



**2010 CALGreen
 Non-Residential Mandatory
 Measures Checklist**

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Feature or Measure	Required
PLANNING AND DESIGN	
Site Development 5.106	
<p>Storm water pollution prevention. Newly constructed projects which disturb less than one acre of land shall prevent the pollution of stormwater runoff from the construction activities through one or more of the following measures:</p> <ol style="list-style-type: none"> 1. Local ordinance. Comply with a lawfully enacted stormwater management and/or erosion control ordinance. 2. Best management practices (BMP). Prevent the loss of soil through wind or water erosion by implementing an effective combination of erosion and sediment control and good housekeeping BMP. 	
<p>Short-term bicycle parking. If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack.</p>	
<p>Long-term bicycle parking. For buildings with over 10 tenant-occupants, provide secure bicycle parking for 5% of motorized vehicle parking capacity, with a minimum of one space.</p>	
<p>Designated parking. Provide designated parking for any combination of low-emitting, fuel efficient, and carpool/van pool vehicles as shown on Table 5.106.5.2. Parking stall marking. Paint "CLEAN AIR/" with last word aligned with the end of the stall striping. "VANPOOL/EV"</p>	
<p>Light pollution reduction. Outdoor lighting systems shall be designed and installed to comply with the following:</p> <ol style="list-style-type: none"> 1. The minimum requirements in the California Energy Code for Lighting Zones 1-4 as defined in Chapter 10 of the California Administrative Code; and 2. Backlight, Uplight and Glare (BUG) ratings as defined in IESNA TM-15-11; and 3. Allowable BUG ratings not exceeding those shown in Table 5.106.8, or <p>Comply with local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent.</p> <p>Exception:</p> <ol style="list-style-type: none"> 1. Luminaires that qualify as exceptions in Section 147 of the California Energy Code 2. Emergency lighting 	
<p>Grading and paving. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings.</p>	
WATER EFFICIENCY AND CONSERVATION	
Indoor Water Use (5.303)	
<p>Meters. Separate submeters or metering devices shall be installed for the uses described below:</p> <p>Buildings in excess of 50,000 square feet.</p> <ol style="list-style-type: none"> 1. For each individual leased, rented, or other tenant space within the building projected to consume more than 100 gal/day, including, but not limited to, spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop 	

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<p>2. Where separate submeters for individual building tenants are unfeasible, for water supplied to the following subsystems:</p> <ul style="list-style-type: none"> a) Makeup water for cooling towers where flow through is greater than 500 gpm b) Makeup water for evaporative coolers greater than 6gpm c) Steam and hot-water boilers with energy input more than 500,000 Btu/h 	
<p>Excess consumption. Any building within a project or space within a building that is projected to consume more than 1,000 gal/day.</p>	
<p>20% Savings. A schedule of plumbing fixtures and fixture fitting that will reduce the overall use of potable water within the building by 20% shall be provided. The 20% reduction shall be achieved by one of the following methods:</p>	
<p>Prescriptive method. Each plumbing fixture and fitting shall not exceed the max. flow rate at $\geq 20\%$ reduction as specified in Table 5.303.2.3, or</p>	
<p>Performance method. A calculation demonstrating a 20% reduction in the building "water use baseline" as established in Table 5.303.2.2 shall be provided.</p>	
<p>Multiple showerheads serving one shower. 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.</p>	
<p>Wastewater reduction. Each building shall reduce by 20% wastewater by one of the following methods:</p> <ul style="list-style-type: none"> 1. The installation of water-conserving fixtures or 2. Utilizing non-potable water systems 	
<p>Plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall meet the standards referenced in Table 5.303.6.</p>	
<p>Outdoor Water Use (5.304)</p>	
<p>Water budget. A water budget shall be developed for landscape irrigation use.</p>	
<p>Outdoor potable water use. For new water service for landscaped areas of at least 1000 square feet but not more than 5000 square feet, separate meters or submeters or metering devices shall be installed for outdoor potable water use</p>	
<p>Irrigation design. In new nonresidential projects with at least 1000 but not more than 2500 square feet of landscaped area, automatic irrigation systems controllers installed at the time of final inspection shall be weather-based with rain sensor or soil moisture-based.</p>	
<p>MATERIAL CONSERVATION AND RESOURCE</p>	
<p>Water Resistance and Moisture Management (5.407)</p>	
<p>Weather protection. Provide a weather-resistant exterior wall and foundation envelope.</p>	
<p>Moisture control. Employ moisture control measures by the following methods:</p>	
<p>Sprinklers. Prevent irrigation spray on structures.</p>	
<p>Entries and openings. Design exterior entries and openings subject to foot traffic or wind-driven rain to prevent water intrusion into buildings.</p>	
<p>Construction Waste Reduction, Disposal and Recycling (5.408)</p>	
<p>Construction waste management. A minimum of 50% of the non-hazardous construction waste generated at the site shall be diverted to recycle or salvaged. This is achieved by submitting a Waste Management Plan for approval by the Building and Safety Department prior to demolition permit issuance and providing documentation to demonstrate compliance with the Waste Management Plan after completion of demolition and/or prior to final inspection.</p>	
<p>Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled.</p>	
<p>Building Maintenance and Operation (5.410)</p>	

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Recycling by occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling.	
Commissioning. 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 to verify they meet the owner's or owner representative's project requirements. Commissioning shall be performed by trained personnel.	
Owner's Project Requirements (OPR). The expectations and requirements of the building appropriate to its phase shall be documented before the design phase of the project begins.	
Basis of Design (BOD). 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.	
Commissioning plan. A commissioning plan describing how the project will be commissioned shall be completed prior to permit issuance	
Functional performance testing. Functional performance tests shall demonstrate the correct installation and operation of each component, system, and system-to-system interface in accordance with the approved plans and specifications.	
Systems manual. The Systems Manual, which includes documentation of the operational aspects of the building, shall be delivered to the building owner or representative and facilities operator.	
Systems operations training. The training of the appropriate maintenance staff for each equipment type and/or system shall be documented in the commissioning report.	
Commissioning report. 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.	
Testing and adjusting. Testing and adjusting of systems shall be required for buildings less than 10,000 square feet. Provide operating and maintenance manual with a copy of all inspection verifications and reports to the building owner or representative.	
Systems. Develop a written plan of procedures for testing and adjusting systems.	
Procedures. Perform testing and adjusting procedures in accordance with industry best practices and applicable national standards on each system.	
HVAC balancing. 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.	
Reporting. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.	
Operation and maintenance manual. Provide the building owner with detailed operating and maintenance instructions and copies of guaranties/warranties for each system prior to final inspection.	
Inspections and reports. Include a copy of all inspection verifications and reports required by the enforcing agency.	
ENVIRONMENTAL QUALITY	
Pollutant Control (5.504)	
The permanent HVAC system shall only be used during construction if necessary to condition the building within the required temperature range for material and equipment installation. If the HVAC system is used during construction, use return air filters with a MERV of 8. Replace all filters immediately prior to occupancy.	
Duct openings and other related air distribution component openings shall be covered during	

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construction.	
Adhesives, sealants and caulks shall be compliant with VOC and other toxic compounds limits.	
Paints, stains and other coatings shall be compliant with VOC limits.	
Aerosol paints and coatings shall be compliant with Product-Weighted MIR limits for ROC, VOC and other toxic compounds limits.	
Carpet and carpet systems shall be compliant with VOC and formaldehyde emission limits.	
At least 50% of floor area receiving resilient flooring shall comply with the VOC-emission limits defined in the Collaborative for High Performance Schools (CHPS) Low-emitting Materials List or be certified under the Resilient Floor Covering Institute (RCFI) FloorScore program.	
Particleboard, medium density fiberboard (MDF) and hardwood plywood used in interior or exterior finish systems shall comply with formaldehyde emission limits per Table 5.504.4.5.	
Documentation shall be provided to the City building inspector verifying that compliant finish materials have been used.	
Filters. 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.	
Environmental tobacco smoke (ETS) control. Where outdoor areas are provided for smoking, prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows and in buildings.	
Carbon dioxide (CO2) monitoring. For buildings equipped with demand control ventilation, CO2 sensors and ventilation controls shall be specified and installed in accordance with 2010 California Energy Code sec. 121(c).	
Environmental Comfort (5.507)	
Acoustical Control. Employ building assemblies and components with Sound Transmission Class (STC) values using one of the following methods:	
<p>Prescriptive method - Exterior noise transmission. Wall and roof ceiling assemblies making up the building envelope shall have a min. STC of 50, or a composite OITC rating of no less than 40, with exterior windows of a min. STC of 40 or OITC of 30 in the following locations:</p> <ol style="list-style-type: none"> 1. Within the 65 CNEL noise contour of an airport. 2. Within the 65 CNEL or L_{dn} noise contour of a freeway, railroad, industrial source or fixed-guideway source. <p>Buildings exposed to a noise level of 65 dB L_{eq}-1-hr during any hour of operation shall have exterior wall and roof-assemblies of at least 45 STC (or OITC 35), with exterior windows of a min. STC of 40 (or OITC 30)</p>	
<p>Performance method For buildings located as defined in sec. A5.507.4.1 or A5.507.4.1.1, wall and roof-ceiling assemblies shall be constructed to provide L_{eq}-1-hr of 50 dBA in occupied areas during any hour of operation. An acoustical analysis documenting compliance shall be provided.</p>	
Interior sound transmission. Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have a min. STC of 40.	
Outdoor Air Quality (5.508)	
Ozone depletion and greenhouse gas reductions. Installations of HVAC, refrigeration and fire suppression equipment shall not contain Chlorofluorocarbons (CFCs) and Halons.	