

ORDINANCE NO. 075, 2017
OF THE COUNCIL OF THE CITY OF FORT COLLINS
AMENDING CHAPTER 5, ARTICLE IV OF THE CODE OF THE
CITY OF FORT COLLINS FOR THE PURPOSE OF REPEALING THE
2012 INTERNATIONAL MECHANICAL CODE (IMC), AND ADOPTING THE
2015 INTERNATIONAL MECHANICAL CODE, WITH AMENDMENTS

WHEREAS, since 1924, the City has reviewed, amended and adopted the latest nationally recognized building standards available for the times; and

WHEREAS, upon recommendation of City staff, the City Council has determined that it is in the best interests of the City to align the five interconnected basic construction codes under one publication year; and

WHEREAS, the five interconnected basic construction codes are the *International Building Code*, *International Residential Code*, *International Mechanical Code*, *International Fuel Gas Code*, and *International Energy Conservation Code*; and

WHEREAS, the City Council has determined that the 2015 publication year of the five interconnected basic construction codes ought to be adopted and that their counterpart codes previously adopted should be repealed, both in order to align the publication years of the codes and also because the 2015 publications contain improvements in construction code regulation; and

WHEREAS, City staff has conducted a significant public outreach program, working with the regulated construction industry and building professionals; and

WHEREAS, the adoption of the five interconnected basic construction codes has been presented to and recommended by the Affordable Housing Board, the Commission on Disability, the Air Quality Advisory Board, the Natural Resources Advisory Board, the Building Review Board, the Electric Board, the Landmark Preservation Commission and the Water Board; and

WHEREAS, the City Council has determined that it is in the best interest of the health, safety and welfare of the City and its citizens that the *2012 International Mechanical Code*, as adopted and amended by the City pursuant to Ordinance No. 021, 2014, be repealed, and that in its place, the *2015 International Mechanical Code* be adopted, with amendments.

WHEREAS, pursuant to the City Charter II, Section 7, City Council may enact any ordinance which adopts a code by reference in whole or in part provided that before adoption of such ordinance the Council hold a public hearing thereon and that notice of the hearing is published twice in a newspaper of general circulation published in the City, with one of such publications occurring at least eight (8) days preceding the hearing and the other publication occurring at least fifteen (15) days preceding the hearing; and

WHEREAS, in compliance with Article II, Section 7, the City Clerk published in the Fort Collins *Coloradoan* such notice of hearing concerning adoption of the 2015 International Mechanical Code on May 21, 2017, and May 28, 2017; and

WHEREAS, attached as Exhibit "A" and incorporated herein by reference is the Notice of Public Hearing dated May 14, 2017, that was so published and which the Council hereby finds meets the requirements of Article II, Section 7 of the City Charter.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF FORT COLLINS as follows:

Section 1. That the City Council hereby makes and adopts the determinations and findings contained in the recitals set forth above.

Section 2. That Section 5-106 of the Code of the City of Fort Collins is hereby amended to read as follows:

Sec. 5-106. – Adoption of standards.

Pursuant to the power and authority conferred on the City Council by Section 31-16-202, C.R.S., and Article II, Section 7 of the Charter, the City Council hereby repeals the *2012 International Mechanical Code* (2012 IMC) and adopts as the mechanical code of the City the *2015 International Mechanical Code* (2015 IMC), published by the International Code Council, which shall have the same force and effect as though set forth in full herein except as amended pursuant to Section 5-107 of the City Code. The subject matter of the *2015 International Mechanical Code* (2015 IMC), adopted herein includes comprehensive provisions and standards regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance of heating, ventilating, cooling and refrigeration systems, incinerators, miscellaneous heat-producing appliances for the purposes of protecting public health, safety and general welfare. None of the *2015 International Mechanical Code* Appendices are hereby adopted.

Section 3. That Section 5-107 of the Code of the City of Fort Collins is hereby repealed and re-enacted to read in its entirety as follows:

Sec. 5-107. - Amendments and deletions to the 2015 International Mechanical Code.

The *2015 INTERNATIONAL MECHANICAL CODE* adopted in §5-106 is hereby amended in the following respects:

(1) **Section 101.1 Title** is hereby retained in its entirety with the following amendments:

101.1 Title. These regulations shall be known as the *Mechanical Code* of the City of Fort Collins, hereinafter referred to as "this *code*."

(2) **Section 102.8 Referenced codes and standards** is hereby retained in its entirety with the following amendments:

Section 102.8 Reference codes and standards. The codes and standards referenced herein shall be those that are listed in Section 101.4 of the adopted *International Building*

Code, entitled “*Referenced Codes*” and shall be considered part of the requirements of this *code* to the prescribed extent of each such reference.

Exception: Where enforcement of a *code* provision would violate the conditions of the listing of the *equipment* or *appliance*, the conditions of the listing and the manufacturer’s installation instructions shall apply.

- (3) *Section 103 Department of Mechanical Inspection* is hereby deleted and replaced in its entirety and the following is hereby added in lieu thereof:

SECTION 103 – CODE ADMINISTRATION

103.1 Entity charged with *code* administration. The entity charged with *code* administration shall be as determined in accordance with Section 103 of the adopted *International Building Code*, entitled “*Code Administration*.”

- (4) *Sections 106.5 Fees, 106.5.1 Work commencing before permit issuance, 106.5.2 Fee schedule, and 106.5.3 Fee refunds* are hereby deleted and replaced in their entirety and the following is hereby added in lieu thereof:

106.5 Payment of fees. All items relating to fees shall be as specified in Section 109 of the adopted *International Building Code*, entitled “*Fees*.”

- (5) *Sections 107.3 Testing and verification, 107.3.1 New, altered, extended or repaired systems, 107.3.2 Apparatus, material and labor for tests, and 107.3.3 Reinspection and Testing* are hereby deleted and replaced in their entirety and the following is hereby added in lieu thereof:

107.3 Testing and verification. Installed heating, cooling and *ventilation systems* shall be performance-tested by an *approved agency* and adjusted to operate within design specifications, in accordance with ANSI/ACCA QI 5-2010 *HVAC Quality Installation Specification*. Documentation of results shall be submitted to the *building official* prior to approval.

Exception: *Buildings* subject to *commissioning* requirements in Section 3604.1 of the 2015 *International Building Code* as amended.

- (6) *Section 108.4 Violation Penalties* is hereby retained in its entirety with the following amendments:

108.4 Violation penalties. Persons who violate a provision of this *code* or fail to comply with any of the requirements thereof or who erect, install, alter or repair a mechanical work in violation of the *approved construction documents* or directive of the *code official*, or of a permit or certificate issued under the provisions of this *code*, shall be guilty of a misdemeanor and shall be subject to the penalties and fines specified in Section 1-15 of the City Code.

- (7) A new **Section 108.4.1 Work Commencing before Permit Issuance** is hereby added to read as follows:

108.4.1 Work commencing before permit issuance. In addition to the penalties set forth in Section 108.4, any person or firm who, before obtaining the necessary permit(s), commences any construction of, or work on, a *building*, structure, electrical, gas, mechanical or plumbing system that is not otherwise exempted from obtaining a permit, shall be subject to a fine in addition to the standard prescribed permit fee. Said fine shall be equal in amount to the permit fee, except that it shall not be less than \$50 nor more than \$1,000 for the first such violation. A person or firm committing the same such violation repeatedly shall be subject to a fine equal to double the amount of the permit fee or double the amount of the fee imposed for the preceding violation, whichever is greater, for every such subsequent violation committed within 180 days of a previous violation. Said fines may be appealed to the City Manager pursuant to Chapter 2, Article VI of the City Code.

- (8) **Section 109 Means of Appeal** is hereby deleted and replaced in its entirety and the following is hereby added in lieu thereof:

109 Appeals. Appeals of decisions, determinations and interpretations of this *code* shall be made pursuant to the applicable provisions of Section 113 of the adopted *International Building Code*, entitled "Board of Appeals."

- (9) **Section 202 GENERAL DEFINITIONS**, is hereby amended to add, in alphabetical order, the following definitions:

Multifamily. Any *building* housing group R-1, R-2 or R-4 occupancies.

Whole-dwelling unit mechanical ventilation system. An *exhaust system*, supply system, or combination thereof that is designed to mechanically exchange indoor air for *outdoor air* when operating continuously or through a programmed intermittent schedule to satisfy the whole-dwelling *ventilation* rate.

- (10) **Section 304.3 Elevation of ignition source** is hereby retained in its entirety with the following amendments:

304.3 Elevation of ignition source. Electrical devices, *equipment* and *appliances* having an *ignition source* and located in *hazardous locations* and public garages, private garages, repair garages, automotive motor fuel-dispensing facilities and parking garages shall be elevated such that the source of ignition is not less than 18 inches (457 mm) above the floor surface on which the *equipment* or *appliance* rests. For the purpose of this Section, rooms or spaces that are not part of the *living space* of a *dwelling unit* and that communicate directly with a private garage through openings shall be considered to be part of the private garage.

- (11) **Section 312.1 Load calculations** is hereby retained in its entirety with the following amendments:

312.1 Heating and cooling load calculations. Heating and cooling system design loads for the purpose of sizing systems, *appliances* and *equipment* shall be determined in accordance with the adopted *International Energy Conservation Code*.

(12) A new **Section 408 Whole-dwelling unit ventilation** is hereby added to read as follows:

408.1 Whole-dwelling unit mechanical ventilation system. For new *buildings*, a *mechanical exhaust system*, supply system, or combination thereof shall be installed for each *dwelling unit* to provide *whole-dwelling unit ventilation*. Such system shall comply with Sections 407.1.1 through 407.5.

408.1.1 Whole-dwelling unit ventilation rate. The dwelling unit mechanical *ventilation system* shall provide *outdoor air* at a continuous rate of not less than that determined in accordance with Table M1507.3.3(1).

Exception:

The *whole-dwelling unit mechanical ventilation system* is permitted to operate intermittently where the system has *controls* that enable operation for not less than 25-percent of each 4-hour segment and the *ventilation rate* prescribed in IRC Table M1507.3.3(1) is multiplied by the factor determined in accordance with IRC Table M1507.3.3(2).

**TABLE M1507.3.3(1)
CONTINUOUS WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM AIRFLOW RATE REQUIREMENTS**

DWELLING UNIT FLOOR AREA (square feet)	NUMBER OF BEDROOMS				
	0 - 1	2 - 3	4 - 5	6 - 7	> 7
	Airflow in CFM				
< 1,500	30	45	60	75	90
1,501 - 3,000	45	60	75	90	105
3,001 - 4,500	60	75	90	105	120
4,501 - 6,000	75	90	105	120	135
6,001 - 7,500	90	105	120	135	150
> 7,500	105	120	135	150	165

For SI: 1 square foot = 0.0929 m², 1 cubic foot per minute = 0.0004719 m³/s.

**TABLE M1507.3.3(2)
INTERMITTENT WHOLE-HOUSE MECHANICAL VENTILATION RATE FACTORS^{a,b}**

RUN-TIME PERCENTAGE IN EACH 4-HOUR SEGMENT	25%	33%	50%	66%	75%	100%
Factor ^a	4	3	2	1.5	1.3	1.0

- a. For ventilation system run time values between those given, the factors are permitted to be determined by interpolation.
- b. Extrapolation beyond the table is prohibited.

408.2 System design. The design of the required *whole dwelling unit ventilation system* shall comply with the requirements of this Section. System design documents shall be submitted, as required by the *building official*, at the time of application for a *building permit*.

408.2.1 System type. The system shall consist of one or more supply or exhaust fans, or a combination thereof, and associated *ducts* and *controls*. Exhaust fans shall be permitted

to be part of a *mechanical exhaust system*. *Outdoor air ducts* connected to the return *duct* of a forced air furnace shall be considered to provide supply *ventilation* and shall be sized to provide adequate mechanical *ventilation* in accordance with ASHRAE 62.2 and shall meet the manufacturer's requirements for minimum *return air* temperature to the furnace heat exchanger.

408.2.2 Outdoor air intakes. *Outdoor air* intakes shall have automatic dampers that close when the *ventilation system* is not operating.

408.2.3. Exhausts. Exhausts shall have gravity *dampers* that close when the *ventilation system* is not operating.

408.2.4 Air Circulation fan motors. Motors for air circulation fans used in the *ventilation system*, rated at one-quarter horsepower or greater, shall meet at least one of the following criteria:

1. Where the *furnace* serves as an air handler for the *ventilation system*, the *furnace* shall be certified as an "Electrically Efficient Furnace" by the Air-conditioning, Heating and Refrigeration Institute (AHRI).
2. The blower motor shall be specified as a "Brushless DC" (BL or BLDC) motor by the manufacturer.
3. The blower motor shall be specified as "Brushless Permanent Magnet" (BPM) motor.
4. The blower motor shall be specified as "Electronically Commutated Motor (ECM)."
5. The blower shall meet equivalent criteria acceptable to the *building official*.

408.2.5 System controls. The mechanical *ventilation system* shall be provided with readily accessible and labeled *controls* that enable occupant override.

408.2.6 Sound ratings for fans. Whole-*dwelling unit ventilation* fans shall be rated for sound at a maximum of 1.5 sones, in accordance with the procedures of the Home Ventilating Institute (*HVI 915, Procedure for Loudness Rating of Residential Fan Products*).

Exception:

Heating, ventilating and *air conditioning* air handlers and remote-mounted fans need not meet sound requirements. To be considered for this exception, a remote-mounted fan must be mounted outside the habitable spaces, *bathrooms*, toilets and hallways, and there must be at least 4 ft (1 m) of ductwork between the fan and the intake grille.

408.3 System installation. The installation of the whole-*dwelling unit ventilation system* and *equipment* shall be carried out in accordance with the manufacturers' design requirements and installation instructions.

408.4 Performance verification. Performance of installed mechanical *ventilation systems* shall be verified in accordance with Section 107.3.

408.5 Multifamily buildings. In *multifamily buildings*, all doors between *dwelling units* and common hallways shall be gasketed or otherwise substantially airtight with weather stripping, except when the *ventilation system* explicitly requires transfer of air from corridors into units.

- (13) **Section 504.1 Installation** is hereby retained in its entirety with the following amendments:

504.1 Installation. *Clothes dryers* shall be exhausted in accordance with the manufacturer's instructions. *Dryer exhaust systems* shall be independent of all other systems and shall convey the moisture and any products of *combustion* to the outside of the *building*. *Dryer exhaust duct terminations* shall not be located within 36 inches (914 mm) of exterior openings into *conditioned spaces, crawl spaces, and attic spaces*.

- (14) **Section 504.8.4.2 Manufacturer's instructions** is deleted in its entirety:

- (15) **Section 512.1 General** is hereby retained in its entirety with the following amendments:

512.1 General. Where a subslab soil *exhaust system* is provided, the *duct* for such system shall conform to the requirements of Section 1211 of the adopted *International Building Code*, entitled "Radon-Resistant Construction."

- (16) **Section 602.3 Stud cavity and joist space plenums** is hereby deleted and replaced in its entirety and the following is hereby added in lieu thereof:

Section 602.3 Building cavities (Mandatory). *Building framing cavities* shall not be used as *ducts* or *plenums*.

- (17) A new **Section 602.3.1 Return air** is hereby added to read as follows:

Section 602.3.1 Return air. *Return air* shall be taken from inside the *dwelling*. Dilution of *return air* with *outdoor air* shall be permitted. A *return air* path shall be provided in all *habitable rooms* by means of *ducts* or transfer grills.

- (18) A new **Section 603.18.3 Construction debris and contamination** is hereby added to read as follows:

603.18.3 Construction debris and contamination. Mechanical air-handling systems and their related *ducts* shall be protected from the entrance of dirt, debris, and dust during the construction and installation process. Prior to passing final inspection or issuance of a Certificate of Occupancy, such systems shall be substantially free of construction-related contaminants.

- (19) **Section 607.4 Access and identification** is hereby retained in its entirety with the following amendments:

607.4 Access and identification. Fire and *smoke dampers* shall be provided with an *approved* means of access, large enough to permit inspection and maintenance of the damper and its operating parts. The access shall not affect the integrity of fire-resistance-rated assemblies. The access openings shall not reduce the fire-resistance-rating of the assembly. Access points shall be permanently identified on the exterior and readable without the removal of finish ceiling works by a label having letters not less than 0.5 inch (12.7 mm) in height reading: SMOKE DAMPER or FIRE DAMPER. Access doors in *ducts* shall be tight-fitting and suitable for the required duct construction.

- (20) **Section 801.19 Multistory prohibited** is hereby retained in its entirety with the following amendments:

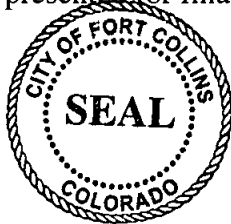
801.19 Multistory prohibited. Common *venting systems* for *appliances* located on more than one floor level shall be prohibited, except *engineered systems* where all of the *appliances* served by the common *vent* are located in rooms or spaces that are accessed only from the outdoors. The *appliance* enclosures shall not communicate with the occupiable areas of the *building*.

- (21) A new **Section 903.1.1 Solid fuel fireplaces and appliances** is added to read as follows:

903.1.1 Solid fuel fireplaces and appliances. *Solid fuel fireplaces, fireplace stoves* and solid-fuel-type room heaters shall also comply with Section 5-110 of the City Code.

- (22) **Section 903.3 Unvented gas logs heaters** is deleted in its entirety:

Introduced, considered favorably on first reading, and ordered published this 6th day of June, A.D. 2017, and to be presented for final passage on the 5th day of July, A.D. 2017.



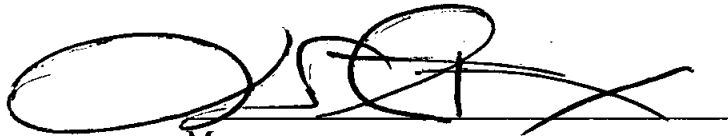
Mayor

ATTEST:


City Clerk

Passed and adopted on final reading on this 5th day of July, A.D. 2017.




Mayor

ATTEST:


City Clerk

NOTICE OF PUBLIC HEARING

NOTICE is hereby given of a public hearing to be held before the City Council of the City of Fort Collins, Colorado, on the 6th day of June, A.D., 2017 at 6:00 p.m., or as soon thereafter as the matter may come on for hearing, in the Council Chambers at the City Hall, 300 LaPorte Avenue, Fort Collins, Colorado for the purpose of considering the adoption of ordinances adopting by reference the *2015 International Building Code*, *2015 International Residential Code*, *2015 International Energy Conservation Code*, *2015 International Mechanical Code*, and the *2015 International Fuel Gas Code* together with local amendments, promulgated by the International Code Council.

Not less than one (1) copy of said Codes has been, and now is on file in the Office of the City Clerk of the City of Fort Collins and is available for public inspection.

The purpose of the International Building Code, International Residential Code, International Energy Conservation Code, International Mechanical Code, and the International Fuel Gas Code adopted by said ordinance is to provide for protection of public health and safety and general welfare.

The City of Fort Collins will make reasonable accommodations for access to City services, programs and activities and will make special communication arrangements for persons with disabilities. Please call 221-6515 (V/TDD: Dial 711 for Relay Colorado) for assistance.

This notice is given and published by order of the City of Fort Collins, Colorado.

Dated at Fort Collins, Colorado this 14th day of May, A.D. 2017.

Wanda Winkelmann
City Clerk