Montana Energy Code Checklist (Based on the 2018 IECC)

☑ Approved at plan review. ☒ Approved By field inspection N/A Does not apply to this project.

Date Builder

House Address City

Type: ☐ New Construction ☐ Addition ☐ Renovation/Alteration

Compliance: ☐ Prescriptive Table ☐ Prescriptive UA Tradeoff (RESCheck) ☐ Performance ☐ ERI

☑ ☒ N/A	Component	Code Provision	Prescriptive Code Value	RESCheck Tradeoff Value	2012 IECC Code Section
		Pre-Inspection/Plan Review			
☐ ☐ ☐	Construction Documents	Construction drawings sufficiently demonstrates energy code compliance			R103.2
☐ ☐ ☐	HVAC Load Calculations	HVAC loads sized according to *ACCA Manual J*			R403.7
		Footing and Foundation Inspection			
☐ ☐ ☐	Unheated Slab	Unheated slab edge insulation R-value	R-10		R402.1. R402.2.10
☐ ☐ ☐		Vertical + horizontal from top of slab	4 ft		
☐ ☐ ☐	Heated Slab-On-Grade	Heated slab (Slab edge/Below full slab)	R-10/R-5		R402.2.10
☐ ☐ ☐	Basement Wall Exterior Insulation	Continuous exterior insulation	R-15		R402.2.9
☐ ☐ ☐		Insulation depth (or to basement floor)	10 ft		
☐ ☐ ☐	Crawl Space	Continuous, exterior	R-15		R402.2.11
		Framing and Rough-in Inspection			
☐ ☐ ☐	Insulation Labeling	Installed insulation labeled and observable for inspection			R303.1
☐ ☐ ☐	Windows & Doors	Area weighted average (max. value)	U-0.30		R402.3.5
☐ ☐ ☐	Skylight	U-factor (max. value)	U-0.55		R402.3.5
☐ ☐ ☐	Fenestration	Windows, doors, and skylights certified and labeled			R402.3.5
☐ ☐ ☐	Fenestration	Infiltration rate maximum for windows, skylights, and sliding doors	0.3 CFM/ft^2		R402.4.3
☐ ☐ ☐	Fenestration	Infiltration rate maximum for swinging doors	0.5 CFM/ft^2		R402.4.3
☐ ☐ ☐	Fenestration	Windows, doors, and skylights air leakage listed and labeled			R402.4.3
☐ ☐ ☐	Ceiling Insulation	Ceiling insulation R-value	R-49		R402.2.1
☐ ☐ ☐		If full thickness over wall top plates	R-38		R402.2.1
☐ ☐ ☐	Attic Access Hatch	Hatch door insulation	R-49		R402.2.4
☐ ☐ ☐	Framed Wall Insulation	Framed wall	R-21		R402.1
☐ ☐ ☐		Exterior framed wall + continuous	R-13+R-5		R402.1
☐ ☐ ☐	Exterior Wall	Vapor retarder installed per IRC R702.7			402.1.1
☐ ☐ ☐	Mass Wall	More than 50% of insulation on interior	R-20		R402.2.5
☐ ☐ ☐		Less than 50% of insulation on interior	R-15		R402.2.5

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☑ ☒ N/A	Component	Code Provision	Prescriptive Code Value	RESCheck Tradeoff Value	2012 IECC Code Section
☐ ☐ ☐	Floor Insulation	Must be in contact with floor sheathing	R-30		R402.2.8
☐ ☐ ☐	Basement Insulation	Continuous Insulation	R-15		R402.2.9
☐ ☐ ☐		Framed wall	R-19		R402.2.9
☐ ☐ ☐		Basement wall exposed insulation protected			R303.2.1
☐ ☐ ☐	Crawlspace	Cavity insulation	R-19		R402.1.1 R402.2.11
☐ ☐ ☐		Continuous, interior	R-15		
☐ ☐ ☐		Continuous Class 1 vapor retarder, joints overlapped 6" and sealed, extending 6" up the stem wall			
☐ ☐ ☐	Rooms Containing Fuel-Burning Appliances	Open fuel-burning appliances must be intalled in insulated (walls, ceiling, floor) and sealed rooms	Basement Wall R-Value		R402.4.4
☐ ☐ ☐	Sunroom (Thermally Isolated)	Glazing U-factor	U-0.45		R402.3.5
☐ ☐ ☐		Skylight U-factor	U-0.70		R402.3.5
☐ ☐ ☐		Wall insulation at conditioned space	R-13		R402.2.13
		Wall insulation at conditioned space	R-21 or R-13+5		R402.2.13
☐ ☐ ☐		Ceiling insulation	R-24		R402.2.13
☐ ☐ ☐	Duct Insulation	Ducts in unconditioned attic ≥ 3" dia.	R-8		R403.3.1
		Ducts in unconditioned attic < 3" dia.	R-6		
		Vented crawlspace, unconditioned basement, exterior walls ≥ 3" dia.	R-6		
		Vented crawlspace, unconditioned basement, exterior walls < 3" dia.	R4.2		
☐ ☐ ☐	Recessed Light Fixtures	IC-rated fixtures that meet infiltration criteria			R402.4.5
☐ ☐ ☐	Duct Sealing	Sealed with approved tapes, mastics, and gaskets			R403.3.2
☐ ☐ ☐		Building cavities not used for ducts			R403.3.5
	Mechanical Rough-In Inspection				
☐ ☐ ☐	Mech Sys Piping Insul	Carrying fluids ≥ 105 degrees F or ≤ 55 degrees F	R-3		R403.4
	Plumbing Rough-In Inspection				
☐ ☐ ☐	Service Hot Water	HW piping insulation under specific conditions	R-3		R403.5

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☑ ☒ N/A	Component	Code Provision	Prescriptive Code Value	RESCheck Tradeoff Value	2012 IECC Code Section
		Final Inspection			
☐ ☐ ☐	Energy Certificate	Permanent energy label posted on electrical panel			R401.3
☐ ☐ ☐	All Components	All materials, systems, and equipment Installed per manufacturer's instructions and building code			R303.2
☐ ☐ ☐	Air Sealing	Tested by blower door (ACH50)	≤4		R402.4.1.2
☐ ☐ ☐		Per Air Barrier and Insulation Installation Table			R402.4.1.1
☐ ☐ ☐		Report submitted in accordance with referenced standard			R402.4.1.2
☐ ☐ ☐	Wood Fireplace	Gasketed doors, outdoor combustion air			R402.4.2
☐ ☐ ☐	Forced Air Furnace	Programmable thermostat installed			R403.1.1
☐ ☐ ☐	Exhaust Openings	Dampers on all outdoor intake & exhaust openings			R403.6
☐ ☐ ☐	Pools and In-ground Spas	Heater accessible manual controls + time switch + cover			R403.10
☐ ☐ ☐	Duct Tightness Test (Not required if ducts & air handler are entirely within conditioned space)	**Postconstruction**	≤4 CFM/100 ft^2		R403.3.4
☐ ☐ ☐		**Rough-in,** furnace installed	≤4 CFM/100 ft^2		R403.3.4
☐ ☐ ☐		**Rough-in,** furnace not installed	≤3 CFM/100 ft^2		R403.3.4
☐ ☐ ☐		Written report submitted			R403.3.3
☐ ☐ ☐	Service Hot Water	Circulating HW systems have automatic or accessible manual controls			R403.5.1
☐ ☐ ☐	Snowmelt	Snow-melt controls			R403.9
☐ ☐ ☐	Lighting	% of fixtures with high-efficacy lamps	90%		R404.1

Duct Tightness Test Results

Test Date: _____ House Floor Area ft^2: _____ Leakage Limit CFM25: _____

_____ CFM25: Rough-in Total Duct Leakage CFM/100 ft^2 of cond. floor area, furnace not installed, or

_____ CFM25: Rough-in Total Duct Leakage CFM/100 ft^2 of cond. floor area, furnace installed, or

_____ CFM25: Postconstruction Total Duct Leakage CFM/100 ft^2 of conditioned floor area.

Building Tightness Test Results*

Test Date: _____ House Volume ft^3: _____ House Floor Area ft^2: _____

Referenced Standard Used in Testing: ☐ RESNET/ICC 380 ☐ ASTM E779 ☐ ASTM E1827

Measured airflow at 50 Pascals (CFM50): _____

Air Change at 50 Pascals (ACH50 = (CFM50 x 60)/Volume): _____

* This abbreviated test information form is insufficient to comply with the more detailed information required by the referenced standards per R402.4.1.2.

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TABLE R402.4.1.1 Air Barrier and Insulation Installation

☑ ☒ N/A	Component	Air Barrier Installation Criteria
☐ ☐ ☐	General requirements	A continuous air barrier shall be installed in the building envelope. The exterior thermal envelope contains a continuous air barrier. Breaks or joints in the air barrier shall be sealed.
☐ ☐ ☐	Ceiling/attic	The air barrier in any dropped ceiling or soffit shall be aligned with the insulation and any gaps in the air barrier shall be sealed. Access openings, drop-down stairs, or knee wall doors to unconditioned attic spaces shall be sealed.
☐ ☐ ☐	Walls	The junction of the top plate and the top of exterior walls shall be sealed. The junction of the foundation and sill plate shall be sealed. Knee walls shall be sealed.
☐ ☐ ☐	Windows, skylights, and doors	The space between framing and skylights, and the jambs of windows and doors, shall be sealed.
☐ ☐ ☐	Rim joists	Rim joists shall include the air barrier.
☐ ☐ ☐	Floors, including cantilevered floors and floors above garages	The air barrier shall be installed at any exposed edge of insulation.
☐ ☐ ☐	Crawl space walls	Exposed earth in unvented crawl spaces shall be covered with a Class I vapor retarder with overlapping joints taped.
☐ ☐ ☐	Shafts, penetrations	Duct shafts, utility penetrations, and flue shafts opening to exterior or unconditioned space shall be sealed.
☐ ☐ ☐	Garage separation	Air sealing shall be provided between the garage and conditioned spaces.
☐ ☐ ☐	Recessed lighting	Recessed light fixtures installed in the building thermal envelope shall be sealed to the finished surface.
☐ ☐ ☐	Shower/tub on exterior wall	The air barrier installed at exterior walls adjacent to showers and tubs shall separate the wall from the shower or tub.
☐ ☐ ☐	Electrical/phone box on exterior walls	The air barrier shall be installed behind electrical and communication boxes. Alternatively, air-sealed boxes shall be installed.
☐ ☐ ☐	HVAC register boots	HVAC supply and return register boots that penetrate building thermal envelope shall be sealed to the subfloor, wall covering, or ceiling penetrated by the boot.
☐ ☐ ☐	Concealed sprinklers	Where required to be sealed, concealed fire sprinklers shall only be sealed in a manner that is recommended by the manufacturer. Caulking or other adhesive sealants shall not be used to fill voids between fire sprinkler cover plates and walls or ceilings.

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TABLE R402.4.1.1 Air Barrier and Insulation Installation

	Component	Insulation Installation Criteria
☐ ☐ ☐	General requirements	Cavities within corners and headers of frame walls shall be insulated by completely filling the cavity with a material having a thermal resistance, R-value, of not less than R-3 per inch. Exterior thermal envelope insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier.
☐ ☐ ☐	Ceiling/attic	The insulation in any dropped ceiling/soffit shall be aligned with the air barrier.
☐ ☐ ☐	Walls	Cavities within corners and headers of frame walls shall be insulated by completely filling the cavity with a material having a thermal resistance, R-value, of not less than R-3 per inch. Exterior thermal envelope insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier.
☐ ☐ ☐	Rim joists	Rim joists shall be insulated.
☐ ☐ ☐	Floors, including cantilevered floors and floors above garages	Floor framing cavity insulation shall be installed to maintain permanent contact with the underside of subfloor decking. Alternatively, floor framing cavity insulation shall be in contact with the top side of sheathing, or continuous insulation installed on the underside of floor framing; and shall extend from the bottom to the top of all perimeter floor framing members.
☐ ☐ ☐	Crawl space walls	Crawl space insulation, where provided instead of floor insulation, shall be permanently attached to the walls.
☐ ☐ ☐	Narrow cavities	Batts to be installed in narrow cavities shall be cut to fit or narrow cavities shall be filled with insulation that on installation readily conforms to the available cavity space.
☐ ☐ ☐	Recessed lighting	Recessed light fixtures installed in the building thermal envelope shall be airtight and IC-rated.
☐ ☐ ☐	Plumbing and wiring	In exterior walls, batt insulation shall be cut neatly to fit around wiring and plumbing, or insulation, that on installation readily conforms to available space, shall extend behind piping and wiring.
☐ ☐ ☐	Shower/tub on exterior wall	Exterior walls adjacent to showers and tubs shall be insulated.

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