Energy Code Checklist for Residential Construction

(This form is required for New Residential Buildings, Additions, Alterations, Repairs, and other Permits as Applicable)

Project Address:		Permit #:
Applicant Name:	Signature:	Checked By:
Phone #:	Email:	Date:
Project Type: (check one)	New Building ☐ Addition ☐ Renovation ☐	

Required Documentation with Permit Submittal:

1. **Energy Compliance Pathway**- Choose ONE method.
   - ☐ Prescriptive Method- Complete this form and submit with plans
   - ☐ Trade Off Method- Complete this form and attach documentation to show compliance (i.e. ResCheck). ResCheck must include compliance form, inspection checklist, and certificate. www.energycodes.gov/rescheck
   - ☐ Total Building Performance- Provide 2021 IECC Proposed Compliance Design (R405)
   - ☐ Energy Rating Index- Provide 2021 IECC Rated Proposed Design (R406)
2. **Additional Efficiency Package Option**- Choose ONE method. (R405 and R406 allow alternative option, documentation must be provided to verify adequacy)
   - ☐ Enhanced Envelope Performance Option (R408.2.1)
   - ☐ More Efficient HVAC Equipment Performance Option (R408.2.2)
   - ☐ Reduced Energy Use in Service Water-Heating Option (R408.2.3)
   - ☐ More Efficient Duct Thermal Distribution System Option (R408.2.4)
   - ☐ Improved Air Sealing and Efficient Ventilation System Option (R408.2.5)
3. **Requirements**- All projects must meet the requirements of the IECC.

Requirements	Compliance	Verification (for inspector)
a) **Certificate (R401.3)** Permanent certificate posted on/near elec. Panel with energy values	☐ Will Comply ☐ N/A	☐
b) **Building Thermal Envelope (R402.4.1)** Seal building envelope from air infiltration	☐ Will Comply ☐ N/A	☐
c) **Air Sealing and Insulation Testing/Insp. (R402.4.1.2)** Verify sealing and insulation- Blower Door Test Required for NEW BUILDINGS ONLY, Visual for remodels, additions, etc.	☐ Blower door (provide report) ☐ Visual Inspection	☐
d) **Mechanical Ventilation System Testing (R403.6.3)** Verify ventilation rate meets the minimum requirements of R403.6	☐ Will Comply ☐ N/A	☐
e) **Fireplaces (R402.4.2)** Wood-burning have tight flue damper and outdoor combustion air	☐ Will Comply ☐ N/A	☐
f) **Fenestration Air Leakage (R402.4.3)** Windows, sliding glass doors, skylights	☐ ≤ 0.3 cfm/sf (Check Label) ☐ N/A	☐
g) **Fenestration Air Leakage (R402.4.3)** Exterior swinging doors	☐ ≤ 0.5 cfm/sf (Check Label) ☐ N/A	☐
h) **Recessed Lighting (R402.4.5)** IC-rated and air tight when in thermal envelope	☐ Will Comply ☐ N/A	☐
i) **Heating/Cooling System Controls (R403.1.1)** Programmable thermostat for furnace	☐ Will Comply ☐ N/A	☐
j) **Duct Sealing (R403.3.2)** All ducts sealed with approved material(s)	☐ Will Comply ☐ N/A	☐
k) **Building Cavities (R403.3.5)** Building framing cavities shall not be used as ducts, both supply and return	☐ Will Comply ☐ N/A	☐

l)	**Mechanical System Piping Insulation (R403.4)** R-3 minimum for > 105° F or < 55° F	☐ Will Comply ☐ N/A	☐
m)	**Circulating Hot Water System (R403.5)** Piping insulated R-3 min. and on/off switch	☐ Will Comply ☐ N/A	☐
n)	**Mechanical Ventilation (R403.6)** Ventilation per the IRC with dampers at outdoor air intakes and exhausts that close when the system is not operating	☐ Will Comply ☐ N/A	☐
o)	**Equipment Sizing (R403.7)** Heating/Cooling equipment sized per ACCA Manuals S & J (These documents must be provided)	☐ Will Comply ☐ N/A	☐
p)	**Hot Water Pipe Insulation (R403.5.3)** R-3 Insulation on: • Piping ≥ ¾" in nominal diameter • Piping serving more than one dwelling unit • Piping located outside the conditioned space • Piping from the water heater to a distribution manifold • Piping located under a floor slab • Buried piping • Supply and return piping in recirculation systems other than demand recirculation systems	☐ Will Comply ☐ N/A	☐
q)	**Lighting Equipment (R404.1**) All lamps in permanent light fixtures are high efficacy	☐ Will Comply ☐ N/A	☐

4. **Building Wall Section**- Required for all new buildings and additions. Minimum of one section required. *(For interior alterations, include documents to illustrate code compliance as necessary.)*

5. **Floor Plan**- Required for all new buildings and additions. Floor plan must indicate thermal envelope, conditioned/unconditioned spaces and heating system location.

6. **Prescriptive Requirements**- COMPLETE THIS TABLE, if Prescriptive Method is chosen. These items must be shown on the Building Wall Section or Floor Plan (as applicable).

Building Components	Prescriptive Standard	Proposed/ Actual Value	Remarks	Verification (for inspector)
Insulation (R402.2) Prescriptive Standard is Minimum R-Value				
a) Ceilings with Attic Spaces (R402.2.1)	**R-49/ R38**		R-49 for standard truss, can be reduced to R-38 with Raised Heel/Energy Truss	☐
b) Ceilings without Attic Spaces (R402.2.2)	**R-30**		Limited to 500 sf or 20% of the total insulated ceiling area, whichever is less	☐
c) Wood Frame Wall (Table R402.1.3)	**R-30 or R-20+5ci or R-13+10ci or 0+20ci**		R-30 for interior cavity or R-20 for interior cavity plus R-5 continuous insulation, etc.	☐
d) Floors over Unconditioned Space (R402.2.7)	**R-30 or R-19+7.5ci or 15ci**		Floor insulation shall maintain permanent contact with subfloor decking	☐
e) Basement Walls (R402.2.8)	**R-15ci or R-19 or R-13+5ci**		R-15 continuous insulation on the interior or exterior or R-19 for interior wall cavity	☐
f) Slab-on-Grade Floors (R402.2.9)	**R-10ci**		Insulation shall extend 4 feet or per R403.1.4 of the IRC with a minimum of 10" of coverage with soil	☐
g) Crawl Space Walls (R402.2.10)	**R-15ci or R-19 or R-13+5ci**		R-15 continuous insulation on the interior or exterior or R-19 for interior wall cavity	☐
Fenestrations (R402.3) Prescriptive Standard is Maximum U-Factor				
h) Windows, Sliding Glass Doors, and Swinging Doors with >50% glazing	**U-0.30**		An area weighted average may be used to satisfy the U-factor requirements but must include all windows, skylights, glass doors, and opaque doors. Provide documentations if this is used.	☐
i) Skylights	**U-0.55**			☐

(The above table is based on wood frame construction and common building practices, if not addressed in the table above, please attach separate documentation to illustrate code compliance. Values are based on Climate Zone 5B in the amended 2021 IECC).

Other Prescriptive Requirements:

Other Prescriptive Requirements if applicable	Compliance	Verification (for inspector)
Duct Insulation (R403.3.1) S & R in attics ≥ R-8 for ducts ≥ 3" diameter and ≥ R-6 for ducts < 3" diameter. S & R ducts in other portions of the building ≥ R-6 for ducts 3" diameter and ≥ R-4.2 for ducts < 3" diameter	☐ Will Comply ☐ N/A	☐
Duct Tightness Test (R403.3.4) Required if furnace or any duct is outside of the thermal envelope	☐ Will Comply ☐ N/A	☐
Eave Baffle (R402.2.3) For air-permeable insulations in vented attics, a baffle ☒ shall be installed adjacent to soffit and eave vents.	☐ Will Comply ☐ N/A	☐
Attic Hatches (R402.2.4) Access doors to attic must be weather-stripped and insulated	☐ Will Comply ☐ N/A	☐

Notes:

i. For further clarification of the above items, please refer to the 2021 International Energy Conservation Code (IECC)
ii. Mesa County Building Department has other useful code related materials available at www.mesacounty.us
iii. For free, up-to-date energy references, energy training, and energy code info, visit www.energycodes.gov