

ORDINANCE NO. 9
Series of 2022

AN ORDINANCE OF THE TOWN OF CARBONDALE, COLORADO AMENDING CHAPTER 18, ARTICLE 7 OF THE MUNICIPAL CODE OF THE TOWN OF CARBONDALE REGARDING THE INTERNATIONAL GREEN CONSTRUCTION CODE

WHEREAS, by Ordinance No. 7, Series of 2013, the Town of Carbondale adopted the International Green Construction Code, which provides minimum requirements and standards regulating the design and construction of buildings for effective use of energy;

WHEREAS, by Ordinance No. 8, Series of 2015, the Town of Carbondale adopted an updated version of the International Green Construction Code; and

WHEREAS, after approximately seven years of operation, the Board of Trustees finds and determines that certain amendments to the International Green Construction Code are in the interest of the public health, safety and welfare;

NOW THEREFORE, BE IT ORDAINED BY THE BOARD OF TRUSTEES OF THE TOWN OF CARBONDALE, COLORADO that the Town of Carbondale Municipal Code shall be amended as follows:

1. The foregoing recitals are hereby adopted as findings and determinations of the Board of Trustees.
2. Chapter 18, Article 10 of the Town of Carbondale Municipal Code is adopted as set forth in Exhibit A and a certain document, at least one copy of which is on file in the office of the Town Clerk of the Town of Carbondale, being a marked and designed as the *International Green Construction Code*, 2018 edition as published by the International Code Council, 4051 Flossmoor Road, Country Club Hills, Illinois 60478. The purpose of the adopted code is to provide minimum requirements and standards regulating the design and construction of buildings regarding the effective use of energy. This code is intended to provide flexibility to permit the use of innovative approaches and techniques to achieve the effective use of energy; and each and all of the regulations, provisions, penalties, conditions and terms of said International Green Construction Code on file in the office of the Town of Carbondale are hereby referred to, adopted, and made a part hereof, as if fully set out in this legislation, with the additions, deletions, and changes described in Exhibit A. The additions are underlined, and the deleted text is shown by ~~strike through~~.
3. If any ordinance or parts of ordinances are in conflict with the standards set forth in this Ordinance, they are hereby repealed to the extent of such conflict only.

This Ordinance shall be effective upon posting and publication in accordance with the Carbondale Home Rule Charter.

INTRODUCED, READ AND PASSED THIS 25th day of October, 2022.

TOWN OF CARBONDALE, COLORADO
a Colorado home rule municipal corporation,


Ben Bohmfalk, Mayor

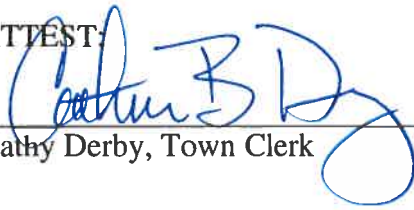
ATTEST:

Cathy Derby, Town Clerk



EXHIBIT A
CHAPTER 18, ARTICLE 10 – INTERNATIONAL GREEN CONSTRUCTION CODE

Sec. 18-10-10. Adoption.

(a) Pursuant to Part 2 of Article 16 of Title 31, C.R.S., there is adopted as the green construction code for the Town, by reference thereto, the International Green Construction Code, 2018 edition, as published by the International Code Council, 4051 Flossmoor Road, Country Club Hills, Illinois 60478. The subject matter of the adopted code concerns regulations to provide minimum standards to safeguard the public health, safety, general welfare, and property by regulating and controlling the design, construction, quality of materials, use and occupancy, location and maintenance of all buildings and structures within the Town.

(b) For the purposes of this code all buildings shall be required to meet the requirements of Climate Zone 5, as set forth in the International Energy Conservation Code (IECC), except for thermal envelope requirements shall meet the requirements of IECC table C402.1.3 for Climate Zone 6.

Sec. 18-10-20. Copy on file.

At least one copy of the International Green Construction Code, certified to be a true copy, has been and is now on file in the office of the Town Clerk and may be inspected by any interested person during regular business hours.

Sec. 18-10-30. Amendments.

The Code adopted herein is hereby modified by the following amendments:

Chapter 1: Scope and Administration

- (1) 101.1 Title. Scope and general requirements, is hereby amended by replacing [Name of Jurisdiction] with “Town of Carbondale.”
- (2) 101.3.1 (2.2). Scope, is hereby amended to add the following provision:

For projects that are “Net Zero” as defined in Section 301.2(3.2) are exempt from the provisions of this code, except the following Sections: entire Chapter 6; Section 701.3.3; Section:1001.3.1.2, (Bldg Commissioning), Section 1001.3.1.3 (Project Commissioning Documents), Section 1001.3.1.5 (Air Tightness), and Section 1001.3.1.9 (Soil Gas Control).

Net Zero buildings are required to enroll in the Energy Star Portfolio Manager program.

102.3.1 5. Existing buildings that increase their energy use by 50% or more are subject to the provisions of this code.

- (3) 102.7. Mixed occupancy buildings, is hereby amended to add the following requirements:

For projects that are mixed use, the following sections apply to the entire project: Section 601.3.1.2 (Landscape Irrigation Systems and Outdoor Fountains); Section 701.5 (Modelled Energy Performance (if applicable)); Section 801.3.6 (Envelope Moisture Control); Chapter

9 Materials and Resources. The provisions of the Residential Efficient Building Program (REBP) regarding snowmelt and exterior energy use shall be followed for the entire mixed use project.

Air testing for projects that are mixed use shall comply with the following:

1. Where buildings have fewer than eight testing units, each testing unit shall be tested.
3. For buildings with eight or more testing units, the greater of seven units or 20 percent of the testing units in the building shall be tested, including a top floor unit, a ground floor unit and a unit with the largest testing unit enclosure area. For each tested unit that exceeds the maximum air leakage rate, an additional two units shall be tested, including a mixture of testing unit types and locations.

Chapter 3: Definitions, Abbreviations and Acronyms

- (4) Section 301.2 (3.2). Definitions, is hereby amended to add the following definition:

Conditioned Floor Area: The horizontal projection of the floors associated with the conditioned space.

Conditioned Space: An area, room or space that is enclosed within the building thermal envelope and is directly or indirectly heated or cooled. Spaces are indirectly heated or cooled where they communicate through openings with the conditioned spaces, where they are separated from conditioned spaces by uninsulated walls, floors or ceilings, or where they contain uninsulated ducts, piping or other sources of heating or cooling.

Net Zero Building: A building that annually produces as much energy as it consumes for the heating, cooling, water heating, and basic electrical loads including lighting, plug loads and fans. As certified by a qualified energy modeler utilizing ASHRAE 90.1, Appendix G, methodology or equivalent. A Net Zero Building does not have any natural gas infrastructure connected to the building.

- (5) Section 301.3(3.3). Abbreviations and Acronyms, are hereby amended to add the following:

<u>AAHP</u>	<u>Air to Air Heat Pump</u>
<u>AWHP</u>	<u>Air to Water Heat Pump</u>
<u>PV</u>	<u>Photo-voltaic</u>
<u>UA</u>	<u>Sum of U-factor times assembly area.</u>

Chapter 5: Site Sustainability

- (6) Section 501.1 (5.1) Scope, is hereby amended to add as follows:

This section addresses requirements for *building projects* that pertain to *site* selection, *site* development, mitigation of *heat island effect*, light pollution reduction, and mitigation of transportation impacts. This section does not apply to net zero buildings as defined in Section 301.2(3.2).

- (7) Section 501.3.1.1 (5.3.1.1) Allowable Sites. This section shall be removed in its entirety.
- (8) Section 501.3.1.2 (5.3.1.2) Prohibited Development Activity. This section shall be removed in its entirety.
- (9) Section 501.3.3.2 (5.3.3.2.b) Greenfield Sites. Subsection 5.3.3.2.b shall be removed in its entirety.
- (10) Section 501.3.4 (5.3.4) Stormwater Management. This section shall be removed in its entirety.
- (11) Section 501.3.5 (5.3.5) Mitigation of Heat Island Effect. This section shall be removed in its entirety, with the exception of section 501.3.5.5 (5.3.5.5) Vegetated Terrance and Roofing Systems.
- (12) Section 501.3.6 (5.3.6) Reduction of Light Pollution. This section shall be removed in its entirety.
- (13) Section 501.3.7.1 (5.3.7.1) Pedestrian and Bicycle Connectivity. This section shall be removed in its entirety.
- (14) Section 501.3.7.2 (5.3.7.2) Bicycle Parking. This section shall be removed in its entirety.

ADD: Section 501.3.7.3 Site Vehicle Provisions. This section shall be removed in its entirety.

Chapter 6: Water Use Efficiency

- (15) Section 601.3.1.1 (6.3.1.1) Landscape Design, is hereby amended to add as follows:

Any Turfgrass installed shall be low %ET & drought tolerant and require no more than one inch of water every two weeks. Turfgrass shall be prohibited for use in non-active use areas.

- (16) Section 601.3.1.2.1 (6.3.1.2.1) Irrigation System Design, is hereby amended to add as follows:

The design of the irrigation system for projects with areas greater than 2,500 square feet shall be performed by an accredited or certified irrigation professional and shall be in accordance with the following:

- a. Irrigation systems:

- 1. Shall be based on *hydrozones*, which are defined as an irrigated are of landscape in which the *plants* have similar water needs and are irrigated by the same type of emission devices. *Turfgrass* areas shall be on their own *irrigation stations*. *Turfgrass* areas shall be irrigated from a non-potable water source if available.

- (17) Section 601.3.4 (6.3.4) Water Consumption Measurement, is hereby amended to add:

Ditch water shall be required to be metered at the discretion of the Utility Director.

- (18) Section 601.3.4.1 (6.3.4.1) Consumption Management, is hereby amended as follows:

Measurement devices with remote communication capability shall be provided to collect water consumption data for the domestic water supply to the building. Both potable and *reclaimed water* entering the *building project* shall be monitored or submetered. In addition, for individual leased, rented, or other tenant or subtenant space within any building totaling in excess of 25,000 ft² (5000m²), separate submeters shall be provided. For individual leased, rented, or other tenant or subtenant space within any building totaling in excess of 25,000 ft² (2500m²), separate submeters should be provided.

- (19) Section 601.3.7 (6.3.7) On-Site Reclaimed Water Treatment Systems, shall be removed in its entirety.

- (20) Section 601.3.8(6.3.8) Dual Water Supply Plumbing, is hereby amended to add as follows:

Exceptions:

4. Buildings less than 5,000 square feet in area.

Chapter 7 Energy Efficiency

- (21) Section 701.3.1 (7.3.1) General, shall be amended as follows:

All buildings shall comply with IECC Table 402.1.3, Opaque Thermal Envelope Insulation Component Minimum Requirements, regardless of utilization of the performance or prescriptive path, for Climate Zone 6.

- (22) Section 701.3.2 (7.3.2) On-Site Renewable Energy Systems, shall be replaced with the following:

For buildings less than 5,000ft², 3 watts of PV equivalent per square foot of conditioned floor area is required. In the alternative, show calculation demonstrating renewables provided on-site to cover 25% of annual site energy. For buildings 5,000 sf or larger, show calculation demonstrating renewables provided on site cover 25% of annual site energy consumption.

For Low Energy Buildings as defined in the IECC C401.1.1, buildings with less than 3.4 Btu/hr per sf peak design rate are exempt from the requirements above.

If a site is not suitable for on-site renewables, the amount of renewables required off-site shall be increased by an additional 50%. (i.e.: 4.5 watts PV equivalent per square foot for buildings under 5,000 square feet or 37.5% of all source energy for non-process loads for buildings over 5,000 square feet).

If no on-site or off-site options are available, there will be a fee assessed at the rate of \$5.00 per watt of required PV equivalent.

An annual proration of each utility's renewable mix shall be factored into the renewable requirements for off-site renewables. Geographical restrictions as to the location of the utilities' off-site renewable mix do not apply.

Natural gas is allowed for all process loads. If natural gas or propane is used for HVAC loads, the amount of required renewables shall be increased by an additional 25% for a total of 50%.

All buildings shall be “electric ready” which means that they should have electric infrastructure, i.e. panels and wiring sized to replace gas equipment with electric equipment, including space for Future Electrification Equipment for future AWHPs or AAHPs, outdoor space should be designated for the evaporator. Wiring and circuit ampacity ratings for future heat/DHW electrification shall be based on proposed gas appliance(s) Btuh output, converted to amps for the appropriate design heating COP.

ADD TABLE 7.3.3.1B Shall be eliminated.

- (23) Section 701.3.3.2 (7.3.3.2) Energy Consumption Data Collection and Display, shall be amended to include the following:

Exception:

1. Building projects that are less than 5,000ft² in gross conditioned floor area.

- (24) Section 701.3.3.3(7.3.3.3) Data Storage and Retrieval, shall be amended to include the following:

Exception:

1. Building projects that are less than 5,000ft² in gross conditioned floor area.

- (25) Section 701.3.4 (7.3.4) Automated Demand Response, shall be amended as follows:

Automated Demand Response shall be mandatory if available from the utility company at time of building permit. If unavailable, it shall be required to rough-in AUTO-DR, including thermostat wire or communications sockets to all appliances and conduits from meter to electrical room.

Exception:

1. Building projects that are less than 5,000ft² in gross conditioned floor area.

- (26) Section 701.3.4.3 (7.3.4.3) Lighting. This section shall be removed in its entirety.

- (27) Section 701.4.1.1 (7.4.1.1) On-Site Renewable Energy Systems, shall be amended as follows:

~~Building projects shall comply with either the Standard Renewables Approach in Section 701.4.1.1.1 (7.4.1.1.1) or the Alternate Renewables Approach in Section 701.4.1.1.2 (7.4.1.1.2).~~ All building projects shall be required to comply with section 701.3.2, renewable energy systems.

(28) Section 701.4.1.1.2 (7.4.1.1.2) Alternate Renewables Approach, shall be deleted in its entirety.

(29) Section 701.4.2 (7.4.2) Building Envelope, shall be amended as follows:

The building envelope shall comply with ~~ANSI/ASHRAE/IES Standard 90.1, Section 5 with the following modifications and additions.~~ the currently adopted version of the IECC requirements for Climate Zone 6.

A weighted average may be used for net UA calculations, based on Climate Zone 6 requirements. All buildings shall comply with the maximum weighted UA calculation.

Sections 701.4.2.1 Building Envelope Requirements and 701.4.2.2 Single Roof Rafter Insulation shall be deleted in their entirety.

(30) Section 701.4.6 (7.4.6) Lighting, shall be amended to remove the following sections in their entirety:

- 701.4.6.1.2 (7.4.6.1.2) Exterior LPDs;
- 701.4.6.4 (7.4.6.4) Controls for Exterior Sign Lighting; and
- 701.4.6.5 (7.4.6.5) Parking and Outdoor Sales Lighting.

Chapter 8 Indoor Environmental Quality (IEQ)

(31) Section 801.3.1.2 (8.3.1.2) Outdoor Air Delivery Monitoring, shall be removed in its entirety.

(32) Section 801.3.1.5 (8.3.1.5) Venting of Combustion Products, shall be amended as follows:

ADD: 801.3.1.5.1

Exception #1, Recirculating Range Hoods shall be removed in its entirety.

Exception 2, Heaters shall be removed in its entirety.

Exception 3, Heaters shall be removed in its entirety.

Exception 4, Heaters shall be removed in its entirety.

ADD: Section 801.3.1.7 Environmental Tobacco Smoke, shall be removed in its entirety.

(33) Section 801.3.3 (8.3.3) Acoustical Control, shall be removed in its entirety.

ADD 801.3.6 Moisture Control, shall be clarified to mean “steady-state moisture analysis” is equivalent to “Dew Point analysis”

ADD 801.4.2 Materials, the intent of this section should be met, the associated paperwork regarding VOC content is not required to be submitted.

Chapter 9 Materials and Resources

(34) Section 901.3.1.1 (9.3.1.1) Diversion, shall be amended as follows:

A minimum of ~~50%~~ 25% of nonhazardous construction and demolition waste material generated prior to the issuance of the final certificate of occupancy shall be diverted from disposal in landfills and incinerators by reuse, recycling, repurposing, and/or composting.

Chapter 10 Construction and Plans for Operation

(35) Section 1001.3.1.1.2.1 (10.3.1.1.2.1) Acoustical Field Measurement, shall be removed in its entirety.

(36)

Section 1001.3.2.1.4.4 Interior Air Quality, shall be removed in its entirety.

(37) Section 1001.3.2.3 (10.3.2.3) Service Life Plan, shall be removed in its entirety.

(38) Section 1001.3.2.4 (10.3.2.4) Transportation Management Plan, shall be removed in its entirety.

Section 1001.3.2.4.6 Moisture Measurement, shall be removed in its entirety.

Section 1001.3.2.1.5 Indoor Environmental Quality Survey, shall be removed in its entirety.

Section 1001.3.2.1.4.5 Building Green Clean Plan, shall be removed in its entirety.

Section 1003.3.1.4 (10.3.1.4) Erosion and Sedimentation Control, shall be removed in its entirety.