CITY OF CAÑON CITY

City Council

City Council Chambers
128 Main St., Cañon City, CO 81212
(719) 269-9011 • www.canoncity.org

GENERAL GOVERNMENT COMMITTEE MEETING
January 8, 2025
6:00 p.m.

AGENDA

1. **CALL TO ORDER: City Council Chambers**

2. **ROLL CALL: COUNCIL MEMBERS DENNEHY, MELONI, SCHMISSEUR, STEIN, TRACY, WORTHINGTON, MAYOR PRO TEM HAMRICK, MAYOR TROUTMAN.**

3. **DISCUSSION:**

   A. Updating code editions from the 2018 International Codes to the 2024 International Codes.

4. **ADJOURN: The next regular meeting is scheduled for February 5, 2025.**

Posted pursuant to code on Thursday, January 2, 2024.
Cindy Foster Owens, City Clerk

CITY OF CAÑON CITY

City Administrator
P.O. Box 1460 • 128 Main Street
Cañon City, CO 81215-1460
(719) 269-9011 • www.canoncity.org

TO: Mayor and City Council

FROM: Ryan Stevens, City Administrator

PREPARED BY: Kathy Ulsh

DATE: 01/08/2025

RE: Updating code editions from the 2018 International Codes to the 2024 International Codes.

SUMMARY:* Attached for City Council review and consideration is a presentation to go over the adoption of the new 2024 International Codes. The presentation is to walk you through the process and give you information about the changes coming in the newer code editions.

REVIEWED BY LEGAL? ◉ **Yes** ○ **No**

RECOMMENDED ACTION: The Building Department seeks City Council approval to move forward with reviewing, having contractor meetings and adopting the new code edition throughout the year 2025 to be in effect on January 1, 2026.

# of attachments 1

BUILDING DEPARTMENT
CITY OF CAÑON CITY

2024 Building Code Meeting

January 8, 2025

Building Department

PRESENTATION CONTENTS

1. Timeline for the adoption of the 2024 I Codes.
2. Reason for the update of the I Codes.
3. Major changes to the International Energy Efficiency Code. (IECC)
4. Changes to the International Residential Code. (IRC)
5. Other code changes from other I Codes.
6. Questions?

Building Department

Timeline for the adoption of the 2024 International Code.

January 1, 2025 - June 1, 2025, Kathy to review the proposed codes and provide amendments.

International Building Code
International Residential Code
International Energy Conservation Code
International Mechanical Code
International Fuel Gas Code
International Existing Building Code
International Swimming Pool and Spa Code
International Property Maintenance Code

May through September 2025 have on going meetings with Contractors & Public to discuss code changes and amendments.

September 2025 to October 2025.
Work with City Attorney's to draft the ordinance for the adoption of the 2024 International Codes.

Building Department

Timeline for the adoption of the 2024 International Codes.

August 2025.
General Government Committee Meeting.

September 2025.
Meeting with Contractors and Public to go over what changes that will be made in the adoption ordinance.

October 2025 – November 2025.
Adoption of the ordinance through Council approval.

January 1, 2026.
Effective date of the 2024 Code adoption.

Building Department

What reason for the update of the codes.

- ISO Rating. (see separate slide for details)
- House Bill 22-1362 imposes certain requirements for energy code compliance after July 1, 2026 that are likely to be stricter than if the City adopts an energy code now. (see separate slide for more details)
- Many more updated alternatives for materials, design and method of construction.
- Engineers/Architect do not like to draw plans to older codes, they prefer to use newer code additions.

Building Department

What reason for the update of the codes.

- ISO Rating. (Insurance Service Office)
- ISO is the principle, provider of insurance underwriting, rating, and statistical information to the property and casualty insurance industry in the United States.
- ISO is a grading system that building and fire departments get graded on for the following items:
  - Edition of Building Code Adopted and any amendments to the adopted code.
  - Type of permits and inspections.
  - Floodplain regulations.
  - Pre-Disaster Mitigation.
  - Zoning Regulations.
  - Design Requirements.
  - Qualifications of employees. (certified to perform the job under their title)

Building Department

What reason for the update of the codes.

- House Bill 22-1362 requires that if a local government does not adopt an energy code equal to the requirements for energy performance found in the 2021 IECC, and updates its building code after July 1, 2026, it will be required to adopt code equivalent to the code being developed by the Colorado Energy Board.
- The Code being developed by the Board is likely to be more restrictive than the 2024 IECC.
- If the City adopts the 2024 IECC before July 1, 2026, it will not have to follow the Board's code until it updates its building codes again.
- This plays a major factor in the code update.

Building Department

New major changes in the 2024 IECC.

- Additional Energy Efficiency Credit Requirements. (point system) *Residential buildings* shall earn not less than 10 credits from not less than two measures specified in **Table N1108.2**.

- Solar Ready.

- EV Ready.

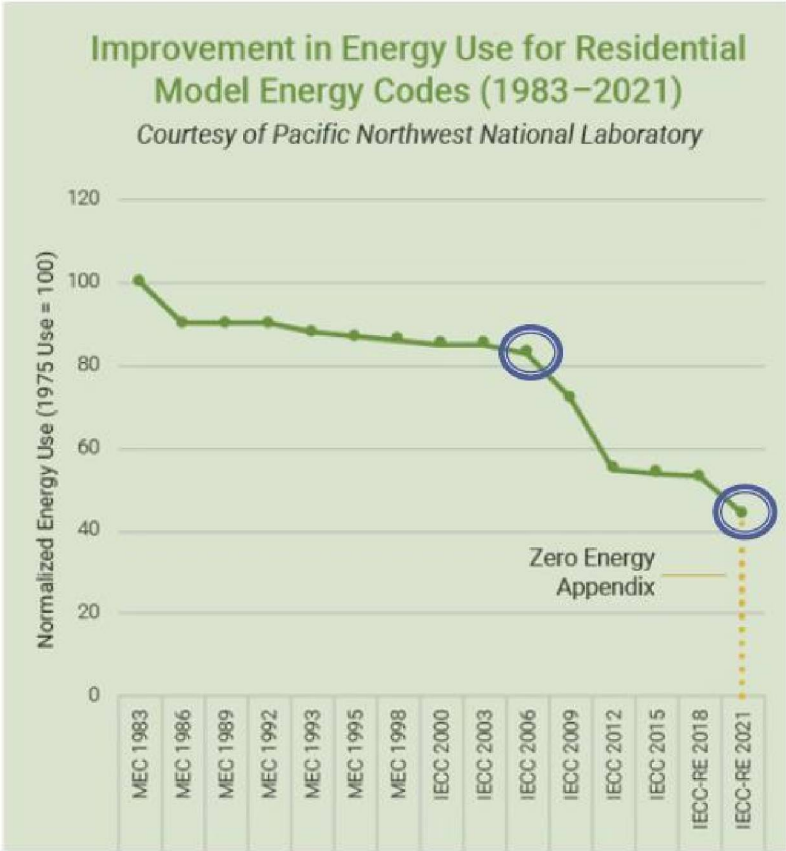
- U factor for Glazing, Insulation in walls and slabs & vapor barrier requirements in knee walls in attics.

Building Department

New major changes in the 2024 IRC/IECC.

Energy Savings and Emissions Reductions – Residential

- 2021 IECC Residential DOE Determination
  - 9% increase in energy savings over the 2018 IECC
  - 9% carbon emissions reductions
- Roughly 40% increase in efficiency from the 2006 IECC



Building Department

New major changes in the 2024 IRC/IECC.

Pacific Northwest NATIONAL LABORATORY

Summary of Results

National Weighted Average		Site Energy [kBtu/ft²-yr] Energy Cost [$/residence-yr] Emissions [tons/kft²-yr]		% Savings
		IECC 2021	IECC 2024	
Whole Building	Site Energy	34	31.7	6.66%
	Energy Cost	2,009	1,881	6.41%
	Emissions	10.79	10.1	6.41%

Building Department

Solar-ready system:

- shown in construction documents Dedicated roof area
- Roof dead load
- Roof live load
- Ground snow load
- Routing of conduit or pre-wiring to electric service panel
- Plumbing to service water heating system

Electric Vehicle Power Transfer Infrastructure

- EV-capable, EV-ready, or EV-installed Some exceptions

Cañon City is Climate Zone 5B under the 2018 IECC.

TABLE N1102.1.2 (R402.1.2)

INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT[a]

CLIMATE ZONE	FENESTRATION *U*-FACTOR[b]	SKYLIGHT[b] *U*-FACTOR	GLAZED FENESTRATION SHGC[b, e]	CEILING *R*-VALUE	WOOD FRAME WALL *R*-VALUE	MASS WALL *R*-VALUE[i]	FLOOR *R*-VALUE	BASEMENT[c] WALL *R*-VALUE	SLAB[d] *R*-VALUE & DEPTH	CRAWL SPACE[c] WALL *R*-VALUE
1	NR	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0
3	0.32	0.55	0.25	38	20 or 13 + 5[h]	8/13	19	5/13[f]	0	5/13
4 except Marine	0.32	0.55	0.40	49	20 or 13 + 5[h]	8/13	19	10 /13	10, 2 ft	10/13
5 and Marine 4	0.30	0.55	NR	49	20 or 13 + 5[h]	13/17	30[g]	15/19	10, 2 ft	15/19
6	0.30	0.55	NR	49	20 + 5[h] or 13 + 10[h]	15/20	30[g]	15/19	10, 4 ft	15/19
7 and 8	0.30	0.55	NR	49	20 + 5[h] or 13 + 10[h]	19/21	38[g]	15/19	10, 4 ft	15/19

For SI: 1 foot = 304.8 mm.
NR = Not Required.

a. *R*-values are minimums. *U*-factors and SHGC are maximums. Where insulation is installed in a cavity that is less than the label or design thickness of the insulation, the installed *R*-value of the insulation shall be not less than the *R*-value specified in the table.

b. The fenestration *U*-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
Exception: In Climate Zones 1 through 3, skylights shall be permitted to be excluded from glazed fenestration SHGC requirements provided that the SHGC for such skylights does not exceed 0.30.

c. "10/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation on the interior of the basement wall. "15/19" means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation on the interior of the basement wall. Alternatively, compliance with "15/19" shall be R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home.

d. R-5 insulation shall be provided under the full slab area of a heated slab in addition to the required slab edge insulation R-value for slabs. as indicated in the table. The slab edge insulation for heated slabs shall not be required to extend belo the slab.

e. There are no SHGC requirements in the Marine Zone.

f. Basement wall insulation shall not be required in warm-humid locations as defined by Figure N1101.10 and Table N1101.10.

g. Alternatively, insulation sufficient to fill the framing cavity providing not less than an *R*-value of R-19.

h. The first value is cavity insulation, the second value is continuous insulation. Therefore, as an example, "13+5" means R-13 cavity insulation plus R-5 continuous insulation.

i. Mass walls shall be in accordance with Section N1102.2.5. The second R-value applies where more than half of the insulation is on the interior of the mass wall.

Cañon City is Climate Zone 5B under the 2024 IECC.

TABLE N1102.1.3 (R402.1.3)
INSULATION MINIMUM *R*-VALUES AND FENESTRATION REQUIREMENTS BY COMPONENT[a]

CLIMATE ZONE	0	1	2	3	4 EXCEPT MARINE	5 AND MARINE 4	6	7 AND 8
VERTICAL FENESTRATION *U*-FACTOR	0.50	0.50	0.40	0.30	0.30	0.28[g]	0.28[g]	0.27[g]
SKYLIGHT *U*-FACTOR	0.60	0.60	0.60	0.53	0.53	0.50	0.50	0.50
GLAZED VERTICAL FENESTRATION SHGC	0.25	0.25	0.25	0.25	0.40	NR	NR	NR
SKYLIGHT SHGC	0.28	0.28	0.28	0.28	0.40	NR	NR	NR
CEILING *R*-VALUE	30	30	38	38	49	49	49	49
INSULATION ENTIRELY ABOVE ROOF DECK	25ci	25ci	25ci	25ci	30ci	30ci	30ci	35ci
WOOD-FRAMED WALL *R*-VALUE[e, h]	13 or 0&10ci	13 or 0&10ci	13 or 0&10ci	20 or 13&5ci[h] or 0&15ci[h]	30 or 20&5ci or 13&10ci or 0&20ci	30 or 20&5ci or 13&10ci or 0&20ci	30 or 20&5ci or 13&10ci or 0&20ci	30 or 20&5ci or 13&10ci or 0&20ci
MASS WALL *R*-VALUE[f]	3/4	3/4	4/6	8/13	8/13	13/17	15/20	19/21
FLOOR *R*-VALUE[h]	13 or 7+5ci or 10ci	13 or 7+5ci or 10ci	13 or 7+5ci or 10ci	19 or 13+5ci or 15ci	19 or 13+5ci or 15ci	30 or 19+7.5ci or 20ci	30 or 19+7.5ci or 20ci	38 or 19+10ci or 25ci
BASEMENT WALL *R*-VALUE[b, e]	0	0	0	5ci or 13[d]	10ci or 13	15ci or 19 or 13&5ci	15ci or 19 or 13&5ci	15ci or 19 or 13&5ci
UNHEATED SLAB *R*-VALUE & DEPTH[c]	0	0	0	10ci, 2 ft	10ci, 3 ft	10ci, 3 ft	10ci, 4 ft	10ci, 4 ft
HEATED SLAB *R*-VALUE & DEPTH[c]	R-5ci edge and R-5 full slab	R-5ci edge and R-5 full slab	R-5ci edge and R-5 full slab	R-10ci, 2 ft and R-5 full slab	R-10ci, 3 ft and R-5 full slab	R-10ci, 3 ft and R-5 full slab	R-10ci, 4 ft and R-5 full slab	R-10ci, 4 ft and R-5 full slab
CRAWL SPACE WALL *R*-VALUE[b, e]	0	0	0	5ci or 13[d]	10ci or 13	15ci or 19 or 13&5ci	15ci or 19 or 13&5ci	15ci or 19 or 13&5ci

For SI: 1 foot = 304.8 mm.NR = Not Required, ci = Continuous Insulation.

a. *R*-values are minimums. *U*-factors and SHGC are maximums. Where insulation is installed in a cavity that is less than the label or design thickness of the insulation, the installed *R*-value of the insulation shall be not less than the *R*-value specified in the table.

b. "5ci or 13" means R-5 continuous insulation (ci) on the interior or exterior surface of the wall or R-13 cavity insulation on the interior side of the wall. "10ci or 13" means R-10 continuous insulation (ci) on the interior or exterior surface of the wall or R-13 cavity insulation on the interior side of the wall. "15ci or 19 or 13&5ci" means R-15 continuous insulation (ci) on the interior or exterior surface of the wall; or R-19 cavity insulation on the interior side of the wall; or R-13 cavity insulation on the interior of the wall in addition to R-5 continuous insulation on the interior or exterior surface of the wall.

c. Slab insulation shall be installed in accordance with Section N1102.2.10.1.

d. Basement wall insulation shall not be required in Warm Humid locations as defined by Figure N1101.7 and Table N1101.7.

e. The first value is cavity insulation; the second value is continuous insulation. Therefore, as an example, "13&5" means R-13 cavity insulation plus R-5 continuous insulation.

f. Mass walls shall be in accordance with Section N1102.2.6. The second *R*-value applies where more than half of the insulation is on the interior of the mass wall.

g. A maximum *U*-factor of 0.30 shall apply in Marine Climate Zone 4 and Climate Zones 5 through 8 to vertical fenestration products installed in buildings located either:
   1. Above 4,000 feet in elevation.
   2. In windborne debris regions where protection of openings is required by Section R301.2.1.2.

h. "30 or 19+7.5ci or 20ci" means R-30 cavity insulation alone or R-19 cavity insulation with R-7.5 continuous insulation or R-20 continuous insulation alone.

Building Department

2024 International Residential Code

- There is still a requirement for SFD sprinkler systems. We would adopt the current language we have under the 2018 IRC. Single Family Dwellings & Duplexes would not need to be sprinklered, only sprinklered if three or more units.
- Soils Investigation & Lab Analysis would still be adopted as we have under the 2018 IRC.
- (New)Energy Storage Systems.
- (New)Sleeping lofts.
- (New)ADU (Accessory Dwelling Units)

Building Department

2024 Changes in other I Code Editions

- Design loads will be changing how they are classified under different Risk Categories. (snow, wind and frost depth)
- Accessibility standards have some changes. (turning radius for spaces)(EV Charging stations)
- Intermodal Shipping Containers
- No really big changes on other items, except the Energy Code Requirements.

QUESTIONS ?

2024 Building Code Meeting

January 8, 2025