



**CODE AMENDMENTS  
TO THE**

**2021**

**INTERNATIONAL  
ENERGY CONSERVATION  
CODE**

## ENERGY CONSERVATION CODE AMENDMENTS

### **AMEND Section C101.1 Entitled “Title” as follows:**

#### **C101.1 Title**

This code shall be known as the 2021 Bartlett Energy Conservation Code and shall be cited as such. It is referred to herein as “this code.”

### **AMEND Section C105.2.6 by Removing Requirements on Commissioning of a Building in the Final Inspection so when amended the Section shall read as follows:**

#### **C105.2.6 Final Inspection**

The building shall have a final inspection and shall not be occupied until approved. The final inspection shall include verification of the installation and proper operation of all required building controls.

### **AMEND Section C109.4 Entitled “Failure to Comply” so when amended it shall read as follows:**

#### **C109.4 Failure to Comply**

Any person who shall continue any work after having been served with a Stop Work Order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to a fine of not less than one dollar or more than fifty dollars per day that violation continues.

### **AMEND Section C301 Entitled “General” so when amended it shall read as follows:**

#### **C301 General**

Climate zones in Figure C301.1 or Table C301.1 shall be used in determining the applicable requirements from Chapters 4 and 5.

### **DELETE Sections C301.3 Entitled “International Climate Zones” and C301.4 Entitled “Tropical Climate Zones” without replacement.**

### **AMEND Table C403.3.2 Entitled “Equipment Efficiency Performance Exceptions for Economizers” by Adding Climate Zone 3A in the same location as 3B for clarity of requirements in the Climate Zone covering the City of Bartlett. When modified the Table shall read as follows:**

## ENERGY CONSERVATION CODE AMENDMENTS

**Table C403.3.2**  
**EQUIPMENT EFFICIENCY PERFORMANCE EXCEPTIONS FOR ECONOMIZERS**

<b>Climate Zones</b>	<b>Cooling Equipment Performance Improvements (EER or IPLV)</b>
2B	10% Efficiency Improvement
3A & 3B	15% Efficiency Improvement
4B	20% Efficiency Improvement

**DELETE Section C403.2.11 Entitled “Mechanical System Commissioning and Completion Requirements” in its entirety without replacement, but Reserve the Section for numbering consistency so when amended it shall read as follows:**

C403.2.11 – Reserved

**DELETE Section C404.11 Entitled “Service Water Heating System Commissioning and Completion Requirements” without replacement.**

**AMEND Section C403.5 Entitled “Economizers” by adding a New Exception #8 which shall read as follows:**

8. Buildings, which due to their size or intended use, and based on an analysis provided by the engineer and satisfactory to the Code Official, will not realize an economic payback on the use of this equipment within a 10 year equipment life assumption.

**DELETE Section C404.11 Entitled “Service Water Heating System Commissioning and Completion Requirements” without replacement.**

**AMEND Section C405.2.3 Entitled “Daylight Response Controls” by adding a New Exception #4 which shall read as follows:**

4. Any area or room which classifies as a single daylight control zone which does not have fenestration, either by window or skylight, that exceeds 250 square feet.

**DELETE Section C408 Entitled “Maintenance Information and System Commissioning” and All Its Subsections, without replacement.**

## ENERGY CONSERVATION CODE AMENDMENTS

### **AMEND Section C502.2 Entitled “Change in Space Conditioning” by Deleting the Existing Provisions and Replacing it as follows:**

#### **C502.2 Change in Space Conditioning**

Any nonconditioned space that represents 5% of a commercial building, in which it is located, which is altered to become conditioned space shall be required to be brought into full compliance with this code. The Code Official may look back for two years prior to the application to capture other projects during that time that increased the floor area of conditioned space and total those previously conditioned areas with the proposed project’s area to determine if the applicable area threshold is exceeded.

### **AMEND Section C502.3 Entitled “Change of Occupancy or Use” so when amended it shall read as follows:**

#### **C502.3 General**

Spaces undergoing a change in occupancy, which would result in an increase in demand for either fossil fuel or electrical energy, shall comply with this code. Where the use in a space changes from one use in Table C405.4.2(1) or C405.4.2(2) to another use in the same table, the installed lighting wattage shall comply with Section C405.4.

**Exception:** Compliance with the requirements of Section C402 (Building Envelope Requirements) is not required unless the change in occupancy or use will increase fuel or energy use by more than twenty five percent (25%) and the renovations include changes to at least twenty five percent (25%) of the building envelope. In such a case, all envelope renovations must incorporate Section C402 requirements to the extent it is not structurally impractical to do so.

### **AMEND Section C503.3 to add the following Exception 1:**

**Exception 1:** If change in occupancy or use which will increase fuel or energy use requires renovations that are more than 25% of the area of the space then that renovated portion of the building must meet all requirements in Sections C403 (Building Mechanical Systems), C404 (Service Water Heating), and C405 (Electrical Power and Lighting Systems) except compliance with Sections C403 and C404 is waived where HVAC and water heating systems do not serve at least twice the area renovated.

### **AMEND Section C503.4 to add the following Exception 1:**

**Exception 1:** If change of occupancy or use which will increase fuel or energy use requires renovations that are more than twenty five percent (25%) of the area of the space then that renovated portion of the building must meet all requirements in Section C404 (Service Water Heating) except compliance with Section C404 is waived where heating water systems do not serve at least twice the area renovated.

# ENERGY CONSERVATION CODE AMENDMENTS

## AMEND Section C503.5 to add the following Exception 2:

**Exception 2:** If change of occupancy or use which will increase fuel or energy use requires renovations that are more than twenty five percent (25%) of the area of the space then that renovate portion of the building must meet all requirements in Section C405 (Electrical Power and Lighting System).

## AMEND Section C505.1 Entitled “Change of Occupancy Or Use” So When Amended It Shall Read as Follows:

**C505.1 General.** Spaces undergoing a change in occupancy which would result in an increase in demand for either fossil fuel or electrical energy, shall comply with this code. Where the use in a space changes from one use in Table C405.4.2(1) or C405.4.2(2) to another use in the same table, the installed lighting wattage shall comply with Section C405.4.

## AMEND Section R101.1 Entitled “Title” so when Amended it shall read as follows:

### **R101.1 Title**

This code shall be known as the 2021 Bartlett Energy Conservation Code and shall be cited as such. It is referred to herein as “this code.”

## DELETE Section R107 Entitled “Fees” and all Subsections under it and Reserve the Section Number so that when amended it shall read:

**Section R107 - Reserved**

## DELETE Section R401.3 Entitled “Certification” without replacement.

## REPLACE Table R402.1.2 Entitled “Insulation and Fenestration Requirements by Component” with the Table provided below:

**Table R402.1.2  
Insulation and Fenestration Requirements by Component <sup>a</sup>**

Climate Zone	Fenestration U-Factor <sup>b</sup>	Skylight U-Factor <sup>b</sup>	Glazed Fenestration SHGC <sup>b</sup>	Ceiling R-Factor	Wood Frame Wall R-Value	Mass Wall R-Value <sup>g</sup>	Floor R-Value	Basement Wall R-Value	Slab R-Value & Depth <sup>f</sup>	Crawl Space Wall R-Value <sup>c</sup>
3	0.50 <sup>g</sup>	0.65	0.3	30	13	5/8	19	5/13 <sup>e</sup>	0	5/13

# ENERGY CONSERVATION CODE AMENDMENTS

## **Footnotes:**

a – *R*-Values are minimums. *U*-factors and SHGC are maximums. R-19 batts compressed into normal 2X6 framing such that the *R*-Value is reduced by R-1 or more shall be marked with the compressed batt *R*-Value in addition to full thickness *R*-value.

b – The fenestration *U*-factor column excludes skylights. The SHGC column applied to all glazed fenestration.

c – “5/13” means 5-R continuous insulated sheathing on the interior or exterior of the home or R-13 insulation at the interior of the crawl space wall.

d – R-5 shall be added to the required slab edge *R*-Values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in Zone 3 for heated slabs.

e – Basement wall insulation shall not be required in warm-humid locations as defined by Figure R301 and Table 301.1.

f – The second *R*-value applies when more than half the insulation is on the interior of the mass wall.

g – For impact rated fenestration complying with Section R301.2.1.2 of the International Residential Code or Section 1609.1.2 of the International Building Code the maximum *U*-factor shall be 0.65.

**AMEND Section R402.2.4 Entitled “Access Hatched and Doors” by Deleting All Language in the Section after the word “Weatherstripped” so that when Amended it shall read as follows:**

### **R402.2.4 Access Hatches and Doors**

Access hatches from conditioned spaces to unconditioned spaces such as attics and crawl spaces shall be weatherstripped.

**AMEND Section R402.3.3 Entitled “Glazed Fenestration SHGC” by Inserting “45 Square Feet (4.2 M<sup>2</sup>)” in place of “15 Square Feet (1.4m<sup>2</sup>)” so when it is Amended the Section shall read as follows:**

### **R402.3.3 Glazed Fenestration Exemption**

Up to 45 square feet (4.2M<sup>2</sup>) of glazed fenestration per dwelling unit shall be permitted to be exempt from the *U*-factor and SHGC requirements in Section R402.1.2. This exemption shall not apply to the *U*-factor alternative approach in Section R402.1.4 and the Total UA alternative in Section R402.1.5.

**DELETE Section R402.4.1.2 Entitled “Testing” in its entirety with no replacement.**

**AMEND Section R402.4.2 Entitled “Fireplaces” by Deleting the phrase “And Outdoor Combustion Air” without replacement so when amended it shall read as follows:**

### **R402.4.2 Fireplaces**

New wood-burning fireplaces shall have tight fitting flue dampers or doors. Where using tight-fitting doors on factory-built fireplaces listed and labeled in accordance with UL 127, the doors shall be tested and listed for the fireplace. Where using tight-fitting doors on masonry fireplaces, the door shall be listed and labeled in accordance with UL 907.

**ENERGY CONSERVATION CODE AMENDMENTS**

**DELETE Existing Table R402.4.1.1 Entitled “Air Barriers and Insulation Installation” and Replace it with the following Table below:**

**Table R402.4.1.1  
Air Barriers and Insulation Installation Component Criteria**

<b>COMPONENT</b>	<b>CRITERIA</b>
Air Barrier and Thermal Insulation	Exterior thermal envelope insulation for framed walls is installed in substantial contact or continuous alignment with the building envelope air barrier. Breaks or joints in air barrier are filled and repaired. Air-permeable insulation is not used as a sealing material. Air-permeable insulation is inside of an air barrier.
Ceiling/attic	Air Barrier in dropped ceiling/soffit is substantially aligned with insulation and any gaps are sealed. Attic access (except unvented attic), knee wall door or drop down stair is sealed.
Walls	Corners and headers are sealed. Junction with foundation and sill plate is sealed.
Windows and Doors	Space between windows/door jams and framing is sealed.
Rim Joists	Rim joints are insulated and include air barrier.
Floors (including above garage and cantilevered floors)	Insulation installed to maintain permanent contact with underside of subfloor decking. Air Barrier is installed at any exposed edge of insulation.
Crawl space walls	Insulation is permanently attached to walls. Exposed earth in unvented crawl space is covered with Class 1 vapor retarder with overlapping joints taped.
Shafts, penetrations	Duct shafts, utility penetrations, knee walls and flue shafts opening to exterior or unconditioned space are sealed.
Narrow cavities	Batts in narrow cavities are cut to fit, or narrow cavities are filled with sprayed or blown insulation.
Garage separation	Air sealing is provided between the garage and conditioned spaces.
Recessed lighting	Recessed light fixtures are air tight, IC rated, and sealed to drywall. <b>Exception</b> -Fixtures in conditioned space.
Plumbing and wiring	Insulation is placed between outside and pipes. Batt insulation is cut to fit around wiring and plumbing, or sprayed/blown insulation extends behind piping and wiring.
Shower/tub on exterior wall	Showers and tubs on exterior wall have insulation and an air barrier separating them from the exterior wall.

Electrical/phone box on exterior walls	Air barrier extends behind box or air sealed-type boxes are installed.
Common Wall	Air barrier is installed in common wall between dwelling units.
HVAC Register Boots	HVAC register boots that penetrate building envelope are sealed to subfloor or drywall.
Fireplace	Fireplace walls include an air barrier.

**DELETE Section R403.3.3 Entitled “Duct Testing” without replacement.**

**DELETE Section R403.3.4 Entitled “Duct Leakage” without replacement.**

**AMEND Section R403.3.5 Entitled “Building Cavities” by ADDING the phrase at the end of the existing language “Except for Return Air on Interior Walls” so when amended it reads as follows:**

**R403.3.5 Building Cavities (Mandatory)**

Building framing cavities shall not be used as ducts or plenums except for return air on interior walls.

**DELETE Section R403.5.1 Entitled “Heated Water Circulation and Temperature Maintenance Systems” without replacement and the Section held In Reserve so when amended it shall read as follows:**

**R403.5.1 – Reserved**

**AMEND Section R403.5.2 Entitled “Demand Recirculating Systems” by Removing the words “Pumps shall have controls that comply with the following:” and the Two Compliance Methods Thereunder, so when Amended it shall read as follows:**

**R403.5.2 Demand Recirculating Systems**

A water distribution system having one or more recirculation pumps that pump water from a heated water supply pipe back to the heated water source through a cold water supply pipe shall be a demand recirculation system.

**AMEND Section R403.6 Entitled “Mechanical Ventilation” by Deleting the last sentence in so that when Amended it shall read as follows:**

**R403.6 Mechanical Ventilation (Mandatory)**

The building shall be provided with ventilation that meets the requirements of the *International Residential Code* or *International Mechanical Code*, as applicable or with other approved means of ventilation.



## ENERGY CONSERVATION CODE AMENDMENTS

**DELETE Sections R403.10 Entitled “Pools and Permanent Spa Energy Consumption” and ALL of its Subsections (R403.10.1, R403.10.2, R403.10.3), R403.11 Entitled “Portable Spas” and R403.12 Entitled “Residential Pools and Permanent Residential Spas” without replacement.**

**AMEND Section R404.1 Entitled “Lighting Equipment” by replacing “75 percent” with “25 percent” in the two places it appears in this section so that when amended it shall read as follows:**

### **R404.1 Lighting Equipment (Mandatory)**

Not less than 25 percent of the lamps in permanently installed light fixtures shall be high-efficiency lamps or not less than 25 percent of the permanently installed lighting fixtures shall contain only high-efficiency lamps.

**Exception:** Low voltage lighting.

**DELETE Section R404.1.1 Entitled “Lighting Equipment” without replacement.**

**DELETE Section R405.4.2.1 Entitled “Compliance Report for Permit Application” and Section R405.4.2.2 Entitled “Compliance Report for Certification of Occupancy” in their entirety without replacement, but showing the Section Numbers as “Reserved” to preserve numbering consistency of the remaining sections, so when amended they shall read as follows:**

R405.4.2.1 – Reserved

R405.4.2.2 – Reserved

**DELETE Existing Section R503.2 Entitled “Change in Space Conditioning” and Replace it with the following:**

### **R503.2 Change in Space Conditioning**

Any nonconditioned space which is altered to become conditioned space shall be required to be brought into full compliance with the envelope insulation requirements of Section 402.1.2 of this code.