density fiberboard ²	0.13

1. Values in this table are derived from those specified by the California Air Resources Board, Air Toxics Control Measure for Composite Wood as tested in accordance with ASTM E1333. For additional information, see *California Code of Regulations*, Title 17, Sections 93120 through 93120.12.
2. Thin medium density fiberboard has a maximum thickness of $\frac{3}{16}$ inch (8 mm).