MUSCATINE

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COMMUNITY DEVELOPMENT

Planning,
Zoning,
Building Safety,
Construction Inspection Services,
Public Health,
Housing Inspections,
Code Enforcement

MEMORANDUM

To: Mayor and City Council Members

From: Jason Garmoe, Building Division Supervisor
Jodi Royal-Goodwin, Community Development Director

Cc: Gregg Mandsager, City Administrator

Date: August 1, 2019

Re: **Ordinances Amending Chapter 7 of Title 8 of the City Code, Building Regulations, Mechanical Code; and Chapter 9 of Title 8 of the City Code, Building Regulations, Plumbing Code**

INTRODUCTION: The Plumbing and Mechanical Board of the Iowa Department of Public Health has adopted new plumbing and mechanical codes. To remain in compliance with state law the City must adopt new standards.

BACKGROUND: In 2013 the Iowa legislature passed a law requiring local jurisdictions with a population more than 15,000, or cities who had adopted a local code as of April 26, 2013, to adopt the state plumbing code and state mechanical code by December 31, 2016 (Iowa Code section 105.4(1)(c)). In addition, any city that adopts standards that are more restrictive, must provide copies of those standards to the Plumbing and Mechanical Board of the Iowa Department of Public Health (the Board). This year the Board has adopted the "2018 Uniform Plumbing Code" and "International Mechanical Code", 2018 Edition, to be effective September 1, 2019.

Currently the City has adopted the "International Plumbing Code", 2015 Edition, and "International Mechanical Code", 2015 Edition, to maintain continuity with the currently adopted plumbing and mechanical codes, and connectivity and consistency with the residential, building and mechanical codes adopted by the City of Muscatine, all of which are codes published by the International Code Council. The International Plumbing Code is more restrictive than the Uniform Plumbing Code, and will meet the state requirement.

A summary of changes from the 2015 edition to the 2018 edition of both the mechanical and plumbing codes is attached.

Recommendation: Staff recommends amending Title 8, Chapters 7 and 9 of the City Code to adopt the "International Mechanical Code", 2018 Edition and "International Plumbing Code", 2018 Edition. Such action is required for the City of Muscatine to remain compliant under Iowa Code section 105.4(1)(c).

ORDINANCE NO._____

AN ORDINANCE AMENDING CHAPTER 7 OF TITLE 8 OF CITY CODE, BUILDING REGULATIONS, MECHANICAL CODE

WHEREAS, Section 1 of Chapter 7 of Title 8 of City Code adopts the document entitled "International Mechanical Code", 2015 Edition, as amended and published by the International Code Council, as the Mechanical Code for the City of Muscatine, Iowa; and

WHEREAS, Iowa Code Section 105.4(1)(c) requires that cities with population more than 15,000 adopt the State Mechanical Code or a standard that is more restrictive; and

WHEREAS, The Plumbing and Mechanical Systems Board has adopted the "International Mechanical Code", 2018 Edition, as the State Mechanical Code, effective September 1, 2019;

WHEREAS, In order to remain compliant with Iowa Code Section 105.4(1)(c) the City of Muscatine must adopt the "International Mechanical Code", 2018 Edition; and

WHEREAS, To maintain continuity with the currently adopted mechanical code, and connectivity and consistency with the residential, building and mechanical codes adopted by the City of Muscatine, all of which are codes published by the International Code Council; the "International Mechanical Code", 2018 Edition, as amended and published by the International Code Council, shall be adopted as the Mechanical Code for the City of Muscatine, Iowa.

NOW, THEREFORE BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF MUSCATINE, IOWA:

SECTION 1.

Title 8, Chapter 7, Section 1 of the City Code: Adoption of the International Mechanical Code

Section 1 of Chapter 7 of Title 8, is hereby amended to read as follows:

8-9-1 Adoption of the International Mechanical Code. Pursuant to published notice and public hearing as required by the Code of Iowa, the document entitled "International Mechanical Code", 2018 Edition, as amended and published by the International Code Council, is hereby adopted by reference as the Mechanical Code for the City of Muscatine, Iowa, and is made a part hereof as if fully set out in this Ordinance. An official copy of said Code is on file in the office of the City Clerk.

SECTION 2. Any Ordinance or part thereof in conflict or inconsistent with the provisions of this Ordinance is repealed.

SECTION 3. This ordinance shall be in effect from and after the passage, approval and publication of this ordinance, as provided by law.

PASSED, APPROVED AND ADOPTED this 1st day of August, 2019.

By the City Council of the City of Muscatine, Iowa

_____
Diana L. Broderson, Mayor

Attest:

_____
Gregg Mandsager, City Clerk

First Reading:
Second Reading:
Third Reading:
Publication:

2018 IMC Update

Based on the 2018 International Mechanical Code,® (IMC®)

The *International Mechanical Code*® (IMC®) establishes minimum regulations for mechanical systems.

This course will identify important changes in the IMC from 2015 to 2018 edition. Participants will be presented with those changes that will most impact their use of the code when they adopt these I-Codes. The learner will receive an overview of the most important code changes.

Goal

Participants will be able to use this document to identify changes between the 2015 and 2018 allowing them to apply theses code requirements to design, plan submittals and/or inspection.

The lecture and activity format allows participants to discuss the changes, reasons for the changes, and answer knowledge review questions. Information presented will allow participants to apply these new code requirements to design, plan review, and/or inspection.

Objectives

Upon completion, participants will be better able to:

- Identify the most significant differences between the 2015 and the 2018 IMC.
- Explain the differences between the current and previous edition.
- Identify changes in organization and code requirements.
- Identify the applicability of design, plan review and inspection requirements.

Content

Chapters are divided for code development purposes as follows:

- Chapter 2, Definitions
- Chapter 4, Ventilation
- Chapter 5, Exhaust Systems
- Chapter 6, Duct Systems
- Chapter 9, Specific Appliances, Fire Places and Solid-Fuel-Burning Equipment
- Chapter 11, Refrigeration
- Chapter 14, Solar Thermal Systems

2018 IMC Chapter 2: Definitions			
Code Section		Section Title	Description of Change
2018	2015		
202 Modification	202	202 Definitions	**COMMERCIAL COOKING APPLIANCE** The definition was completely rewritten to capture the true intent, eliminate confusion and eliminate circular language and a laundry list of appliances. The code has attempted to define "commercial. **COMMERCIAL COOKING APPLIANCES.** Appliances used in a commercial food service establishment for heating or cooking food. For the purpose of this definition, a commercial food service establishment is where food is prepared for sale or is prepared on a scale that is by volume and frequency not representative of domestic household cooking.

2018 IMC Chapter 4: Ventilation			
Code Section		Section Title	Description of Change
2018	2015		
403.3.2.4 Addition	403.3.2.4	System Controls	There is new requirement for labeling of controls for whole-house (dwelling) ventilation systems.
403.3.2.5 Addition	403.3.2.5	Ventilating Equipment	A new requirement was added for the testing of exhaust fans for dwelling units.
404.1 Modification	404.1	Enclosed Parking Garages	The code text was rewritten to clarify the intent with regard to "intermittent" operation. **404.1 Enclosed parking garages.** Mechanical ventilation systems for enclosed parking garages shall operate continuously or shall be automatically operated by means of carbon monoxide detectors applied in conjunction with nitrogen dioxide detectors. Such detectors shall be listed in accordance with UL 2075 and installed in accordance with their listing and the manufacturers' instructions. Automatic operation shall cycle the ventilation system between the following two modes of operation: 1. Full-on at an airflow rate of not less than 0.75 cfm per square foot [0.0038 $m^3/(s \cdot m^2)$] of the floor area served. 2. Standby at an airflow rate of not less than 0.05 cfm per square foot [0.00025 $m^3/(s \cdot m^2)$] of the floor area served.

2018 IMC Chapter 5: Exhaust Systems			
Code Section		Section Title	Description of Change
2018	2015		
504.4 Modification	504.4	**Exhaust installation.**	The code now speaks to the sealing of clothes dryer exhaust ducts.
504.4.1 Addition		**Exhaust termination outlet and passageway size**	The code now addresses the required size of dryer exhaust ducts terminals.
504.8.2 Modification	504.8.2	**Duct installation**	The code now addresses the installation of clothes dryer exhaust ducts in wall and ceiling cavities. **504.8.2 Duct installation.** Exhaust ducts shall be supported at 4-foot (1219 mm) intervals and secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Ducts shall not be joined with screws or similar fasteners that protrude more than 1/8 inch (3.2 mm) into the inside of the duct. Where dryer exhaust ducts are enclosed in wall or ceiling cavities, such cavities shall allow the installation of the duct without deformation.
506.3.13.2 506.3.13.3 Modification	506.3.13.2 506.3.13.3	**Termination through an exterior wall, Termination location**	The intent was clarified regarding clearance to openings to prevent other requirements from being overlooked. **506.3.13.2 Termination through an exterior wall.** Exhaust outlets shall be permitted to terminate through exterior walls where the smoke, grease, gases, vapors and odors in the discharge from such terminations do not create a public nuisance or a fire hazard. Such terminations shall not be located where protected openings are required by the *International Building Code*. Such terminations shall be located in accordance with Section 506.3.13.3 and shall not be located within 3 feet (914 mm) of any opening in the exterior wall. **506.3.13.3 Termination location.** Exhaust outlets shall be located not less than 10 feet (3048 mm) horizontally from parts of the same or contiguous buildings, adjacent buildings and adjacent property lines and shall be located not less than 10 feet (3048 mm) above the adjoining grade level. Exhaust outlets shall be located not less than 10 feet (3048 mm) horizontally from or not less than 3 feet (914 mm) above air intake openings into any building. **Exception:** Exhaust outlets shall terminate not less than 5 feet (1524 mm) horizontally from parts of the same or contiguous building, an adjacent building, adjacent property line and air intake openings into a building where air from the exhaust outlet discharges **away from such locations.**

2018 IMC Chapter 5: Exhaust Systems			
Code Section		Section Title	Description of Change
2018	2015		
506.5.2 Addition		Pollution-control units	The code added coverage for pollution control units (PCUs) which are defined as "Manufactured equipment that is installed in a grease exhaust system for the purpose of extracting smoke, grease particles and odors from the exhaust flow by means of a series of filters." Definition of PCU from Section 202 **POLLUTION-CONTROL UNIT (PCU).** Manufactured equipment that is installed in a grease exhaust duct system for the purpose of extracting smoke, grease particles and odors from the exhaust flow by means of a series of filters.
507.2.6 Addition		Clearances for Type I hood	A new exception was added to recognize Type I hoods that are listed for clearances to combustibles of less than 18 inches.

2018 IMC Chapter 6: Duct Systems			
Code Section		Section Title	Description of Change
2018	2015		
603.5.2 Addition		Phenolic ducts	The code added coverage for a newer type of non-metallic duct, phenolic duct.
603.8.2 Modification	603.8.2	Sealing	The code now addresses the testing of underground ducts.
603.9 Modification	603.9	Joints, seams and connections.	The code is less restrictive for Snap- and Button-lock duct joints that are located within the thermal envelope. **Exception:** For ducts having a static pressure classification of less than 2 inches of water column (500 Pa), additional closure systems shall not be required for continuously welded joints and seams and locking-type joints and seams. This exception shall not apply to snap lock and button-lock type joints and seams located outside of conditioned spaces.
607.3.1 Modification	607.3.1	Damper testing.	The code mandates dynamic type ceiling damper where the subject to continuous air flow from HVAC fans.

2018 IMC Chapter 9: Specific Appliances, Fireplaces and Solid-Fuel-burning Equipment			
Code Section		Section Title	Description of Change
2018	2015		
929 Addition		High-Volume Large-Diameter Fans	Include code section and new definition of high volume large diameter fan **929.1 General.** Where provided, high-volume large-diameter fans shall be tested and labeled in accordance with AMCA 230, listed and labeled in accordance with UL 507, and installed in accordance with the manufacturer's instructions.

2018 IMC Chapter 11: Refrigeration			
Code Section		Section Title	Description of Change
2018	2015		
1105.6.3 Modification	1105.6.3	**Ventilation rate**	An important clarification was added regarding the ventilation rate required for ammonia systems, thereby resolving an interpretation issue.
1107.2 Modification		**Piping location**	This code section was rewritten to clearly state the intent regarding the prohibited locations for refrigerant piping. **1107.2 Piping location.** Refrigerant piping that crosses an open space that affords passageway in any building shall be not less than 7 feet 3 inches (2210 mm) above the floor unless the piping is located against the ceiling of such space. Refrigerant piping shall not be placed in any of the following: 1. A fire-resistance-rated exit access corridor. 2. An interior exit stairway. 3. An interior exit ramp. 4. An exit passageway. 5. An elevator, dumbwaiter or other shaft containing a moving object. 6. A shaft that has one or more openings into a fire-resistance-rated exit access corridor, interior exit stairway or ramp or exit passageway.

2018 IMC Chapter 14: Solar Thermal Systems			
Code Section		Section Title	Description of Change
2018	2015		
Chapter 14 Revision and addition		**Solar Thermal Systems**	Chapter 14 was significantly increased in content and it was clarified that the chapter applies only to thermal solar (as opposed to solar-voltaic). The new text relies on three newly referenced solar product standards developed and maintained by the Solar Rating and Certification Corporation. The text addresses the various types of thermal solar system designs, including direct and indirect systems and drain-back systems. Much new text was added addressing: system design and installation, protection from freezing and excess pressure and temperature, protection of potable water and building structure, piping installation and insulation, heat exchanger application, heat transfer fluids, access for roof-mounted equipment and system labeling and signage.