



RESIDENTIAL MANDATORY MEASURES CHECKLIST

SECTION	CREDIT	REQUIREMENTS	Measures provided on plan sheet:
Division 4.1 – PLANNING AND DESIGN (Site Development)			
4.106.2	Storm Water Drainage and Retention During Construction	Projects which disturb less than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre or more, shall manage storm water drainage during construction.	
4.106.3	Surface Drainage	Site shall be planned and developed to keep surface water from entering buildings.	
Division 4.2 – ENERGY EFFICIENCY			
4.201.1	Scope	The Department of Housing and Community Development's mandatory green building standards for residential buildings do not require compliance with levels of minimum energy efficiency beyond those required by the California Energy Commission, (Part 6, Title 24). The most recent set of changes to the CEC's Energy Efficient Standards for Residential Buildings took effect on January 1, 2010.	
Division 4.3 – WATER EFFICIENCY AND CONSERVATION (Indoor Water Use)			
4.303.1	20% Savings	A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by at least 20% shall be provided. The 20% reduction shall be demonstrated by one of the following methods: 1. Prescriptive Approach: Toilets \leq (1.28 gal/flush); Showerheads \leq (2.0 gpm @ 80psi); Kitchen Faucets \leq (1.8 gpm @ 60psi); Lavatory Faucets \leq (1.5 gpm @ 60psi) 2. Performance Approach: A calculation demonstrating a 20% reduction of indoor potable water shall be performed using the baseline values set forth in Table 4.303.1. The calculation will be limited to the total water usage of water closets, lavatory faucets and showerheads within the dwelling.	
4.303.2	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 in Table 4.303.2 or the shower shall be designed to only allow one showerhead to be in operation at a time. Exception: The max flow rate for showerheads when using the calculation method specified in Section 4.303.1, Item 2 is 2.5 gpm @ 80psi.	
Division 4.3 – WATER EFFICIENCY AND CONSERVATION (Outdoor Water Use)			
4.304.1	Irrigation Controllers	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 plants' needs as weather changes. 2. Weather-based controllers without integral rain sensors or communication systems that account for rainfall shall have a separate wired or wireless rain sensor that connects or communicates with the controller(s).	
Division 4.4 - MATERIAL CONSERVATION & RESOURCE EFFICIENCY (Enhanced Durability & Reduced Maintenance)			
4.406.1	Joints and Openings	Openings in the building envelope separating conditioned space from unconditioned space needed to accommodate gas, plumbing, electrical lines and necessary penetrations must be sealed in compliance with the California Energy Code	
Division 4.4 – MATERIAL CONSERVATION & RESOURCE EFFICIENCY (Construction Waste Reduction, Disposal & Recycling)			
4.408.1	Construction Waste Reduction of at least 50%	Recycle and/or salvage for reuse a minimum of 50% of the non-hazardous construction and demolition debris, or meet a local construction and demolition waste management ordinance, whichever is more stringent. Exceptions: 1. Excavated soil and land-clearing debris. 2. Alternative waste reduction methods developed by working agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite.	
4.408.2	Construction Waste Management Plan	Where a local jurisdiction does not have a construction and demolition waste management ordinance, a construction waste management plan shall be submitted for approval to the enforcing agency.	
4.408.2.2	Isolated Jobsites	The enforcing agency may make exceptions to the requirements of this section when jobsites are located in areas beyond the haul boundaries of the diversion facility.	



RESIDENTIAL MANDATORY MEASURES CHECKLIST (continued)

SECTION	CREDIT	REQUIREMENTS	Measures provided on plan sheet:
Division 4.4 – MATERIAL CONSERVATION & RESOURCE EFFICIENCY (Building Maintenance & Operation)			
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. CBIA and HCD staff will develop a generic manual for use by the building industry to assist compliance with this section.	
Division 4.5 – ENVIRONMENTAL QUALITY (Fireplaces)			
4.503.1	General	Any installed gas appliance shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with US EPA Phase II emission limits where applicable. Woodstoves, pellet stoves and fireplaces shall also comply with local ordinances.	
Division 4.5 – ENVIRONMENTAL QUALITY (Pollutant Control)			
4.504.1	Covering of Duct Openings and Protection of Mechanical Equipment During Construction	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.	
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: <ol style="list-style-type: none"> Adhesives, adhesives 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 components (chloroform, ethylene, dichloride, methylene chloride, perchloroethylene, and trichloroethylene), except for aerosol products as specified in subsection 2 below. 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 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. 	
Division 4.5 – ENVIRONMENTAL QUALITY (Pollutant Control)			
4.504.2.2	Paints and Coatings	Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measures as shown in Table 4.504.3 unless the 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 4.504.3 shall comply.	
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)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Section 94522(c) 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 additionally comply with the percent VOC by weight of product limits of Regulation 8 Rule 49.	
4.504.3	Carpet Systems	All carpet installed in the building interior shall meet the testing and product requirements of one of the following: <ol style="list-style-type: none"> Carpet and Rug Institute's Green Label Plus Program California Department of Public Health Standard Practice for testing of VOC's (Specification 01350) Department of General Services, California Gold Sustainable Carpet Standard Scientific Certifications Systems Indoor Advantage Gold 	
4.504.3.1	Carpet Cushion	All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label Program.	
4.504.3.2	Carpet Adhesive	All carpet adhesives shall meet the requirements of Table 4.504.1.	
4.504.4	Resilient Flooring Systems	Where resilient flooring is installed at least 50% of the 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 certified under the Resilient Floor Covering Institute (RCFI) FloorScore Program.	

SECTION	CREDIT	REQUIREMENTS	Measures provided on plan sheet:
Division 4.5 – ENVIRONMENTAL QUALITY (Pollutant Control)			
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 ARB's Air Toxic Control Measure for Composite Wood (17 CCR 93120 etseq.), by or before the dates specified in those section as shown in Table 4.504.5. Definition of Composite Wood Products: Composite wood products include hardwood plywood, particle board, and medium density fiber board. Composite wood products does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glue laminated timber as specified in "Structural Glue Laminated Timber" (ANSI A190.1-2002) or prefabricated wood I-Joists.	
Division 4.5 – ENVIRONMENTAL QUALITY (Interior Moisture Control)			
4.505.2	Concrete Slab Foundations	Concrete slab foundations required to have a vapor retarder by California Building Code, CCR, Title 24, Part 2, Chapter 19 shall comply with this section.	
4.505.2.1	Capillary Break	A capillary break shall be installed in compliance with at least one of the following: 1. A 4 inch (101.6mm) thick base of ½ inch (12.7mm) or larger clean aggregate shall be provided with a vapor barrier in direct contact with concrete and a concrete mix design which will address bleeding, shrinkage and curing shall be used. 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.	
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: 1. Moisture content shall be determined with either a probe-type or a contact-type moisture meter. 2. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the gradestamped 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.	
Division 4.5 – ENVIRONMENTAL QUALITY (Indoor Air Quality & Exhaust)			
4.506.1	Bathroom Exhaust Fans	Mechanical exhaust fans which exhaust directly from bathrooms 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 humidistat which shall be readily accessible. a) Humidistat controls shall be capable of adjustment between a relative humidity range of 50 to 80 percent. Note: For the purposes of this section, a bathroom is a room which contains a bathtub, shower, or tub/shower combination.	
Division 4.5 – ENVIRONMENTAL QUALITY (Environmental Comfort)			
4.507.1	Openings	Whole house exhaust fans shall have insulated louvers or covers which close when the fan is off. Covers or louvers shall have a minimum insulation value of R-4.2.	
4.507.2	Heating and Air Conditioning System Design	Heating and air conditioning systems shall be sized, designed, and equipment is selected using the following methods: 1. The heat loss and heat gain is established according to ACCA Manual J, ASHRAE handbooks or other equivalent design software or methods. 2. Duct systems are sized according to ACCA 29-D Manual D, ASHRAE handbooks or other equivalent design software or methods. 3. Select heating and cooling equipment according to ACCA 36-S Manual S or other equivalent design software or methods. Exception: Use of alternate design temperatures necessary to ensure the systems function are acceptable.	
Chapter 7 – INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS			
702.1	Installer Training [HCD]	HVAC system installers shall be trained and certified. 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.	