

AN ORDINANCE
ADOPTING THE INTERNATIONAL MECHANICAL CODE 2015
AND THE NFPA 54 NATIONAL FUEL GAS CODE, 2015 EDITION, AS THE HEATING,
VENTILATING AND AIR CONDITIONING CODE OF THE CITY OF ELGIN

WHEREAS, the City of Elgin is a home rule unit pursuant to the Constitution of the State of Illinois and, as a home rule unit, may exercise any power and perform any function pertaining to its government and affairs; and

WHEREAS, the regulation of mechanical systems and low pressure gas piping and appliances utilized in building and construction activities within the City relates to the public health, safety and welfare, and pertains to the government and affairs of the City.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ELGIN, ILLINOIS:

Section 1. That Chapter 16.32 entitled "Heating, Ventilating and Air Conditioning Code" of the Elgin Municipal Code, 1976, as amended, be and is hereby repealed.

Section 2. That Chapter 16.32 entitled "Heating, Ventilating and Air Conditioning Code" be and is hereby added to the Elgin Municipal Code, 1976, as amended, to read as follows:

"Chapter 16.32
HEATING, VENTILATING AND AIR CONDITIONING CODE

Sections:

- 16.32.010 Adopted - Exceptions.
- 16.32.020 Additions, Insertions, and Changes.
- 16.32.030 Permits Required
- 16.32.040 Conflicts With Other Provisions.

16.32.010 ADOPTED - EXCEPTIONS.

That two (2) certain documents, one (1) copy of each being on file in the office of the City Clerk of the City of Elgin, and said documents being marked and designated as the *International Mechanical Code 2015* as published by the International Code Council, Inc., and *NFPA 54 National Fuel Gas Code 2015*, as published by the National Fire Protection Association (NFPA), be and are hereby adopted as and shall be known as the Heating, Ventilating and Air Conditioning Code of the City of Elgin for regulating the design, construction, quality of materials, erection, installation, alteration, repair, location, relocation, replacement, addition to, use or maintenance of mechanical systems and low pressure gas piping and appliances; and each and all of the regulations, provisions, penalties, conditions and terms of said *International Mechanical Code 2015* and *NFPA 54 National Fuel Gas Code 2015* are hereby referred to, adopted, and made a part

hereof, as if fully set out in this ordinance, with the additions, insertions, deletions and other changes prescribed in this chapter.

16.32.020 ADDITIONS, INSERTIONS AND CHANGES.

A. The *International Mechanical Code 2015* is amended and revised in the following respects:

Section 103 Department of Mechanical Inspection (sections 103.1 through 103.4.1, inclusive), shall be deleted in its entirety.

Section 109.1 Application for appeal, shall be amended to read as follows:

Appeals from the decision of the code official shall be made in accordance with the provisions set forth in Chapter 3.60 of the Elgin Municipal Code, 1976, as amended.

Sections 109.1.1 through 109.7, inclusive, shall be deleted in their entirety.

Section 401.2 Ventilation required, shall be amended to read as follows:

Every occupied space shall be ventilated by natural means in accordance with Section 402 of this Chapter 16.32 or by mechanical means in accordance with Section 403 of this Chapter 16.32. Buildings 10,000 square feet or larger shall require a ventilation schedule (submitted with the mechanical prints), which shall include minimum outdoor air requirements per Table 403.3.1.1 and total supply air for each space and/or room.

Section 403.3.1.1 Outdoor airflow rate, shall be amended to read as follows:

Ventilation systems shall be designed to have the capacity to supply the minimum outdoor airflow rate determined in accordance with this Section. The occupant load utilized for design of the ventilation system shall not be less than the number determined from the estimated maximum occupant load rate indicated in Table 403.3.1.1. Ventilation rates for occupancies not represented in Table 403.3.1.1 shall be those for a listed occupancy classification that is most similar in terms of occupant density, activities and building construction; or shall be determined by an approved engineering analysis. The ventilation system shall be designed to supply the required rate of ventilation air continuously during the period the building is occupied, except as otherwise stated in other provisions of the code. The temperature differential between ventilation air and the air in the conditioned space shall not exceed 10 degrees Fahrenheit. Ventilation air that is part of the air conditioning system is not required to be within 10 degrees Fahrenheit.

With the exception of smoking lounges, the ventilation rates in Table 403.3.1.1 are based on the absence of smoking in occupiable spaces. Where smoking is anticipated in a space other than a smoking lounge, the ventilation system serving the space shall be designed to provide ventilation over and above that required by

Table 403.3.1.1 in accordance with accepted engineering practice.

Exception: The occupant load is not required to be determined, based on the estimated maximum occupant load rate indicated in Table 403.3.1.1, where approved statistical data document the accuracy of an alternate anticipated occupant density.

Section 505.2 Makeup air required, shall be amended to read as follows:

Exhaust hood systems capable of exhausting 400 cubic feet per minute (0.19 m³/s) or more shall be an engineered system designed by a licensed engineer and shall be provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with not less than one damper. Each damper shall be a gravity damper or an electrically operated damper that automatically opens when the exhaust system operates. Dampers shall be accessible for inspection, service, repair and replacement without removing permanent construction or any other ducts not connected to the damper being inspected, serviced, repaired or replaced.

Section 510.8 Suppression required, shall be amended to delete Exception No. 2.

Section 513.12.1 Verification, the “Exception” contained in said section shall be amended to read as follows:

Exception: Where verification of individual components tested through the preprogrammed weekly testing sequence will interfere with, and produce unwanted effects to, normal building operation, such individual components are permitted to be bypassed from the weekly preprogrammed weekly testing, where approved by the building official or fire code official and in accordance with both of the following:

1. Where the operation of the components is bypassed from the preprogrammed weekly test, presence of power downstream of all disconnects shall be verified weekly by a listed control unit.
2. Testing of all components bypassed from the preprogrammed weekly test shall be in accordance with Section 909.20.6 of the *International Fire Code 2015*, as amended by Chapter 16.28 of the Elgin Municipal Code, 1976, as amended.

Section 602.3 Stud cavity and joist space plenums, shall be amended to read as follows:

Stud wall cavities and the spaces between solid floor joists to be utilized as air plenums shall comply with the following conditions:

1. Such cavities or spaces shall not be utilized as a plenum for supply air.

2. Such cavities or spaces shall not be part of a required fire resistance rated assembly.
3. Stud wall cavities shall not convey air from more than one floor level or more than one room.
4. Stud wall cavities and joist space plenums shall comply with the floor penetration protection requirements of the *International Building Code 2015*, as amended by Chapter 16.04 of the Elgin Municipal Code, 1976, as amended.
5. Stud wall cavities and joist space plenums shall be isolated from adjacent concealed spaces by approved fireblocking as required in the *International Building Code 2015*, as amended by Chapter 16.04 of the Elgin Municipal Code, 1976, as amended.

Table 603.4 shall be deleted and replaced with the following table:

Duct size	Galvanized Gage No.
Round duct	
6" diameter or less	30 GA
6" - 14" diameter	28 GA
Over 14" in diameter	26 GA
Rectangular ducts	
13" or less	26 GA
14 - 30"	24 GA

Over 30" per SMACNA Standards
(Sheet Metal and Air Conditioning Contractors' National Association, Inc.)

Section 603.5.1 Gypsum ducts, shall be amended to read as follows:

The use of gypsum boards to form air shafts (ducts) shall be limited to return air systems where the air temperatures do not exceed 95° F (35° C) and the gypsum board surface temperature is maintained above the airstream dew-point temperature. Air ducts formed by gypsum boards shall not be incorporated in air-handling systems utilizing evaporative coolers.

Section 603.6.1.1 Duct length, shall be amended to read as follows:

Flexible air ducts shall not exceed ten (10) feet in length.

Section 603.6.2.1 Connector length, shall be amended to read as follows:

Flexible air connectors shall not exceed ten (10) feet in length.

Section 606.2.1 Return air systems, shall be amended such that it shall be entitled “Supply air systems,” and is further amended to read as follows:

Smoke detectors shall be installed in the supply air systems with a design capacity greater than 2,000 CFM (0.94 m³/s), and shall be installed in the supply air duct or plenum downstream of any heating coils, cooling coils or fans and prior to any take offs or divisions in the duct.

Exception: Smoke detectors are not required in the supply air system where the space served by the air distribution system is protected by a system of area smoke detectors in accordance with the *International Fire Code 2015* as amended by Chapter 16.28 of the Elgin Municipal Code, 1976, as amended. The area smoke detector system shall comply with Section 606.4 of this Chapter 16.32, as amended.

Section 606.2.2 Common supply and return air systems, shall be amended to read as follows:

Where multiple air-handling systems share common supply or return air ducts or plenum with a combined design capacity greater than 2,000 CFM (0.94 m³/s) the supply air system shall be provided with smoke detectors in accordance with Section 606.2.1 of this Chapter 16.32, as amended.

Exception: Individual smoke detectors shall not be required for each variable air volume (VAV) zone unit or VAV-type fan-powered terminal unit, provided that such units do not have an individual design capacity greater than 2,000 CFM (0.94 m³/s) and will be shut down by activation of one of the following:

1. Smoke detectors required by Sections 606.2.1 and 606.2.3 of this Chapter 16.32, as amended.
2. An approved area smoke detector system located the supply air plenum serving such units.
3. An area smoke detector system as prescribed in the exception to Section 606.2.1.

In all cases, the smoke detectors shall comply with Sections 606.4 and 606.4.1 of this Chapter 16.32, as amended.

Section 606.2.3 Return air risers, shall be amended to read as follows:

Where return risers serve two or more stories and are part of a return air system having a design capacity greater than 15,000 CFM (7.1 m³/s), smoke detectors shall be installed at each story. Such smoke detectors shall be located upstream of the connection between the return air riser and any air ducts or plenums. Supply smoke detectors shall also be installed as required by Section 606.2 of this Chapter 16.32, as amended.

Section 606.3 Installation, shall be amended to read as follows:

Smoke detectors required by this section shall be installed in accordance with NFPA 72. The required smoke detectors shall be installed to monitor the entire airflow conveyed by the system including return air, supply air and exhaust or relief air. Access shall be provided to smoke detectors for inspection and maintenance.

- B. The NFPA 54 *National Fuel Gas Code 2015* is amended and revised in the following respects:

Section 5.6.3.4 Corrugated Stainless Steel, shall be amended to read as follows:

Corrugated stainless steel tubing shall be listed in accordance with ANSI LC1/CSA 6.26, "Fuel Gas Piping Systems Using Corrugated Stainless Steel Tubing" and shall be used only where required by specific manufacturers' installation instructions.

All interior gas piping is required to be schedule 40 black iron pipe (ASTM A 53) from the meter to the appliance/equipment connector with the following exceptions:

An approved flexible connector may be used for appliances such as clothes dryers, cook tops and stoves provided that the connectors are UL approved and the manufacturer's instructions do not prohibit such a connection.

16.32.030 PERMITS REQUIRED.

- A. A permit is required to install or alter any heating, ventilating or air conditioning equipment in the city. Application shall be made to the Community Development Department. Upon approval, a permit shall be issued and the fees as required in Chapter 16.48 of the Elgin Municipal Code, 1976, as amended, shall be paid.
- B. Permits for work to be performed under this code shall be issued only to warm air heating contractors, as defined in Chapter 16.02 of the Elgin Municipal Code, 1976, as amended, to contractors doing work based on plans and specifications sealed by an architect or mechanical engineer, or the owner-occupant of single-family detached residence.
- C. Permits shall be required to install or alter any ductless furnace, which shall be in

conformity with the regulations as set forth in the NFPA Pamphlet No. 54, as amended by this chapter.

16.32.040 CONFLICTS WITH OTHER PROVISIONS.

In all instances where the provisions of these codes adopted in this chapter conflict with any other provision of the Elgin Municipal Code regulating the same subject matter, either as presently adopted or to be adopted or amended in the future, the most restrictive and stringent code shall apply."

Section 3. That all ordinances or parts of ordinances in conflict with the provisions of this ordinance be and are hereby repealed.

Section 4. That this ordinance shall be in full force and effect immediately after its passage in the manner provided by law.

s/ David J. Kaptain
David J. Kaptain, Mayor

Presented: July 11, 2018
Passed: July 11, 2018
Omnibus Vote: Yeas: 8 Nays: 0
Recorded: July 11, 2018
Published: July 12, 2018

Attest:

s/ Kimberly Dewis
Kimberly Dewis, City Clerk