



**CITY OF LONG BEACH**  
 Department of Development Services  
 BUILDING AND SAFETY BUREAU  
**2013 CALGREEN - NONRESIDENTIAL**  
**PLAN REVIEW CHECKLIST**



<b>INFORMATION</b>	PROJECT NO.:	EXPIRATION DATE:	STATUS:	
	PROJECT ADDRESS:	VALUATION:		
	WORK DESCRIPTION:			
	APPLICANT'S NAME:	TEL. NO.:		
	PLAN REVIEWER:	TEL. NO.:		
	ADDRESS:			
	EMAIL:	WEBSITE:		
	<p><b>Referenced Applicable Codes:</b> 2013 California Green Building Standards Code (CALGreen), 2013 California Building Code (CBC), 2013 California Plumbing Code(CPC), 2013 California Mechanical Code (CMC), 2013 California Electrical Code(CEC), 2008 California Building Energy, and Long Beach Municipal Code (LBMC).</p> <p>Numbers within the parenthesis ( ) refer to 2013 CALGreen and applicable codes. Comments with circled item numbers apply to this review. Provide a written response to each comment and show where and how it has been addressed.</p>			

**CHAPTER 1 ADMINISTRATION**

**A General**

- Construction documents and other data shall be prepared by a registered design professional due to special conditions occurring in the design. (102.1)
- Provide sufficient clarity to indicate the location, nature, and scope of the proposed green building feature. (102.2)
- Plans shall indicate the method of verifying compliance with all applicable requirements from CALGreen. (102.3)
- Third party or other methods shall demonstrate satisfactory conformance with mandatory measures. (102.3)
- This project shall comply with the comments with asterisk "\*" for exceeding the following threshold:
  - Addition ≥ 1,000 Square Feet or
  - Valuation of alteration ≥ \$200,000.
- Similar to S (structural) sheets, all standard notes and details of proposed green building features shall be detailed onto the sheets titled as CG (CALGreen).

- Obtain all approvals/clearances from the following department/bureau/agency noted below. It is necessary to apply immediately for the signoff or approval as it can take weeks or months for some departments/bureaus/agencies to review and approve the project. All required approvals or clearances must be secured prior to permit issuance.
  - Planning Bureau
  - Water Department

**CHAPTER 3 GREEN BUILDING**

**B General**

- The provisions of individual sections of Chapter 5 apply to newly constructed buildings, building additions of 1,000 square feet or greater, and/ or building alterations with a permit valuation of \$200,000 or above.
- In a mixed occupancy building, show how each portion of the building will comply with specific green building measures applicable to each occupancy. (302.1)
- For shell buildings with future tenant improvement, provide a project summary that each phase of the project shall comply with code measures applicable to the building components and systems. (303.1)

4. *Add notes to plan:* CALGreen shall apply to initial tenant improvement (1st TI or occupancy) in shell buildings. (303.1.1)

## CHAPTER 5 NONRESIDENTIAL MANDATORY MEASURES

### Division 5.1 PLANNING AND DESIGN

#### C Site Development

1. For projects of one acre or less, develop a Storm Water Pollution Prevention Plan (SWPPP) conforming to the State Storm water NPDES Construction Permit as is required for projects over one acre. The plan should cover prevention of soil loss by storm water run-off and/or wind erosion, of sedimentation and/or of dust/particulate matter air pollution (5.106.1). \*

Exception: If the site is already greater than 50% impervious, implement a storm water management plan resulting in a 25% decrease in rate and quantity.

2. Show bicycle parking and changing rooms in compliance with Sec. 5.106.4.1 and 5.106.4.2 (5.106.4).
  - a. For short-term bicycle parking, if the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200' of the visitors' entrance, readily visible to passers-by, for 5% of visitor motorized vehicle parking capacity, with a min of one two-bike capacity rack (5.106.4.1).
  - b. For long-term bicycle parking, provide secure bicycle parking for 5% of motorized vehicle parking capacity for building with over 10 tenant occupants, with a min of one space, but not less than that required by LBMC 21.45.400.I.2. Planning approval is required. (LBMC 18.47.170)
3. Provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2. Show designated parking locations on site plan. Mark parking spaces as "CLEAN AIR VEHICLE" PER Sec 5.106.5.2.1. \*(if more than 10 occupants and more than 10 vehicle spaces added)
4. Comply with lighting power requirements in the *California Energy Code* and design interior and exterior lighting such that zero direct-beam

illumination leaves the building site. Meet or exceed exterior light levels and uniformity ratios for lighting zones 1 – 4 as defined in Chapter 10 of the *California Administrative Code*, using the following strategies:

- a. Shield all exterior luminaires or use cutoff luminaires.
- b. Contain interior lighting within each source.
- c. Allow no more than .01 horizontal foot candle 15 ft beyond the site.
- d. Contain all exterior lighting within property boundaries.

Exception: See Part 2, California Building Code Chapter 12, section 1205.6 for campus lighting requirements for parking facilities and walkways.

5. Locate and orient the building as follows (LBMC 18.47.180):
  - a. When site and location permit, orient the building with the long sides facing north and south.
  - b. Protect the building from thermal loss, drafts, and degradation of the building envelope caused by wind and wind-driven materials such as dust, sand, snow, and leaves with building orientation and landscape features.
6. Design and develop construction site to keep surface water away from buildings. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows (5.103.10).
7. Reduce non-roof heat islands by Sec 5.106.11.1 and roof heat islands by 5.106.11.2. (LBMC 18.47.190).
  - a. Hardscape alternatives. Use one or a combination of strategies 1 through 3 for 50% of site hardscape or put 50% of parking under ground or 50% of parking covered:
    - i. Provide shade .
    - ii. Use light colored / high-albedo materials.
    - iii. Use open-grid pavement system.
  - b. Cool Roof. Use roofing materials having a minimum 3-year aged solar reflectance and thermal emittance.
8. Design post-construction landscape in compliance comply with LBMC 21.42 landscaping standard of Title 21 of the Long Beach Municipal Code (LBMC 5.106.12). Planning approval is required for landscape plans. (LBMC 18.47.200)

## Division 5.2 ENERGY EFFICIENCY

### D General

1. Nonresidential buildings shall meet or exceed the minimum standard design required by the California Energy Standards (5.201.1):
  - a. Provide energy calculations, designs, and details for building or structure.
  - b. Add certificates of energy compliance (light and ventilation) and energy notes to plans.

## Division 5.3 WATER EFFICIENCY AND CONSERVATION

### E Indoor Water Use

1. Install separate meters for the uses described in Sections 503.1.1 through 503.1.3.
  - a. For buildings in excess of 50,000 square feet. Separate submeters shall be installed as follows (5.303.1.1):
    - i. For each individual leased, rented or other tenant space within the building projected to consume more than 100 gal/day.
    - ii. For spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory or beauty salon or barber shop projected to consume more than 100 gal/day.
  - b. Any building within a project or space within a building that is projected to consume more than 1,000 gal/day (5.303.1.2).
2. Manifold design, meter sizes, and calculations shall be approved under a separate plumbing permit.
3. Use one of the two methods below to reduce the indoor water use at least 20%: (5.303.2)  
Prescriptive Method:  
Provide schedules for plumbing fixtures and fixture fittings specified in Table 5.303.2.3, or  
Performance Method:  
Show calculations (by using Water Use Worksheets) demonstrating a 20% reduction in baseline water use per Table 5.303.2.2.
4. When single shower fixtures are served by more than one showerhead, the combined flow rate of all the showerheads shall not exceed the maximum flow rates specified in the 20% reduction column contained in Table 5.303.2.3 or the shower shall be designed to only allow one showerhead to be in operation at a time.

5. Reduce the generation of wastewater by one of the following methods (5.303.4):
  - a. The installation of water-conserving fixtures or
  - b. Utilizing nonpotable water systems.
6. Show references and specifications for plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) in compliance with the requirements listed for each type in Items listed in Table 5.303.6:
  - a. Water closets (toilets) – flushometer type
  - b. Water closets (toilets) – tank type
  - c. Urinals
  - d. Public lavatory faucets
  - e. Public metering self-closing faucets
  - f. Residential bathroom lavatory sink faucets
  - g. Residential kitchen faucets
  - h. Residential shower heads
  - i. Single shower fixtures served by more than one showerhead

### F Outdoor Water Use

1. Develop a water budget for landscape irrigation use (5.304.1).
2. For new water service of outdoor portable water use, separate meters or submeters shall be installed for indoor and outdoor potable water use for landscaped areas between 1,000 square feet and 5,000 square feet (5.304.2). Not subject to the provisions of *Water Code* Section 535, separate meters or submeters shall be installed for indoor and outdoor potable water use for landscaped areas between 500 square feet and 1,000 square feet.
3. In new nonresidential projects with between 1,000 and 2,500 square feet of landscaped area (the level at which the MLO applies), install irrigation controllers and sensors which include the following criteria and meet manufacturer's recommendations (5.304.3).
4. Automatic irrigation system controllers installed at the time of final inspection shall comply with the following (5.304.3.1):
  - a. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.
  - b. Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate

wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.

## Division 5.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

### G Water Resistance and Moisture Management

1. Provide a weather-resistant exterior wall and foundation envelope as required by *California Building Code* Section 1403.2 and *California Energy Code* Section 150, manufacturer's installation instructions or local ordinance, whichever is more stringent (5.407.1).
2. Employ moisture control measures by the following methods (5.407.2);
  - a. Prevent irrigation spray on structures.
  - b. Design exterior entries and openings to prevent water intrusion into buildings.

### H Construction Waste Reduction, Disposal and Recycling

1. The construction meeting the threshold of Section LBMC18.67.020 shall comply with LBMC Chapter 18.67 (LBMC 4.408.1).

Note: See Information Bulletin DS-002 Waste Management Plan Instruction Sheet for information.

### I Building Maintenance and Operation

1. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling (5.410.1).
2. For new buildings 10,000 square feet and over, building commissioning for all building systems covered by T24, Part 6, process systems and renewable energy systems shall be included in the design and construction processes of the building project. Commissioning requirements shall include items listed in Section 5.410.2.
  - a. Documented before the design phase of the project begins the OPR shall include items listed in Section 5.410.4.
  - b. A written explanation of how the design of the building systems meets the OPR shall be completed at the design phase of the building

project and updated periodically to cover the systems listed in Section 5.410.2.2.

- c. A commissioning plan describing how the project will be commissioned shall be started during the design phase of the building project and shall include items listed in Section 5.410.2.3.
  - d. Functional performance testing shall demonstrate the correct installation and operation of each component, system and system-to-system interface in accordance with the approved plans and specifications.
  - e. A Systems manual and systems operations training are required.
  - f. The systems manual shall be delivered to the building owner or representative and facilities operator and shall include the items listed in Section 5.410.2.5.1.
  - g. The training of the appropriate maintenance staff for each equipment type and/or system shall include items listed in Section 5.410.2.5.2.
  - h. A complete report of commissioning process activities undertaken through the design, construction and reporting recommendations for post construction phases of the building project shall be completed and provided to the owner or representative.
3. Testing and adjusting of systems shall be required for buildings less than 10,000 square feet (5.410.4).
    - a. Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting shall include, as applicable to the project, the systems listed in Section 5.410.3.2.
    - b. Perform testing and adjusting procedures in accordance with industry best practices and applicable national standards on each system.
    - c. Before a new space-conditioning system serving a building or space is operated for normal use, the system should be balanced in accordance with the procedures defined by national standards listed in Section 5.410.3.3.1.
    - d. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.
    - e. Provide the building owner with detailed operating and maintenance instructions and copies of guarantees/warranties for each system prior to final inspection.
    - f. Include a copy of all inspection verifications and reports required by the enforcing agency.

## Division 5.5 ENVIRONMENTAL QUALITY

### J Fireplaces

1. Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace or a sealed woodstove and refer to residential requirements in the *California Energy Code*, Title 24, Part 6, Subchapter 7, Section 150 (5.503.1).
2. Woodstoves shall comply with US EPA Phase II mission limits (5.503.1.1).

### K Pollutant Control

1. At the time of rough installation or during storage on the construction site and until final startup of the heating and cooling 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 dust or debris which may collect in the system (5.504.3).
2. Finish materials shall comply with Sections 5.504.4.1 through 5.504.4.4.
  - a. Adhesives and sealants used on the project shall meet the requirements of the following standards (5.504.4.1).
    - i. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2.
    - ii. Aerosol adhesives and smaller unit sizes of adhesives and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of *California Code of Regulations*, Title 17, commencing with Section 94507.
  - b. Architectural paints and coatings shall comply with Table 5.504.4.3 unless more stringent local limits apply.
    - i. 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 (CCR, Title 17, Section 94520 et seq).
  - ii. Verification of compliance with this section shall be provided at the request of the enforcing agency.
- c. All carpet installed in the building interior shall meet the testing and product requirements of one of the standards listed in Section 5.504.4.4.
    - i. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program.
    - ii. All carpet adhesive shall meet the requirements of Table 804.4.1.
3. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in Table 5.504.4.
    - a. Where complying composite wood product is readily available for nonresidential occupancies, meet Phase 2 requirements before the compliance dates indicated in Table 5.504.4.5 (Tier I) or use composite wood products made with either CARB-approved no-added formaldehyde (NAF) resins or CARB-approved ultra-low emitting formaldehyde (ULEF) resins (Tier II).
    - b. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following.
      - i. Product certifications and specifications
      - ii. Chain of custody certifications
      - iii. Other methods acceptable to the enforcing agency
  4. Comply with the VOC-emission limits defined in the 2009 CHPS criteria and listed on its Low-emitting Materials List (or Product Registry) or certified under the FloorScore program of the Resilient Floor Covering Institute. Provide documentation to verify that resilient flooring materials meet the pollutant emission limits (5.504.4.6).
  5. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a MERV of 8. (5.504.5.3).

### L Interior Moisture Control

1. Buildings shall meet or exceed the provisions of *California Building Code*, CCR, Title 24, Part 2, Sections 1203 and Chapter 14.1.1 (5.505.1)

