

CITY OF PASADENA
2016 California Green Building Standards Code with City Amendments
Residential Project Requirements

Instructions: The below CalGreen requirements are intended to simplify the plan review, construction, inspection, and documentation process for all residential projects (including high-rise and hotel/motel buildings of Group R Occupancy). Each of the below items is mandatory and requires either the submittal of documents at plan review, the installation of items per the “Construction Notes”, the completion/installation or submittal of additional documentation by the contractor, and the verification of each feature by the inspector.

For additions and alterations, only the portions of the building being added or altered within the scope of the permitted work would only be required to show compliance.

1. **Applicant/Designer:** Fill out the project information below (Property Owner’s Name, Project Address, Case Number, & Project Description). Submit for Plan Review the below listed documents (if required for the project), and print (copy) the below table & notes onto the plans.
2. **Property Owner/Contractor:** Install the: a) features in accordance with the specifications per the approved plans (or selected specification); b) items listed per the “Construction Notes”; c) and/or provide the required additional documentation. “Construction Notes” are a part of the plans. The property owner or contractor must print & sign this table prior to issuance.

Property Owner's Name:	By signing below, I acknowledge that this project must comply with the CalGreen requirements on this table.
Project Address:	
Case Number:	Property Owner or Contractor (Print Name):
Project Description:	Property Owner's or Contractor's Signature:

MANDATORY MEASURES			Reference Compliance Sheet # for Verification	Applicable Specification, Standard or Field Selected Specification	Field Verification Required (Y or N)	Additional Documentation Required
Plan Review (Show compliance for items below for plan review when required)	Required for Plan Review (Y or N)	Construction Notes (required project features)				
Div. 4.1 – Planning and Design						
Sec. 4.106 – Site Development						
Sec. 4.106.3 – Grade and Paving						
Provide a Site Drainage Plan showing that surface water shall be: a) Directed to an approved location. b) Directed away from the building. Exception: Additions and Alterations not altering the drainage path.						Low Impact Development (LID) plan and/or Stormwater Pollution Prevention Plan (SWPPP) may be required per State Water Board. Contact Bldg & Safety for more info.
Sec. 4.106.5.1 – Cool Roof¹						
Propose a certified “Cool Roof” roofing material for new roofs and re-framed roof (greater than 50%) by specifying the CRRC ID number of the product.				1. Roof slope equal or less than 2:12 - Min. Solar Reflectance of 0.65 & Thermal Emittance of 0.75. 2. Roof slope greater than 2:12 - Min. Solar Reflectance of 0.23 & Thermal Emittance of 0.75.		
Sec. 4.106.4 – Electrical Vehicle (EV) Charging for New Construction						
Sec. 4.106.4.2 – New Multifamily Dwellings						
Where 17 or more units are constructed, provide at least				Article 625 of CEC		

¹ City Amendments
Rev. 2/1/17

MANDATORY MEASURES			Reference Compliance Sheet # for Verification	Applicable Specification, Standard or Field Selected Specification	Field Verification Required (Y or N)	Additional Documentation Required
Plan Review (Show compliance for items below for plan review when required)	Required for Plan Review (Y or N)	Construction Notes (required project features)				
<p>3% of the total parking spaces (min. 1) EV Charging Spaces capable of supporting future Electrical Vehicle Supply Equipment (EVSE).</p> <p>For Single EV Charging Space: Identify the raceway termination point on the plans.</p> <p>For Multiple EV Charging Spaces:</p> <p>a) Provide plans that include location(s) of the future EV spaces and EV chargers with at least one EVCS shall be located in common use areas, raceway termination point, amperage of future EVSE, raceway method(s), & wiring schematics.</p> <p>b) Submit electrical load calculations to verify that the electrical panel & system have sufficient capacity to simultaneously charge all the EVs at their full rated amperage.</p>		<p>Only raceways and related components installed underground, enclosed, inaccessible, or in concealed areas/spaces are required to be installed at the time of original construction.</p> <p>The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as “EV CAPABLE”.</p>		<p>Sec.4.106.4.2.1 – Locations of required EV Charging Spaces</p> <p>Sec. 4.106.4.2.2 – Minimum dimensions for EV Charging Space</p>		
Div. 4.2 – Energy Efficiency						
Sec. 4.201 - General						
Project shall meet the				Project Energy Calculations,		As required by

¹ City Amendments
Rev. 2/1/17

MANDATORY MEASURES			Reference Compliance Sheet # for Verification	Applicable Specification, Standard or Field Selected Specification	Field Verification Required (Y or N)	Additional Documentation Required
Plan Review (Show compliance for items below for plan review when required)	Required for Plan Review (Y or N)	Construction Notes (required project features)				
minimum requirements of the current Energy Code.				mandatory measures, and forms as required.		Energy Docs.
Div. 4.3 – Water Efficiency and Conservation						
Sec. 4.303 – Indoor Water Use						
Sec. 4.303.1 – Water Conserving Plumbing Fixtures & Fittings						
Show compliance by ONE of the following methods: a) Specifying on the plans the reduced flow rate fixtures for Water Closets, Urinals, Showerheads, Faucets, Lavatory Faucets in common/public use areas, Metering Faucets, and Kitchen Faucets; OR b) Complete and copy Worksheet WS-1 & WS-2 onto plans.				Sec. 4.303.1 Plumbing Fixtures and Fittings installed per CPC, and meet standards per CPC Table 1701.1.		
Sec. 4.304 – Outdoor Water Use						
Sec. 304.1 – Outdoor Potable Water Use in Landscape Areas.						
For new projects with an aggregate Landscape Area equal to or greater than 500 square feet, provide Water Budget Calculations complying with ONE of the following options: a) PMC Chapter 13.22 – Water Efficient Landscape ordinance (contact Planning for more info.) OR the current California	Planning to review if conforming to local ordinance.					

MANDATORY MEASURES			Reference Compliance Sheet # for Verification	Applicable Specification, Standard or Field Selected Specification	Field Verification Required (Y or N)	Additional Documentation Required
Plan Review (Show compliance for items below for plan review when required)	Required for Plan Review (Y or N)	Construction Notes (required project features)				
Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent; OR b) Projects with aggregate Landscape Areas less than 2,500 square feet may comply with the MWELO's Appendix D Prescriptive Compliance Option.						
Div. 4.5 – Environmental Quality						
Sec. 4.503 – Fireplaces						
Specify the manufacturer's name, model number/type, and listing number of the Direct-Vent Sealed-Combustion Type (gas only) Fireplace.		Any installed woodstove or pellet stove shall have a permanent label indicating they are certified to meet the Emission Limits per US EPA NSPS.				
Sec. 4.505 – Interior Moisture Control						
Sec. 4.505.2 – Concrete Slab Foundations						
Provide a Vapor Retarder with a Capillary Break at all occupied conditioned space.				Vapor Retarder: 6-mil polyethylene with joints lapped not less than 6 inches. [CRC R506.2.3 / CBC 1907]. Capillary Break: 4-inch thick base of ½ inch clean aggregate.		
Sec. 4.507.2 – Heating and Air-conditioning System Design						
Provide energy documentation to verify that				1. Heat loss/gain established according to ANSI/ACCA 2		

MANDATORY MEASURES			Reference Compliance Sheet # for Verification	Applicable Specification, Standard or Field Selected Specification	Field Verification Required (Y or N)	Additional Documentation Required
Plan Review (Show compliance for items below for plan review when required)	Required for Plan Review (Y or N)	Construction Notes (required project features)				
the Heating and Air-Conditioning Systems and their equipment were sized and designed using one the '3' methods.				Manual J-2011, ASHRAE handbooks, or other equivalent design software or methods; OR 2. Duct systems are sized according to ANSI/ACCA 1 Manual D-2014, ASHRAE handbooks, or other equivalent design software or methods; OR 3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S-2014, or other equivalent design software or methods.		

2016 California Green Building Standards Code with Pasadena Amendments
CALGreen Construction Notes for Residential

1. **Sec. 4.106.2 – Storm Water Drainage & Retention During Construction.** Manage storm water drainage during construction by implementing ONE or more of the following measures to prevent flooding of adjacent properties, prevent erosion, and retain soil runoff on the site:
 - a. Retention basins of sufficient size shall be utilized to retain storm water on the site.
 - b. Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method, water shall be filtered by use of a barrier system, wattle or other approved method.
2. **Sec. 4.106.4.1 – Electrical Vehicle (EV) Charging for One- and Two-Family Dwellings, and Townhomes with Attached Private Garages.** Future installation of electrical vehicle supply equipment (EVSE) shall be provided and installed in accordance with Electrical Code, Article 625 for new construction.

Listed raceway (min. trade size 1) shall be installed to accommodate a dedicated 208/240-volt branch circuit. 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. 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.
3. **Sec. 4.202.1.1¹ – Future Access for Electrical Solar System.** For new buildings or when an existing service is relocated to new construction area, a minimum of 1” electrical conduit shall be provided from the electrical service equipment to an accessible location of the attic or other location suitable for future connection to a solar system. The conduit shall be labeled as future access for electrical solar system. The electrical panel shall be sized to accommodate the installation of future electrical solar system.
4. **Sec. 4.406.1 – Rodent Proofing.** Annular spaces around pipes, electrical cables, conduits, or other openings in sole/bottom plates at exterior walls shall be protected by closing such openings with cement mortar, concrete masonry, or a similar method acceptable.
5. **Sec. 4.408.1 – Construction Waste Management.** Recycle and/or salvage for reuse a minimum of 75% of the nonhazardous construction and demolition waste per local ordinance PMC 8.62. Obtain Public Works’ approval.¹
6. **Sec. 4.410.1 – Operations & Maintenance Manual.** At the time of final inspection, an “Operations and Maintenance Manual” in a form of a manual, CD, web-based reference, or other acceptable media shall be placed in the building. The content of the manual shall comply with Sec. 4.410.1.
7. **Sec. 4.410.2 – Recycling by Occupants.** Where 5 or more units are constructed, readily accessible area(s) designated for depositing, storage, and collection of non-hazardous materials for recycling shall be provided to serve all buildings on the site.
8. **Sec. 4.504.1 – Covering of Duct Openings/Protection of Mechanical Equipment During Construction.** At the time of rough installation or during storage and until final startup, all duct and other related air distribution component opening shall be covered with tape, plastic or other acceptable material.
9. **Sec. 4.504.2.1 – Adhesives, Sealants, & Caulks.** Adhesives, sealants and caulks shall meet the following standards:
 - a. Local or regional air pollution control **OR** SCAQMD Rule 1168 VOC (Table 4.504.1 or 4.504.2)
 - b. Statewide VOC standards for aerosol adhesives and smaller unit size
10. **Sec. 4.504.2.2 – Paints & Coatings.** Paints and coatings shall comply with VOC limits per Table 4.504.3.
11. **Sec. 4.504.2.3 – Aerosol Paints & Coatings.** Aerosol paints and coatings shall meet the Product-Weighted MIR Limits for ROC per Sec. 4.504.2.3.
12. **Sec. 4.504.3 – Carpet Systems.** All carpets installed shall meet ONE of the testing and product requirements of:
 - a. Carpet and Rug Institute’s Green Label Plus Program
 - b. CA Dept. of Public Health (Specification 01350)
 - c. NSF/ANSI 140 (Gold)
 - d. SCSIA (Gold)

¹ City Amendments
Rev. 2/1/17

13. **Sec. 4.504.2.3.1 – Carpet Cushion.** All carpet cushions shall meet the Carpet and Rug Institute’s Green Label Program.
14. **Sec. 4.504.3.2 – Carpet Adhesive.** All carpet adhesives shall meet the VOC limit per Table 4.504.1.
15. **Sec. 4.504.4 – Resilient Flooring System.** Minimum 80% of the installed floor area shall comply with ONE or more:
 - a. Certified as a Low-Emitting Material in the Collaborative for High Performance Schools (CHPS) High Performance Products Database; **OR**
 - b. Certified under UL GREENGUARD Gold; **OR**
 - c. Certified under the Resilient Floor Covering Institute (RFCI) FloorScore program; **OR**
 - d. CA Dept. of Public Health (Specification 01350)
16. **Sec. 4.504.5 – Composite Wood Products.** Interior/exterior use of hardwood plywood, particleboard, and medium density fiberboard composite wood products shall comply with formaldehyde limits per Table 4.504.5.
17. **Sec. 4.505.3 – Moisture Content of Building Materials.** Building materials (including insulations) with visible signs of water damage shall not be installed.

 Wall and floor framing shall not be enclosed with the framing members exceed 19% moisture content.

 Moisture content shall be verified & determined by:
 - a. Probe-type or contact-type moisture meter.
 - b. Moisture readings shall be taken at a point 2 feet to 4 feet from the grade stamped end of each piece to be verified.
 - c. At least three random moisture reading shall be performed on wall and floor framing.
18. **Sec. 4.506.1 – Bathroom Exhaust Fans.** Mechanical exhaust fans which exhaust directly from bathrooms shall comply with:
 - a. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.
 - b. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidistat which shall be readily accessible and capable of adjustment

between a relative humidity range of 50 to 80 percent.