2022 CALGREEN RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST SECTION A4.602

Effective January 1, 2023

	LEVELS APPLICANT TO SELECT ELECTIVE MEASURES			VERIFICATIONS ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD		
FEATURE OR MEAGURE		Prerequisites and Electives ¹		Enforcing Agency	Installer or Designer	Third- Party
FEATURE OR MEASURE	Mandatory	Tier 1	Tier 2	□ All	□ All	□ All
PLANNING AND DESIGN						
Site Selection						
A4.103.1 A site which complies with at least one of the following characteristics is selected:						
1. An infill site is selected.						
2. A greyfield site is selected.						
An EPA-recognized Brownfield site is selected.						
A4.103.2 Facilitate community connectivity by one of the following methods:						
Locate project within a 1/4-mile true walking distance						
of at least 4 basic services; 2. Locate project within 1/2-mile true walking distance			П			
of at least 7 basic services;						
 Other methods increasing access to additional resources. 						
Site Preservation						
A4.104.1 An individual with oversight responsibility for the project has participated in an educational program promoting environmentally friendly design or development and has provided training or instruction to appropriate entities.						
Deconstruction and Reuse of Existing Materials						
A4.105.2 Existing buildings are disassembled for reuse or recycling of building materials. The proposed structure utilizes at least one of the following materials which can be easily reused: 1. Light fixtures 2. Plumbing fixtures 3. Doors and trim 4. Masonry 5. Electrical devices 6. Appliances 7. Foundations or portions of foundations						
Site Development						
4.106.2 A plan is developed and implemented to manage storm water drainage during construction.	\boxtimes					
4.106.3 Construction plans shall indicate how site grading, or a drainage system will manage all surface water flows to keep water from entering buildings.						

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FEATURE OR MEASURE	Mandatory	Tier 1	Tier 2	□ All	□ All	□ All	
4.106.4.1 Provide capability for electric vehicle charging for one- and two-family dwellings; townhouses with attached private garages; in accordance with Section 4.106.4.1.							
4.106.4.2 Provide capability for electric vehicle charging for multifamily dwellings and hotel/motels in accordance with Sections 4.106.4.2.1 or 4.106.4.2.2, as applicable.							
4.106.4.3 Provide capability for electric vehicle charging for existing parking lots or new parking lots for existing residential buildings in accordance with Section 4.106.4.3, as applicable.							
A4.106.1 Reserved.							
A4.106.2.1 Soil analysis is performed by a licensed design professional and the findings are utilized in the structural design of the building.							
A4.106.2.2 Soil disturbance and erosion are minimized by at least one of the following:							
 Natural drainage patterns are evaluated, and erosion controls are implemented to minimize erosion during construction and after occupancy. 							
Site access is accomplished by minimizing the amount of cut and fill needed to install access roads and driveways.							
 Underground construction activities are coordinated to utilize the same trench, minimize the amount of time the disturbed soil is exposed, and the soil is replaced using accepted compaction methods. 							
A4.106.2.3 Topsoil shall be protected or saved for reuse as specified in this section.							
Tier 1. Displaced topsoil shall be stockpiled for reuse in a designated area and covered or protected from erosion.		∑2	⊠ ²				
Tier 2. The construction area shall be identified and delineated by fencing or flagging to limit construction activity to the construction area.			⊠ ²				
A4.106.3 Postconstruction landscape designs accomplish one or more of the following:							
 Areas disrupted during construction are restored to be consistent with native vegetation species and patterns. 							
 Utilize at least 75% native California or drought tolerant plant and tree species appropriate for the climate zone region. 							

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FEATURE OR MEASURE	Mandatory	Tier 1	Tier 2	□ All	□ All	□ All	
A4.106.4 Permeable paving is utilized for the parking, walking or patio surfaces in compliance with the following:							
Tier 1. Not less than 20% of the total parking, walking or patio surfaces shall be permeable.		\boxtimes^2					
Tier 2. Not less than 30% of the total parking, walking or patio surfaces shall be permeable.			\square^2				
A4.106.5 Roofing materials shall have a minimum 3-year aged solar reflectance and thermal emittance or a minimum Solar Reflectance Index (SRI) equal to or greater than the values specified in the applicable tables.							
Low-Rise Residential Tier 1. roof covering shall meet or exceed the values contained in Table A4.106.5.1(1).		⊠ ²					
Tier 2. roof covering shall meet or exceed the values contained in Table A4.106.5.1(2).			\square^2				
High-Rise Residential, Hotels and Motels Tier 1. roof covering shall meet or exceed the values contained in Table A4.106.5.1(3).		⊠ ²					
Tier 2. roof covering shall meet or exceed the values contained in Table A4.106.5.1(4).			⊠²				
A4.106.6 Install a vegetated roof for at least 50 percent of the roof area. Vegetated roofs shall comply with requirements for roof gardens and landscaped roofs in the California Building Code, Chapters 15 and 16.							
A4.106.7 Reduce nonroof heat islands for 50 percent of sidewalks, patios, driveways or other paved areas by using one or more of the methods listed.							
A4.106.8.1 Tier 1 and Tier 2 for one- and two-family dwellings and townhouses with attached private garages. Install a dedicated 208/240-volt branch circuit, including an overcurrent protective device rated at 40 amperes minimum per dwelling unit.		⊠ ²	⊠ ²				
A4.106.8.2.1 Provide capability for electric vehicle charging in new multifamily dwellings, as specified.							
Tier 1. 35 percent of the total number of parking spaces shall be electric vehicle (EV) ready with low power Level 2 EV charging receptacles. For projects with 20 or more dwelling units, sleeping units or guest rooms, 10 percent of the total number of parking spaces shall be equipped with Level 2 EVSE.		⊠ ²					
Tier 2. 40 percent of the total number of parking spaces shall be electric vehicle (EV ready) with low power Level 2 EV charging receptacles. For projects with 20 or more dwelling units, sleeping units or guest rooms, 15 percent of the total number of parking spaces shall be equipped with Level 2 EVSE.			⊠ ²				

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FEATURE OR MEASURE	Mandatory	Tier 1	Tier 2	□ All	□ All	□ All	
A4.106.9 Provide bicycle parking facilities as noted below or meet a local ordinance, whichever is more stringent. Number of bicycle parking spaces may be reduced, as approved by the enforcing agency, due to building site characteristics, including but not limited to, isolation from other development.							
Provide short-term bicycle parking, per Section A4.106.9.1.							
 Provide long-term bicycle parking for multifamily buildings, per Section A4.106.9.2. 							
Provide long-term bicycle parking for hotel and motel buildings, per Section A4.106.9.3.							
Innovative Concepts and Local Environmental Conditions							
A4.108.1 Items in this section are necessary to address innovative concepts or local environmental conditions.							
Item 1							
Item 2							
Item 3							
ENERGY EFFICIENCY (LOW-RISE RESIDENTIAL)							
General							
4.201.1 Building meets or exceeds the requirements of the California Building Energy Efficiency Standards ³ .		⊠ ²	⊠ ²				
Performance Approach for Newly Constructed Buildings							
A4.203.1.1. Hourly Source Energy Design Ratings (EDR1). EDR ratings for building design shall be computed by Energy Compliant software and shall reduce the EDR1 required by the software by the compliance margins specified in Table A4.203.1.1.		⊠ ²	⊠ ²				

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FEATURE OR MEASURE	Mandatory	Tier 1	Tier 2	□ All	□ All	□ All	
A4.203.1.2 Prerequisite options. In addition, a minimum of two of the efficiency measures specified in Sections A4.203.1.2.1 through A4.203.1.2.8 will be required to be met. Roof Deck Insulation or Ducts in Conditioned Space. High performance Walls. Compact Hot Water Distribution System. Drain Water Heat Recovery. High Performance Vertical Fenestration. Heat Pump Water Heater Demand Management. Battery Storage System Controls. Heat Pump Space and Water Heating.		⊠²	⊠ ²				
A4.203.1.3 Consultation with local electric service provider. Local jurisdictions considering adoption of reduced EDR targets based on using solar photovoltaic (PV) systems larger than required by the <i>California Energy Code</i> shall consult with the local electric service provider to ensure that that PV system sizing required to comply with the EDR targets will be acceptable to the local electric service provider.		 ⊠²	\square^2				
WATER EFFICIENCY AND CONSERVATION							
Indoor Water Use							
4.303.1 Plumbing fixtures (water closets and urinals) and fittings (showerheads, faucets and pre-rinse spray valves) installed in residential buildings shall comply with the prescriptive requirements of Sections 4.303.1.1 through 4.303.1.4.5.							
4.303.2 Submeters for multi-family building and dwelling units in mixed-use residential/commercial buildings. Submeters shall be installed to measure water usage of individual rental dwelling units in accordance with the California Plumbing Code.							
4.303.3 Plumbing fixtures and fittings required in Section 4.303.1 shall be installed in accordance with the <i>California Plumbing Code</i> and shall meet the applicable referenced standards.							

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FEATURE OR MEASURE	Mandatory	Tier 1	Tier 2	□ All	□ All	□ All	
A4.303.1 The maximum flow rate of kitchen faucets shall not exceed 1.5 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi and must default to a maximum flow rate of 1.5 gallons per minute at 60 psi. Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.							
4.303.1.4.3 Metering faucets in residential buildings shall not deliver more than 0.2 gallons per cycle.	\boxtimes						
A4.303.2 Alternate water source for nonpotable applications. Alternate nonpotable water sources are used for indoor potable water reduction. Alternate nonpotable water sources shall be installed in accordance with the California Plumbing Code.							
A4.303.3 Install at least one qualified ENERGY STAR dishwasher or clothes washer.							
A4.303.4 Nonwater urinals or waterless toilets are installed.							
A4.303.5 One- and two-family dwellings shall be equipped with a demand hot water recirculation system.							
Outdoor Water Use							
4.304.1 Residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.							
A4.304.1 A rainwater capture, storage and re-use system is designed and installed.							
A4.304.2 A landscape design is installed, which does not utilize potable water.							
A4.304.3 For new water service connections, landscaped irrigated areas less than 5,000 square feet shall be provided with separate submeters or metering devices for outdoor potable water use.							
Water Reuse Systems							
A4.305.1 Piping is installed to permit future use of a graywater irrigation system served by the clothes washer or other fixtures.							
A4.305.2 Recycled water piping is installed.							
A4.305.3 Recycled water is used for landscape irrigation.							

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FEATURE OR MEASURE	Mandatory	Tier 1	Tier 2	□ All	□ All	□ All
Innovative Concepts and Local Environmental Conditions						
A4.306.1 Items in this section are necessary to address innovative concepts or local environmental conditions.						
Item 1						
Item 2						
Item 3						
MATERIAL CONSERVATION AND RESOURCE EFFICIENCY						
Foundation Systems						
A4.403.1 A Frost-Protected Shallow Foundation (FPSF) is designed and constructed.						
A4.403.2 Cement use in foundation mix design is reduced.						
Tier 1. Not less than a 20 percent reduction in cement use.		\square^2	► 712			
Tier 2. Not less than a 25 percent reduction in cement use.			\square^2			
Efficient Framing Techniques						
A4.404.1 Beams and headers and trimmers are the minimum size to adequately support the load.						
A4.404.2 Building dimensions and layouts are designed to minimize waste.						
A4.404.3 Use premanufactured building systems to eliminate solid sawn lumber whenever possible.						
A4.404.4 Material lists are included in the plans which specify material quantity and provide direction for on-site cuts.						
Material Sources						
A4.405.1 One or more of the following building materials, that do not require additional resources for finishing are used: 1. Exterior trim not requiring paint or stain.]
Windows not requiring paint or stain.						
Siding or exterior wall coverings which do not require paint or stain.						

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FEATURE OR MEASURE	Mandatory	Tier 1	Tier 2	□ All	□ All	□ All	
A4.405.2 Floors that do not require additional coverings are used including but not limited to stained, natural or stamped concrete floors.							
A4.405.3 Postconsumer or preconsumer recycled content value (RCV) materials are used on the project.							
Tier 1. Not less than a 10% RCV.		\square^2					
Tier 2. Not less than a 15% RCV.			\square^2				
A4.405.4 Renewable source building products are used.							
Enhanced Durability and Reduced Maintenance							
4.406.1 Annular spaces around pipes, electric cables, conduits or other openings in plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency.							
Water Resistance and Moisture Management							
A4.407.1 Install foundation and landscape drains.							
A4.407.2 Install gutter and downspout systems to route water at least 5 feet away from the foundation or connect to landscape drains which discharge to a dry well, sump, bioswale, rainwater capture system or other approved onsite location.							
A4.407.3 Provide flashing details on the building plans and comply with accepted industry standards or manufacturer's instructions.							
A4.407.4 Protect building materials delivered to the construction site from rain and other sources of moisture.							
A4.407.5 In Climate Zone 16, an ice/water barrier is installed at roof valleys, eaves and wall to roof intersections.							
A4.407.6 Exterior doors to the dwelling are protected to prevent water intrusion.							
A4.407.7 A permanent overhang or awning at least 2 feet in depth is provided at all exterior walls.							

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Effective January 1, 2023 HCD SHL 620C (Rev. 03/23)

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FEATURE OR MEASURE	Mandatory	Tier 1	Tier 2	□ All	□ All	□ All
Construction Waste Reduction, Disposal and Recycling						
4.408.1 Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with one of the following:						
Comply with a more stringent local construction and demolition waste management ordinance; or						
A construction waste management plan, per Section 4.408.2; or						
 A waste management company, per Section 4.408.3; or 						
The waste stream reduction alternative, per Section 4.408.4.						
A4.408.1 Construction waste generated at the site is diverted to recycle or salvage in compliance with one of the following:						
Tier 1. At least a 65% reduction with a third-party verification.		\square^2				
Tier 2 . At least a 75% reduction with a third-party verification.			⊠ ²			
Exception: Equivalent waste reduction methods are developed by working with local agencies.						
Building Maintenance and Operation						
4.410.1 An operation and maintenance manual shall be provided to the building occupant or owner.	\boxtimes					
4.410.2 Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive.						
Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section 42649.82(a)(2)(A) et seq. will also be exempt from the organic waste portion of this section.						
Innovative Concepts and Local Environmental Conditions						
A4.411.1 Items in this section are necessary to address innovative concepts or local environmental conditions.						

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Item 1							
Item 2							
Item 3							
ENVIRONMENTAL QUALITY							
Fireplaces							
4.503.1 Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.	\boxtimes						
Pollutant Control							
4.504.1 Duct openings and other related air distribution component openings shall be covered during construction.	\boxtimes						
4.504.2.1 Adhesives, sealants and caulks shall be compliant with VOC and other toxic compound limits.	\boxtimes						
4.504.2.2 Paints, stains and other coatings shall be compliant with VOC limits.	\boxtimes						
4.504.2.3 Aerosol paints and coatings shall be compliant with product-weighted MIR Limits for ROC and other toxic compounds.							
4.504.2.4 Documentation shall be provided to verify that compliant VOC limit finish materials have been used.	\boxtimes						
4.504.3 Carpet and carpet systems shall be compliant with VOC limits.	\boxtimes						
4.504.4 80% of floor area receiving resilient flooring shall comply with specified VOC criteria.	\boxtimes						
4.504.5 Particleboard, medium density fiberboard (MDF) and hardwood plywood used in interior finish systems shall comply with low formaldehyde emission standards.	\boxtimes						

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FEATURE OR MEASURE	Mandatory	Tier 1	Tier 2	□ All	□ All	□ All	
A4.504.1 Use composite wood products made with either California Air Resources Board approved no-added formaldehyde (NAF) resins or ultra-low emitting formaldehyde (ULEF) resins.							
A4.504.2 Install VOC compliant resilient flooring systems.					П		
Tier 1. At least 90% of the resilient flooring installed shall comply.		\square^2					
Tier 2. 100% of the resilient flooring installed shall comply.			⊠2				
A4.504.3 Thermal insulation installed in the building shall meet the following requirements:							
Tier 1. Install thermal insulation in compliance with VOC limits.		\square^2					
Tier 2. Install insulation which contains no-added formaldehyde (NAF) and is in compliance with Tier 1.			\square^2				
Interior Moisture Control							
4.505.2 Vapor retarder and capillary break is installed at slab-on-grade foundations.	\boxtimes						
4.505.3 Moisture content of building materials used in wall and floor framing is checked before enclosure.	\boxtimes						
Indoor Air Quality and Exhaust							
4.506.1 Each bathroom shall be provided with the following:							
ENERGY STAR fans ducted to terminate outside the building.							
Fans must be controlled by a humidity control (separate or built-in); OR functioning as a component of a whole-house ventilation system.							
 Humidity controls with manual or automatic means of adjustment, capable of adjustment between a relative humidity range of ≤ 50% to a maximum of 80%. 							
A4.506.1 Reserved.							
A4.506.2 [HR] Provide filters on return air openings rated MERV 8 or higher during construction when it is necessary to use HVAC equipment.							
A4.506.3 Direct-vent appliances shall be used when equipment is located in conditioned space; or the equipment must be installed in an isolated mechanical room.							

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Environmental Comfort								
4.507.2 Duct systems are sized, designed, and equipment is selected using the following methods:								
Establish heat loss and heat gain values according to ANSI/ACCA 2 Manual J - 2016 or equivalent.			\boxtimes					
Size duct systems according to ANSI/ACCA 1 Manual D - 2016 or equivalent.								
Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2014 or equivalent.								
Outdoor Air Quality Reserved								
Innovative Concepts and Local Environmental Conditions								
A4.509.1 Items in this section are necessary to address innovative concepts or local environmental conditions.								
Item 1								
Item 2								
Item 3								
INSTALLER AND SPECIAL INSPECTOR QUALIFICATIONS								
Qualifications								
702.1 HVAC system installers are trained and certified in the proper installation of HVAC systems.	\boxtimes							
702.2 Special inspectors employed by the enforcing agency must be qualified and able to demonstrate competence in the discipline they are inspecting.								
Verifications								
703.1 Verification of compliance with this code may include construction documents, plans, specifications builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which show substantial conformance	\boxtimes							

¹Green building measures listed in this table may be mandatory if adopted by a city, county, or city and county as specified in Section 101.7 ² Required prerequisite for this Tier.