

Residential Code Green Building Amendments (Prescriptive)

These amendments apply to single-family detached housing, duplexes, townhomes and low-rise (one- to three-story) multifamily housing.

3/10/2011



#	GB Practice	Description *	Intent	Applicability**	Type***
RESOURCE EFFICIENCY					
1	Construction waste recycling	<ul style="list-style-type: none"> Submit recycling plan (who, what, where, how) before project begins Implement recycling (non-landfill) for wood, metal, concrete and cardboard 	Divert construction waste from landfill	New: Yes Addition: No Alteration: No	New
2	Certified wood	Sustainable forestry certification required for all tropical hardwoods	Support sustainable forestry practices	New: Yes Addition: Yes Alteration: Yes	New
3	Windows, skylights, doors: installation	Increased detailing regarding integration of fenestration with exterior drainage plane	Reduce potential for exterior moisture damage	New: Yes Addition: Yes Alteration: No	Refine
ENERGY EFFICIENCY					
4	Building envelope: thermal specifications for electric-heat buildings	More rigorous insulation and air sealing specifications for electric-heat buildings (beyond 2009 International Residential Code requirements)	Save energy and reduce peak electrical demand	New: Yes Addition: Yes Alteration: Yes	Reinstate + Refine
5	Basement windows: thermal specifications	Basement windows with comparable performance to windows on main living levels	Set stage for energy-efficient, comfortable living space when basement is finished	New: Yes Addition: Yes Alteration: No	Refine
6	Air sealing: tight construction	<ul style="list-style-type: none"> Whole-building air leakage: 4.0 ACH50 maximum Increased focus on effective sealing between living space and attached garage Performance testing required 	Capture energy, comfort, durability and health benefits	New: Yes Addition: Part Alteration: Part	Reinstate + Refine
7	Insulation: installation	Insulation installed to the Residential Energy Services Network (RESNET) Grade I standard Exceptions for which RESNET Grade II is acceptable: <ul style="list-style-type: none"> Rim joists Exterior walls with continuous rigid insulating sheathing, R-5 minimum. 	Install insulation so it delivers rated energy performance	New: Yes Addition: Yes Alteration: Yes	Refine
8	Heating + cooling systems: design	Added requirements for permit application: <ul style="list-style-type: none"> Heating + cooling design load calculations include room-by-room loads Air-Conditioning, Heating, and Refrigeration Institute (AHRI) matched evaporators, condensing units and furnaces (AHRI certificate required) Document key design parameters 	Design heating and cooling systems that satisfy comfort needs and perform in accordance with manufacturer specifications	New: Yes Addition: Yes Alteration: Part	Refine
9	Heating, ventilation, air conditioning (HVAC) systems: commissioning	Performance testing of heating, cooling and ventilation systems, aligned with Air Conditioning Contractors of America (ACCA) 5 "Quality Installation" procedures. Systems operating out of tolerance compared with design specifications will be adjusted and re-tested until they pass.	Verify that HVAC systems perform as designed	New: Yes Addition: Yes Alteration: Part	Refine + New
WATER EFFICIENCY					
10	Water-efficient fixtures	Toilets, showerheads and faucets must meet Environmental Protection Agency (EPA) WaterSense® standards for maximum flow rate or consumption.	Save water and energy	New: Yes Addition: Yes Alteration: Yes	New
INDOOR ENVIRONMENTAL QUALITY (IEQ)					
11	Safer combustion appliances: new construction	Natural draft combustion appliances (furnaces, boilers, water heaters, fireplaces) must be placed outside the building's pressure boundary and pass combustion safety test. (This requirement may also be met with safer combustion appliances: power-vented, sealed-combustion or direct-vent.)	Eliminate potential health and safety hazard of combustion products spilling into building	New: Yes Addition: Yes Alteration: No	New

12	Safer combustion appliances: existing buildings	When combustion appliances are replaced, all natural draft combustion appliances must pass combustion safety test under "natural conditions."	Reduce potential health and safety hazard of combustion products spilling into building	New: No Addition: No Alteration: Yes	New
13	Low-Volatile Organic Compound (VOC) materials	Interior materials meet maximum VOC emissions standards: • Sealants + adhesives • Resilient flooring • Carpeting • Paints, stains, varnishes and other site-applied finishes • Structural wood panels, hardwood veneer plywood, particle board, and fiber board • Insulation	Improve indoor air quality for construction workers and occupants	New: Yes Addition: Yes Alteration: Part	New
14	Whole-building ventilation	Provide whole-building, controlled, mechanical ventilation system, designed to meet ASHRAE 62.2 requirements. Air handlers used to move ventilation air must be equipped with efficient blower motors.	Improve indoor air quality	New: Yes Addition: No Alteration: No	New
OUTDOOR ENVIRONMENTAL QUALITY (OEQ)					
15	Exterior lighting: fixture design	Install "dark-sky friendly" exterior lighting fixtures	Increase security Reduce light pollution and light trespass	New: Yes Addition: No Alteration: No	New
OPERATIONS + MAINTENANCE + EDUCATION					
16	Building owner education	Provide operations and maintenance manual for building owner	Educate owners about their home and other "green" choices they can make	New: Yes Addition: Part Alteration: Part	New

* Visit the City of Fort Collins Green Building Program web site (www.fcgov.com/gbp) for more information:

- **Fort Collins Building Code Green Amendments** - context for this evolving proposal
- **Expanded descriptions of each green building practice**
- **Benefits and Costs of Building Code Green Amendments**

** Indication of how amendment applies to new buildings, additions and alterations to existing buildings. In general, amendments apply in same manner as any code provision, when a building permit is required. See expanded description of each green building practice (www.fcgov.com/gbp) for more detail about applicability.

*** Classifies how the amendment relates to the existing building code:

New: not previously addressed in Fort Collins code

Refine: already addressed in Fort Collins code; the amendment provides more detail or takes it further

Reinstate: similar provision existed in the Fort Collins code prior to fall 2010 update.