BULLETIN #222 - City of San José Building Division

2013 CALGREEN RESIDENTIAL MANDATORY MEASURES

Includes significant changes from 2010 CALGREEN

This document summarizes the 2013 CALGreen required measures for low-rise residential buildings.
For details and complete requirements, visit www.bsc.ca.gov/Home/Calgreen.aspx

2013 CALGREEN CODE

Effective January 1, 2014

SECTION	MEASURES	2013 CALGREEN REQUIREMENTS AND CHANGES FROM 2010 CALGREEN
Chapter 1 ADMINISTRATION		
101.3.1	**State-regulated buildings**	**REVISED**: Expands the scope of CALGreen to include **ALL** low-rise, high-rise, and hotel/motel buildings of Group R occupancy.
Chapter 2 DEFINITIONS		
202	**Definitions**	**NEW:** Relocates all definitions to Chapter 2. Otherapters include only defined terms and a reference to Chapter 2. **REVISED**: Modifies "residential building" to include "low-rise residential buildings" and "high-rise residential buildings." **REVISED**: Clarifies "low-rise residential building" as a Group R occupancy that is 3 stories or less and deletes reference to one- or two-family dwellings or townhouses. **NEW**: Defines "high-rise residential building" as a Group R occupancy that is 4 stories or greater in height.
Chapter 3 GREEN BUILDING		
301.1.1	**Additions and alterations**	**NEW:** Clarifies that mandatory measures in Chapter 4 apply to additions or alterations of residential buildings and specifies that requirements only apply to the specific area of the addition or alteration. **NEW:** Adds a note directing code users to review Civil Code, Section 1101.1 et seq., regarding mandatory replacement of non-compliant plumbing fixtures.
301.2	**Low-Rise and High-Rise Residential Buildings**	**NEW**: Clarifies that CALGreen may apply to either low-rise or high-rise residential buildings or both. **NEW:** New "banners" [LR] and [HR+] as identifying provisions applying only to low-rise or high-rise residential structures, respectively.
Division 4.1 - PLANNING AND DESIGN (SITE DEVELOPMENT)		
4.106.2	**Storm Water Drainage and Retention During Construction**	**NO CHANGE FROM 2010 CALGREEN** Projects which disturb less than one acre of soil and are not part of a larger common plan of development shall manage storm water drainage during construction.
4.106.3	**Grading and Paving**	**NO CHANGE FROM 2010 CALGREEN** Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. **NEW EXCEPTION:** Revision provides an exception for additions and alterations not altering the drainage path.
Division 4.2 - ENERGY EFFICIENCY		
4.201.1/ 5.201.1	**Scope**	**REVISED:** Energy efficiency requirements for low-rise residential (Section 4.201.1) and high-rise residential/hotel/motel (Section 5.201.1) are now in both residential and nonresidential chapters of CALGreen. **REVISED:** Standards for residential buildings do not require compliance with levels of minimum energy efficiency beyond those required by the 2013 California Energy Code [code reference date updated from 2010 to 2013].
Division 4.3 - WATER EFFICIENCY AND CONSERVATION (INDOOR WATER USE)		
4.303.1	**Water Conserving Plumbing Fixtures and Fittings**	**REVISED:** 20% reduction of water use are now prescriptively designated within CALGREEN text. **REPEALED:** Prescriptive and performance methodology, Tables 4.303.1 and 4.303.2. **NEW:** Plumbing fixtures and fittings shall comply with the following: 4.303.1.1 Waters Closets: ≤ 1.28 gal/flush 4.303.1.2 Urinals: ≤ 0.5 gal/flush 4.303.1.3.1 Single Showerheads: ≤ 2.0 gpm @ 80 psi 4.303.1.3.2 Multiple Showerheads: combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gpm @ 80 psi or only one shower outlet is to be in operation at a time 4.303.1.4.1 Residential Lavatory Faucets: ≤ 1.5 gpm @ 60 psi 4.303.1.4.2 Lavatory Faucets in Common and Public Use Areas of Residential Buildings: ≤ 0.5 gpm @ 60 psi 4.303.1.4.3 Metering Faucets: ≤ 0.25 gallons per cycle 4.303.1.4.4 Kitchen Faucets: ≤ 1.8 gpm @ 60 psi; temporary increase to 2.2 gpm allowed but shall default to 1.8 gpm
4.303.2	**Standards for Plumbing Fixtures and Fittings**	**REVISED:** Specifies that plumbing fixtures and fittings shall be installed in accordance with the California Plumbing Code. **REVISED:** Relocates provisions for multiple showerheads to Section 4.303.1.3.2. **REPEALED:** Table 4.303 "Standards for Plumbing Fixtures and Fixture Fittings." Code users are directed, in Section 4.303.2, to the California Plumbing Code for applicable reference standards.
Division 4.3 - WATER EFFICIENCY AND CONSERVATION (OUTDOOR WATER USE)		
4.304.1	**Irrigation Controllers**	**NO CHANGE FROM 2010 CALGREEN** Automatic irrigation system controllers for landscaping provided by the builder and installed at the time of final inspection shall comply with the following: 1 - Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plant watering needs as weather or soil conditions change. 2 - Weather-based controllers without integral rain sensors or communication systems that account for rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s).

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SECTION	**MEASURES**	**2013 CALGREEN REQUIREMENTS AND CHANGES FROM 2010 CALGREEN**
Division 4.4 - MATERIAL CONSERVATION & RESOURCE EFFICIENCY (ENHANCED DURABILITY & REDUCED MAINTENANCE)		
4.406.1	**Rodent Proofing**	**REVISED**: Specifies the areas needing rodent proofing are sole/bottom plates. Annular spaces around pipes, electric cables, conduits, or other openings in sole/bottom plates at exterior walls shall be closed with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency to prevent passage of rodents.
Division 4.4 - MATERIAL CONSERVATION & RESOURCE EFFICIENCY (CONSTRUCTION WASTE REDUCTION, DISPOSAL & RECYCLING)		
4.408.1	**Construction Waste Reduction of at least 50%**	**NO CHANGE FROM 2010 CALGREEN** Recycle and/or salvage for reuse a minimum of 50% of the nonhazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4; OR meet a more stringent local construction and demolition waste management ordinance. Documentation is required per Section 4.408.5. Exceptions: 1 - Excavated soil and land-clearing debris. 2 - Alternate waste reduction methods developed by working with local enforcing agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite. 3 - The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility.
4.408.2	**Construction Waste Management Plan**	**NO CHANGE FROM 2010 CALGREEN** 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.
4.408.3	**Waste Management Company**	**NO CHANGE FROM 2010 CALGREEN** Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that diverted construction and demolition waste materials meet the requirements in Section 4.408.1.
4.408.4 4.408.4.1	**Waste Stream Reduction Alternative**	4.408.4 Generate a total combined weight of construction and demolition waste disposed in landfills that is equal to or less than 4 pounds per square-foot of the building area. **NEW:** Adds Section 4.408.4.1 to acknowledge a high-rise residential compliance alternative. 4.408.4.1 [HR+] Generate a total combined weight of construction and demolition waste disposed in landfills that is equal to or less than 2 pounds per square-foot of the building area.
Division 4.4 - MATERIAL CONSERVATION & RESOURCE EFFICIENCY (BUILDING MAINTENANCE & OPERATION)		
4.410.1	**Operation and Maintenance Manual**	**NO CHANGE FROM 2010 CALGREEN** 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.
Division 4.5 - ENVIRONMENTAL QUALITY (FIREPLACES)		
4.503.1	**General**	**NO CHANGE FROM 2010 CALGREEN** Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA Phase II emission limits where applicable. Woodstoves, pellet stoves and fireplaces shall also comply with all applicable local ordinances.
Division 4.5 - ENVIRONMENTAL QUALITY (POLLUTANT CONTROL)		
4.504.1	**Covering of Duct Openings and Protection of Mechanical Equipment During Construction**	**NO CHANGE FROM 2010 CALGREEN** 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 intake and distribution component openings shall be covered. Tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of water, dust and debris entering the system may be used.
4.504.2.1	**Adhesives, Sealants and Caulks**	**NO CHANGE FROM 2010 CALGREEN** 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: 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, Title 17, commencing with Section 94507.

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Division 4.5 - ENVIRONMENTAL QUALITY (POLLUTANT CONTROL Continued)		
4.504.2.2	**Paints and Coatings**	**NO CHANGE FROM 2010 CALGREEN** 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.
4.504.2.3	**Aerosol Paints and Coatings**	**NO CHANGE FROM 2010 CALGREEN** Aerosol paints and coatings shall meet the Product-Weighted MIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Section 94522(c)(2) and (d)(2) of the California Code of Regulations, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District shall additionally comply with the percent VOC by weight of product limits of Regulation 8, Rule 49.
4.504.3	**Carpet Systems**	**NO CHANGE FROM 2010 CALGREEN** All carpet installed in the building interior shall meet the testing and product requirements of one of the following: 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
4.504.3.1	**Carpet Cushion**	**NO CHANGE FROM 2010 CALGREEN** All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label Program.
4.504.3.2	**Carpet Adhesive**	**NO CHANGE FROM 2010 CALGREEN** All carpet adhesives shall meet the requirements of Table 4.504.1.
4.504.4	**Resilient Flooring Systems**	**REVISED:** Compliance rate of resilient flooring is increased from 50% to 80%. Related changes are made for Tier 1 and Tier 2 resilient flooring measures. Where resilient flooring is installed, at least 80% of floor area receiving resilient flooring shall comply with one or more of the following: 1 - VOC emission limits defined in the Collaborative for High Performance Schools (CHPS) High Performance Products Database. 2 - Products compliant with CHPS criteria certified under 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.)
4.504.5	**Composite Wood Products**	**NO CHANGE FROM 2010 CALGREEN FOR 4.504.5**. **Referenced Table 4.504.5 has been revised** to delete obsolete compliance dates. 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.), on or before the dates specified in those sections as shown in Table 4.504.5. Documentation is required per Section 4.504.5.1. Definition of Composite Wood Products: Composite wood products include hardwood plywood, particleboard, and medium density fiberboard. "Composite wood products" do not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood I-joists, or finger-jointed lumber, all as specified in CCR, Title 17, Section 93120.1(a).
Division 4.5 - ENVIRONMENTAL QUALITY (INTERIOR MOISTURE CONTROL)		
4.505.2	**Concrete Slab Foundations**	**NO CHANGE FROM 2010 CALGREEN** Concrete slab foundations or concrete slab-on-ground floors required to have a vapor retarder by the California Building Code, Chapter 19, or the California Residential Code, Chapter 5, respectively, shall also comply with this section.
4.505.2.1	**Capillary Break**	**NO CHANGE FROM 2010 CALGREEN** A capillary break shall be installed in compliance with at least one of the following: 1 - A 4-inch (101.6 mm) thick base of 1/2-inch (12.7 mm) 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.

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Division 4.5 - ENVIRONMENTAL QUALITY (INTERIOR MOISTURE CONTROL Continued)		
4.505.3	**Moisture Content of Building Materials**	**NO CHANGE FROM 2010 CALGREEN** 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: 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 (610 mm) to 4 feet (1219 mm) 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. Manufacturers' drying recommendations shall be followed for wet-applied insulation products prior to enclosure.
Division 4.5 - ENVIRONMENTAL QUALITY (INDOOR AIR QUALITY & EXHAUST)		
4.506.1	**Bathroom Exhaust Fans**	**NO CHANGE FROM 2010 CALGREEN** Each bathroom shall be mechanically ventilated and shall comply with the following: 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. a) Humidity controls shall be capable of manual or automatic adjustment between a relative humidity range of less than 50% to a maximum of 80%. b) A humidity control may be a separate component to the exhaust fan and is not required to be integral or built-in. Note: For CALGreen a "bathroom" is a room which contains a bathtub, shower, or tub/shower combination. Fans are required in each bathroom.
Division 4.5 - ENVIRONMENTAL QUALITY (ENVIRONMENTAL COMFORT)		
4.507.1	**Reserved**	**REPEALED:** Section 4.507.1 Openings (for whole house fans) has been repealed. There is no substitute language.
4.507.2	**Heating and Air Conditioning System Design**	**NO CHANGE FROM 2010 CALGREEN** Heating and air conditioning systems shall be sized, designed, and equipment selected using the following methods: 1 - The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J - 2004 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods. 2 - Duct systems are sized according to ANSI/ACCA 1 Manual D - 2009 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods. 3 - Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2004 (Residential Equipment Selection) or other equivalent design software or methods. Exception: Use of alternate design temperatures necessary to ensure the system functions are acceptable.
CHAPTER 7 - INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS (QUALIFICATIONS, VERIFICATIONS)		
702.1	**Installer Training**	**NO CHANGE FROM 2010 CALGREEN** HVAC system installers shall be trained and certified in the proper installation of HVAC systems and equipment by a recognized training or certification program. Examples of acceptable HVAC training and certification programs include but are not limited to the following: 1 - State certified apprenticeship programs. 2 - Public utility training programs. 3 - Training programs sponsored by trade, labor or statewide energy consulting or verification organizations. 4 - Programs sponsored by manufacturing organizations. 5 - Other programs acceptable to the enforcing agency.
702.2	**Special Inspection**	**NO CHANGE FROM 2010 CALGREEN** Special inspectors must be qualified and able to demonstrate competence to the enforcing agency in the discipline in which they are inspecting.
703.1	**Documentation**	**NO CHANGE FROM 2010 CALGREEN** 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.

Acknowledgement: This document is an updated version of an original checklist prepared by the California Building Industry Association for summarizing the 2010 CALGreen's mandatory measures for low-rise residential structures. This checklist includes CALGreen provisions effective January 1, 2014, covering all residential buildings and notations for sections revised or updated for the 2013 CALGreen.

Note: This document is only a summary of the mandatory measures in the 2013 CALGreen. Users should refer to the most recent version of the 2013 CALGreen code for additional details and complete requirements.