RAYMORE
come home to more

AGENDA

Raymore City Council Work Session
City Hall – 100 Municipal Circle
Monday, December 2, 2019

7:00 p.m.

A. Joint Meeting - Park Board
The City Council and Park Board will be meeting in joint session to discuss items of mutual interest. Parks and Recreation Director Nathan Musteen will be giving a brief progress report on projects.

B. No Tax Increase Bond Issue Project List
The City Council and the Park Board will be finalizing the project list for a no tax increase bond issue to be on the ballot in April, 2020.

C. Review - Chapter 500
Staff will be outlining recommended changes to Chapter 500 incorporating the 2018 International Building Code.

D. Other

EXECUTIVE SESSION (CLOSED MEETING)

The Raymore City Council may enter an executive session before or during this meeting, if such action is approved by a majority of Council present, with a quorum, to discuss:

- Litigation matters as authorized by § 610.021 (1),
- Real Estate acquisition matters as authorized by § 610.021 (2),
- Personnel matters as authorized by § 610.021 (3),
- Other matters as authorized by § 610.021 (4-21) as may be applicable.

Any person requiring special accommodation (i.e., qualified interpreter, large print, hearing assistance) in order to attend this meeting, please notify this office at (816) 331-0488 no later than forty eight (48) hours prior to the scheduled commencement of the meeting. Hearing aids are available for this meeting for the hearing impaired. Inquire with the City Clerk, who sits immediately left of the podium as one faces the dais.

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To: **City Council**

From: **Jim Cadoret, Development Services Director**

Date: **December 2, 2019**

Re: **Adoption of 2018 International Building Codes**

Building construction activity within the City of Raymore is currently governed by the 2012 series of the International Building Codes. While the International Codes are updated every 3 years, Raymore, like most Kansas City area communities, only adopts the new code series every 6 years.

With anticipation of adopting the 2018 series of codes, the Building Official assembled a Building Code Review Committee to assist staff in reviewing the 2018 code series and recommending local amendments to the codes. Local amendments are typically done by local jurisdictions to ensure the code requirements are applicable to the local building environment.

Participating as a member of the Building Code Review Committee were Building Official Jon Woerner, Assistant City Manager Mike Ekey, and building contractors Chad Buck, Cory Maynard, Dick Maynard, Dave Parker, Don Swofford, Lloyd Brown, Mike Cox, Randy Reed and Wade Beck. Several of the committee members currently serve on the City Board of Appeals.

The Committee is recommending that City Council adopt the 2018 series of International Codes and adopt the new Chapter 500: Building Regulations of the Raymore City Code.

Article I: In General

SECTION 500.010: - PURPOSE AND SCOPE OF CHAPTER; REFERENCED CODES

1. No change in text ...
2. No change in text ...

3. *Gas.* The provisions of the ~~*Uniform Plumbing* or *Mechanical Code*~~ *International Fuel Gas Code*, as amended, shall apply to the installation of gas appliances and related accessories as covered in this Code.

   For requirements regarding the installation and operation of residential gas appliances and related accessories, see Article III of this Chapter.

   For requirements regarding the installation of gas piping from the point of delivery to the inlet connections of appliances in commercial applications, and all aspects of a medical gas system see Article ~~VI~~ XII, ~~*Uniform Plumbing Code* or Article V, *Uniform Mechanical Code*~~ *International Fuel Gas Code*.

4. *Mechanical.* The provisions of the ~~*Uniform*~~ *International Mechanical Code,* as amended shall regulate the design, installation, maintenance, alteration and inspection of mechanical systems that are permanently installed to provide control of environmental conditions and related processes within buildings. This Code shall also regulate those mechanical systems, system components, equipment and appliances specifically addressed herein. (See Article V of this Chapter.)

5. *Plumbing.* The provisions of the ~~*Uniform*~~ *International Plumbing Code,* as amended, shall apply to the installation, alteration, repair and replacement of plumbing ~~and fuel gas piping~~ systems, including equipment, appliances, fixtures, fittings and appurtenances, and where connected to a water or sewage system ~~and all aspects of a medical gas system~~. (See Article VI of this Chapter.)

   The provisions of the On-Site Private Sewage Disposal Code, as amended, shall apply to private sewage disposal systems for all structures within the City as referenced in Chapter 710.150 of this Code. The provisions for lawn sprinkler and irrigation systems shall comply with Article X of this Chapter.

6. *Swimming Pools, Spas, and Hot tubs.* The provisions of the *International Swimming Pool, and Spa ~~and Hot Tub~~ Code,* as amended, shall apply to the erection, installation, alteration, addition, repair, relocation, and replacement, addition to, use or maintenance of swimming pools, spas, or hot tub plumbing systems. In addition to this Code the provisions of Chapter

420, Section 420.050 (B) of the Unified Development Code shall also apply. (See Article VII of this Chapter.)

Article II - International Building Code (IBC) 2018

Black -- Original Language
Blue -- New Action
Yellow Highlight -- New Amended Language

Original Language: IBC 423.4

Section 423: Storm Shelters

423.4 Group E occupancies. In areas where the shelter design wind speed for tornados is 250 mph in accordance with Figure 304.2(1) of ICC 500, all Group E occupancies with an occupant load of 50 or more shall have a storm shelter constructed in accordance with ICC 500.

Exceptions:

1. Group E day care facilities.
2. Group E occupancies accessory to places of religious worship.
3. Buildings meeting the requirements for shelter design in ICC 500.

New Language:

Section 423: Storm Shelters

423.4 Group E occupancies. In areas where the shelter design wind speed for tornados is 250 mph in accordance with Figure 304.2(1) of ICC 500, all Group E occupancies with an occupant load of 50 or more shall have a storm shelter constructed in accordance with ICC 500.

Exceptions:

1. No change in text....
2. No change in text....
3. Group E occupancies that undergo alterations or additions where the cost of compliance with ICC 500 Section 702 is greater than 20% of the total project cost may omit the requirements of ICC 500 Section 702 only.
4. No change in text…

Original Language: Section 426.1.1 Physical Security for Dwelling Units - Scope

426.1.1 Scope. This Section shall apply to all exterior doors providing direct access into a dwelling unit, where the exterior door is accessible from grade.

Exceptions:

1. Vehicle access doors.
2. Storm or screen doors.

New Language:

Section 429 Physical Security for Dwelling Units

Number sequence change for 429.1

429.1.1 Scope. This Section shall apply to all exterior doors providing direct access into a dwelling unit, including garage walk-through doors, where the exterior door is accessible from grade.

Exceptions:

1. Vehicle access doors.
2. Storm or screen doors.
3. Garage and pantry access doors into the dwelling unit.

Number sequence change only 429.2 through 429.6.2; No change in text....

Original Language: IBC 502.1

[F] 502.1 Address identification. New and existing buildings shall be provided with approved address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. Each character shall be a minimum of 4 inches (102 mm) high with a minimum stroke width of 1/2 inch (12.7 mm). Where required by the fire code official, address identification shall be provided in additional approved locations to facilitate emergency response. Where access is by means of a private road and the building address cannot be viewed from the public way, a monument, pole or other approved sign or means shall be used to identify the structure. Address identification shall be maintained.

New Language:

502.1 Address identification. New and existing buildings shall be provided with *approved* address identification. The address identification shall be legible and placed

in a position that is visible from the street or road fronting the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. Each character shall be a minimum of 4 inches (102 mm) high with a minimum stroke width of ½ inch (12.7 mm). Where commercial buildings have tenants with multiple entrances located on different sides of the building, each door shall be addressed. Address characters shall be capable of being illuminated by an internal or external lighting source and maintained.

Original Language: IBC 903.2.9.1 Repair garages

[F] 903.2.9.1 Repair garages. An automatic sprinkler system shall be provided throughout all buildings used as repair garages in accordance with Section 406, as shown:

1. Buildings having two or more stories above grade plane, including basements, with a fire area containing a repair garage exceeding 10,000 square feet (929 m2).

2. Buildings not more than one story above grade plane, with a fire area containing a repair garage exceeding 12,000 square feet (1115 m2).

3. Buildings with repair garages servicing vehicles parked in basements.

4. A Group S-1 fire area used for the repair of commercial motor vehicles where the fire area exceeds 5,000 square feet (464 m2).

New Language:

903.2.9.1 Repair garages. An *automatic sprinkler system* shall be provided throughout all buildings used as repair garages in accordance with Section 406, as shown:

1. Buildings having two (2) or more *stories above grade plane*, including basements, with a *fire area* containing a repair garage exceeding five thousand (5,000) square feet (464 m^2).
2. Buildings not more than one (1) *story above grade plane,* with a *fire area* containing a repair garage exceeding five thousand (5,000) square feet (464 m^2).
3. Buildings with repair garages servicing vehicles parked in basements.
4. Group S-1 *fire area* used for the repair of commercial motor vehicles where the *fire area* exceeds five thousand (5,000) square feet (464 m^2).

Original Language: 903.4.2 Alarms

[F] 903.4.2 Alarms. An approved audible device, located on the exterior of the building in an approved location, shall be connected to each automatic sprinkler system. Such sprinkler

waterflow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Where a fire alarm system is installed, actuation of the automatic sprinkler system shall actuate the building fire alarm system.

New Language:

903.4.2 Alarms. One(1) all-weather horn/strobe shall be connected to every *automatic sprinkler system* on the exterior of the building above the fire department connection (FDC) or in an approved location. Such sprinkler water-flow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Where a fire alarm system is installed, actuation of the *automatic sprinkler system* shall actuate the building fire alarm system. Interior alarm notification appliances shall be installed as required with Section 903.4.2.1.

903.4.2.1 Notification device. Where an *automatic sprinkler system* is installed in a building, audible and visible notification appliances shall be installed throughout the building as follows:

1. Audible notification appliances shall be audible at fifteen (15) dBa above sound pressure level throughout the building.
2. Visible notification appliances shall be in all public and common use areas, restrooms and corridors in accordance with the spacing requirements of NFPA 72.
3. Visible notification appliances may be eliminated in regularly unoccupied portions of buildings where approved by the Fire Code Official.

   Exception: The requirements of this Section do not apply to Group R-3 occupancies.

Original Language: IBC 912.2

[F] 912.2 Location. With respect to hydrants, driveways, buildings and landscaping, fire department connections shall be so located that fire apparatus and hose connected to supply the system will not obstruct access to the buildings for other fire apparatus. The location of fire department connections shall be approved by the fire code official.

New Language:

912.2 Location. With respect to hydrants, driveways, buildings and landscaping, fire department connections shall be located that fire apparatus and hose connected to supply the system will not obstruct access to the buildings for other fire apparatus.

The location of fire department connections (FDC) shall be approved by the Fire Code Official. Connections shall be a locking five (5) inch Storz with a thirty (30) degree elbow type fitting and located within one hundred (100) feet of a fire hydrant, or as approved by the Fire Code Official.

Original Language: IBC 1004.9

1004.9 Posting of occupant load. Every room or space that is an assembly occupancy shall have the occupant load of the room or space posted in a conspicuous place near the main exit or exit access doorway from the room or space, for the intended configurations. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or the owner's authorized agent.

New Language:

1004.9 Posting of occupant load. Every room or space that is an assembly occupancy shall have the occupant load of the room or space posted in a conspicuous place near the main exit or exit access doorway from the room or space for the intended configurations. At the main entrance to the building, the occupant load for the entire assembly use group shall be posted in a conspicuous place. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or the owner's authorized agent.

Original Language: IBC 1511.3

1511.3 Roof replacement. Roof replacement shall include the removal of all existing layers of roof coverings down to the roof deck.

Exception: Where the existing roof assembly includes an ice barrier membrane that is adhered to the roof deck, the existing ice barrier membrane shall be permitted to remain in place and covered with an additional layer of ice barrier membrane in accordance with Section 1507.

1511.3.1 Roof recover. The installation of a new roof covering over an existing roof covering shall be permitted where any of the following conditions occur:

1. Where the new roof covering is installed in accordance with the roof covering manufacturer's approved instructions.

2. Complete and separate roofing systems, such as standing-seam metal roof panel systems, that are designed to transmit the roof loads directly to the building's structural system and that do not rely on existing roofs and roof coverings for support, shall not require the removal of existing roof coverings.

3. Metal panel, metal shingle and concrete and clay tile roof coverings shall be permitted to be installed over existing wood shake roofs when applied in accordance with Section 1511.4.

4. The application of a new protective roof coating over an existing protective roof coating, metal roof panel, built-up roof, spray polyurethane foam roofing system, metal roof shingles, mineral-surfaced roll roofing, modified bitumen roofing or thermoset and thermoplastic single-ply roofing shall be permitted without tear off of existing roof coverings.

1511.3.1.1 Exceptions. A roof recover shall not be permitted where any of the following conditions occur:

1. Where the existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.

2. Where the existing roof covering is slate, clay, cement or asbestos-cement tile.

3. Where the existing roof has two or more applications of any type of roof covering.

1511.4 Roof recovering. Where the application of a new roof covering over wood shingle or shake roofs creates a combustible concealed space, the entire existing surface shall be covered with gypsum board, mineral fiber, glass fiber or other approved materials securely fastened in place.

New Language:

1511.3 Roof replacement. *Roof replacement* shall include the removal of all existing layers of roof coverings down to the roof deck.

Exceptions:

1. Where the existing roof assembly includes an ice barrier membrane that is adhered to the roof deck, the existing ice barrier membrane shall be permitted to remain in place and covered with an additional layer of ice barrier membrane in accordance with Section R905.
2. Complete and separate roofing systems, such as standing-seam metal roof panel systems, that are designed to transmit the roof loads directly to the building's structural system and that do not rely on existing roofs and roof coverings for support, shall not require the removal of existing roof coverings.
3. The application of a new protective roof coating over an existing protective roof coating, metal roof panel, built-up roof, spray polyurethane foam roofing system, metal roof shingles, mineral-surfaced roll roofing, modified bitumen roofing or thermoset and thermoplastic single-ply roofing shall be permitted without tear off existing roof coverings.

1511.3.1 Roof recover, is deleted.

1511.3.1.1 Exceptions, is deleted.

1511.4 Roof recovering, is deleted.

Original Language: IBC Section 1809.5 Amendment to Frost Protection

1809.5.1 Frost Line. The design frost line shall be 36 inches (915 mm).

Strike through:

~~1809.5.1 Frost Line. The design frost line shall be 36 inches (915 mm).~~

New Language: As written in IBC 1809.5

1809.5 Frost protection. Except where otherwise protected from frost, foundations and other permanent supports of buildings and structures shall be protected from frost by one or more of the following methods:

1. Extending below the frost line of the locality.

2. Constructing in accordance with ASCE 32.

3. Erecting on solid rock.

Exception: Free-standing buildings meeting all of the following conditions shall not be required to be protected:

1. Assigned to Risk Category I.

2. Area of 600 square feet (56 m2) or less for lightframe construction or 400 square feet (37 m2) or less for other than light-frame construction.

3. Eave height of 10 feet (3048 mm) or less.

Shallow foundations shall not bear on frozen soil unless such frozen conditions is of a permanent character.

Footnote: Risk Category I specifically addresses buildings that are of low hazard to human life in the event of failure. This includes, but not limited to: Agriculture buildings, Certain temporary facilities and Minor Storage facilities.

Original Language: IBC 2801.1 Amendment to Mechanical Systems

2801.1 Scope. Mechanical appliances, equipment, and systems shall be constructed, installed and maintained in accordance with the Uniform Mechanical Code. Masonry chimneys, fireplaces and barbecues shall comply with the Uniform Mechanical Code and Chapter 21 of this Code.

Strike through:

~~2801.1 Scope. Mechanical appliances, equipment, and systems shall be constructed, installed and maintained in accordance with the Uniform Mechanical Code. Masonry chimneys, fireplaces and barbecues shall comply with the Uniform Mechanical Code~~

~~and Chapter 21 of this Code.~~

New Language: As written in IBC 2801.1

[M] 2801.1 Scope. The provisions of this chapter, the International Mechanical Code and the International Fuel Gas Code shall govern the design, construction, erection and installation of mechanical appliances, equipment and systems used in buildings and structures covered by this code. Masonry chimneys, fireplaces and barbecues shall comply with the International Mechanical Code and Chapter 21 of this code. The International Fire Code, ~~the International~~ Chapter 545 -- Property Maintenance Code, the International Mechanical Code and the International Fuel Gas Code shall govern the use and maintenance of mechanical components, appliances, equipment and systems. The International Existing Building Code, the International Mechanical Code and the International Fuel Gas Code shall govern the alteration, repair, relocation, replacement and addition of mechanical components, appliances, equipment and systems.

Original Language: IBC 2901.1 Amendment to Plumbing Systems

2901.1 Scope. The provisions of this Chapter is for design only; the Uniform Plumbing Code shall govern the erection, installation, alteration, repair, relocation, replacement, addition to, use or maintenance of plumbing equipment and systems. Private sewage disposal systems shall conform to the On-site Sewage Disposal Systems, Section 710.150 of the City Code.

Strike through:

~~2901.1 Scope. The provisions of this Chapter is for design only; the Uniform Plumbing Code shall govern the erection, installation, alteration, repair, relocation, replacement, addition to, use or maintenance of plumbing equipment and systems. Private sewage disposal systems shall conform to the On-site Sewage Disposal Systems, Section 710.150 of the City Code.~~

New Language: As written in IBC 2901.1

[P] 2901.1 Scope. The provisions of this chapter and the International Plumbing Code shall govern the design, construction, erection and installation of plumbing components, appliances, equipment and systems used in buildings and structures covered by this code. Toilet and bathing rooms shall be constructed in accordance with Section 1209. Private sewage disposal systems shall conform to the ~~International Private~~ On-Site Sewage Disposal ~~Code~~Systems, Section 710.150 of the City Code. The International Fire Code, ~~the International~~ Chapter 545 -- Property Maintenance Code and the International Plumbing Code shall govern the use and

maintenance of plumbing components, appliances, equipment and systems. The International Existing Building Code and the International Plumbing Code shall govern the alteration, repair, relocation, replacement and addition of plumbing components, appliances, equipment and systems.

New Language: IBC Chapter 32, Encroachments into the Right-of-Way

Chapter 32 ~~ENCROACHMENTS INTO THE PUBLIC RIGHT-OF-WAY~~, is deleted.

Footnote: Unified Development Code regulates Encroachments into the Right-of-Way.

Strike through: Sections 3201 Scope through 3202 Drainage

~~SECTION 3201~~
~~GENERAL~~

~~3201. 1 Scope. No part of any structure or any appendage thereto shall project beyond the property line of a building site and encroach below, on or above public property, except where allowed and authorized by the Unified Development Code, or as otherwise permitted by special ordinance.~~

~~3201.2 Drainage. Drainage water collected from a roof, awning, canopy or marquee, and condensate from mechanical equipment shall not flow over a public walking surface.~~

~~3202 ENCROACHMENTS, is deleted.~~

Original Language: IBC Section 3303.8 Demolition Amendment

3303.8 Fences. The Building Official may require that a fence be constructed on or around any demolition site, when deemed necessary to protect the public.

New Language:

3303.8 ~~Fences~~ Pedestrian protection. The work of demolishing any building shall not be commenced until pedestrian protection is in place as required by this Chapter. The Building Official may require that a fence be constructed on or around any demolition site, when deemed necessary to protect the public.

Strike through: IBC Chapter 34

~~Chapter 34, Existing Structures, is deleted. See Article VIII of this Chapter.~~

Footnote: IBC Chapter 34 is now designated as RESERVED. Article VIII addresses Existing Structures.

Article III - International Residential Code (IRC) 2018

Black -- Original Language
Blue -- New Action
Yellow Highlight -- New Amended Language

Original Language: IRC 202 - Bedroom

BEDROOM; SLEEPING ROOM. An enclosed space, a minimum of seventy (70) square feet or more primarily used for sleeping purposes and contains a closet for storage.

New Language:

BEDROOM; SLEEPING ROOM. ~~An enclosed space, minimum of seventy (70) square feet or more~~ Is any space, finished or not, meeting the minimum room area requirements of Section R304, primarily used for sleeping purposes and contains a closet for storage.

Strikethrough: IRC 202 - Water Service Pipe

~~WATER SERVICE PIPE. The pipe from the water main or other source of potable water supply to the first shut-off valve downstream of all of the following (as applicable):~~

~~The point of entrance into the building;~~

~~The water meter; or~~

~~The service backflow prevention device.~~

Footnote: There is definitive language in IRC 2018 describing water service pipe making this amendment unnecessary.

Original Language: IRC Table R301.2 (1)

Table R301.2 (1)

CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOAD	WIND SPEED [d] (mph)	SEISMIC DESIGN CATEGORY [f]	SUBJECT TO DAMAGE FROM		
			Weathering [a]	Frost line depth [b]	Termite [c]

20 psf	90	A	Severe	36"	Moderate to Heavy

WINTER DESIGN TEMP [e]	ICE BARRIER UNDERLAY MENT REQUIRED [h]	FLOOD HAZARD [g]	AIR FREEZING INDEX [i]	MEAN ANNUAL TEMP [j]
6°F	YES	See UDC Chapter 460	927°F days	55.5°

(See 2012 *International Residential Code* for footnotes)

New Language:

Table R301.2 (1)

CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOAD	WIND SPEED [d] (mph)	SEISMIC DESIGN CATEGORY [f]	SUBJECT TO DAMAGE FROM		
			Weathering [a]	Frost line depth [b]	Termite [c]
20 psf	~~90~~ 115	A	Severe	36"	Moderate to Heavy

WINTER DESIGN TEMP [e]	ICE BARRIER UNDERLAY MENT REQUIRED [h]	FLOOD HAZARD [g]	AIR FREEZING INDEX [i]	MEAN ANNUAL TEMP [j]
6°F	YES	See UDC Chapter 460	927°F days	55.5°

(See 2018 *International Residential Code* for footnotes)

Section Table R301.2(1), MANUAL JDESIGN CRITERIA, is deleted.

Original Language: IRC 303.4

R303.4 **Mechanical ventilation**. Where the air infiltration rate of a dwelling unit is less than 3 air changes per hour when tested with a blower door at a pressure of 0.2 inch w.c. (50 Pa) in accordance with Section N1102.4.1.2, the dwelling unit shall be provided with whole house ventilation in accordance with Section M1507.3.

New Language and Strikethrough

~~R303.4 Mechanical ventilation. Where the air infiltration rate of a dwelling unit is less than 5 air changes per hour when tested with a blower door at a pressure of 0.2 inch w.c. (50 Pa) in accordance with Section N1102.4.1.2, the dwelling unit shall be provided with whole house ventilation in accordance with Section M1505.4.~~

Footnote: The 2009 International Energy Code would remove this requirement.

Original Language and Strikethrough: IRC R310.1

~~R310.1 Emergency escape and rescue required.~~

~~Exception 2. Basement space designed as an interior storm shelter less than two hundred (200) square feet.~~

~~Exception 3. Except where sleeping rooms are created, emergency escape and rescue openings need not be increased in existing basements undergoing interior finish renovation.~~

New Language (highlighted):

R310.1 **Emergency escape and rescue opening required**. Basements, habitable attics and every sleeping room shall have not less than one operable emergency escape and rescue opening. Where basements contain one or more sleeping rooms, an emergency escape and rescue opening shall be required in each sleeping room. Emergency escape and rescue openings shall open directly into a public way, or to a yard or court that opens to a public way.

Exceptions:

1. Storm shelters and basements used only to house mechanical equipment not exceeding a total floor area of 200 square feet (18.58 m2).

2. Where the dwelling or townhouse is equipped with an automatic sprinkler

system installed in accordance with Section P2904, sleeping rooms in basements shall not be required to have emergency escape and rescue openings provided that the basement has one of the following:

2.1. One means of egress complying with Section R311 and one emergency escape and rescue opening.

2.2. Two means of egress complying with Section R311.

3. Except where sleeping rooms are created, emergency escape and rescue openings need not be increased in existing basements undergoing interior finish renovation.

Footnote: IRC 2018 changed this section of Code and expanded the exceptions. New language addresses older homes that are not adding sleeping rooms and have no means of egress in basements, as adopted in previous amendments.

Original Language: IRC 311.3.2

R311.3.2 **Floor elevations at other exterior doors**. Doors other than the required egress door shall be provided with landings or floors not more than 7 3 /4 inches (196 mm) below the top of the threshold.

Exception: A top landing is not required where a stairway of not more than two risers is located on the exterior side of the door, provided that the door does not swing over the stairway.

New Language:

311.3.2 Floor elevations at other exterior doors. No change in text....

Exception: A top landing is not required where a stairway of not more than four (4) risers is located on the exterior side of the door, provided that the door does not swing over the stairway.

Original Language: IRC 315.2.2

R315.2.2 **Alterations, repairs and additions**. Where alterations, repairs or additions requiring a permit occur, the individual dwelling unit shall be equipped with carbon monoxide alarms located as required for new dwellings.

Exceptions:

1. Work involving the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck.

2. Installation, alteration or repairs of plumbing or mechanical systems.

New Language:

315.2.2 Alterations and additions. When alterations or additions requiring a permit occur, or when one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be equipped with carbon monoxide alarms as required for new dwellings.

Exceptions: No change in text ....

Original Language and Strikethrough: IRC 315.3 Amendment

~~R315.3 (Carbon monoxide alarms in existing dwellings), Exceptions:~~

1. ~~Work involving the exterior surfaces of dwellings, such as the replacement of sheathing, or the addition of a window, porch or deck, are exempt from the requirements of this Section.~~
2. ~~Installation, alteration or repairs of plumbing or mechanical systems are exempt from the requirements of this Section.~~

Footnote: IRC 315.2.2 now addresses this requirement previously adopted as an amendment.

Original Language: IRC 319.1

R319.1 **Address identification**. Buildings shall be provided with approved address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. Each character shall be not less than 4 inches (102 mm) in height with a stroke width of not less than 0.5 inch (12.7 mm). Where required by the fire code official, address identification shall be provided in additional approved locations to facilitate emergency response. Where access is by means of a private road and the building address cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure. Address identification shall be maintained.

New Language:

319.1 Address identification. Building shall be provided with approved address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property, near a luminaire (light). Each number character shall not be less than four (4) inches (102 mm) and shall contrast with their background. Numbers shall not spelled out. Where required by the Building Official, address identification shall be provided in additional approved location to facilitate emergency response. Where access is by means of a private road and the building address cannot be viewed from the public way, a monument, pole

or other sign or means shall be used to identify the structure. The assigned address number shall be clearly posted on the site as soon as work commences and shall remain in place and maintained until the building is removed from that site.

Original Language: Section 328.1.1 Physical Security for Dwelling Units - Scope

324.1.1 Scope. This Section shall apply to all exterior doors providing direct access into a dwelling unit, where the exterior door is accessible from grade.

Exceptions:

1. Vehicle access doors.
2. Storm or screen doors.

New Language:

Section 328 Physical Security for Dwelling Units

Number sequence change for 328.1

328.1.1 Scope. This Section shall apply to all exterior doors providing direct access into a dwelling unit, including garage walk-through doors, where the exterior door is accessible from grade.

Exceptions:

1. Vehicle access doors.
2. Storm or screen doors.
3. Garage and pantry access doors into the dwelling unit.

Number sequence change only 328.2 through 328.6.2; No change in text....

Original Language: IRC 403.1.1

R403.1.1 Minimum size. The minimum width, W, and thickness, T, for concrete footings shall be in accordance with Tables R403.1(1) through R403.1(3) and Figure R403.1(1) or R403.1.3, as applicable. The footing width shall be based on the load-bearing value of the soil in accordance with Table R401.4.1. Footing projections, P, shall be not less than 2 inches (51 mm) and shall not exceed the thickness of the footing. Footing thickness and projection for fireplaces shall be in accordance with Section R1001.2. The size of footings supporting piers and columns shall be based on the tributary load and allowable soil pressure in accordance with Table R401.4.1. Footings for wood foundations shall be in accordance with the details

set forth in Section R403.2, and Figures R403.1(2) and R403.1(3). Footings for precast foundations shall be in accordance with the details set forth in Section R403.4, Table R403.4, and Figures R403.4(1) and R403.4(2).

New Language:

R403.1.1 Minimum size, reinforcement, support and cover, and lap splices. The minimum width (W) and thickness (T) for concrete footings shall in accordance with Tables R403.1(1) through R403.1(3), Figure R403.1(1) with the following exceptions. The footing width shall be based on the load-bearing value of the soil in accordance with Table R401.4.1. Footing projections (P) shall not be less than two (2) inches (51 mm) and shall not exceed the thickness of the footing. Footing thickness and projection for fireplaces shall be in accordance with Section R1001.2 The size of footings supporting piers and columns shall be based on the tributary load and allowable soil pressure in accordance with Table R401.4.1. Footings for wood foundations shall be in accordance with the details set forth in Section R403.2, and Figures R403.1(2) and R403.1(3). Footings for precast foundations shall be in accordance with the details set forth in Section R403.4, Table R403.4, and Figures R403.4(1) and R403.4(2). Support and cover shall comply with R403.1.3.5.3. Lap splices shall comply with R403.1.3.5.4.

Exceptions:

1. 2-#4 continuous reinforcing bars, spaced not less than 6 inches, centered on the footing, shall be installed in monolithic slab-on-ground with turned-down footings, thickened slab-on-ground footings at bearing walls or braced wall lines, spread footings and footings with concrete stem and footing combined. If the footing width exceeds twenty (24) inches (609.6 mm) a third #4 bar shall be placed and all three bars equally spaced across the with of the footing with concrete cover satisfied.
2. #4 horizontal reinforcing bars shall be placed not more than 6 inches from the top and bottom of the stem wall and not more than eighteen (18) inches (457.2 mm) on center between to and bottom reinforcing bars. Horizontal reinforcing bars shall be supported at not less than twenty-four (24) inches (609.6 mm), tied to vertical dowels or reinforcing bars or supported by form ties.
3. Stem walls shall be tied to footings with #4 vertical steel reinforcing dowels spaced not more than twenty-four (24) inches on center, extending not less than eighteen (18) inches (457.2 mm) into the stem wall; straight dowels shall be embedded not less than five (5) inches (127 mm) into the footing, dowels with standard hooks shall be embedded not less than three (3) inches (76.2 mm) into the footing.

4. An alternative structural design by a Registered Missouri Structural Engineer Professional.

R404.1.7 Backfill placement. Backfill shall not be placed against the wall until the wall has sufficient strength or has been sufficiently braced to prevent damage by the backfill.

Exception: Bracing is not required for wall supporting less than forty-eight (48) inches (1.219 m) of unbalanced backfill.

Original Language: IRC 404.4 (2012 Version)

R404.4 **Retaining walls**. Retaining walls that are not laterally supported at the top and that retain in excess of 24 inches (1219 mm) of unbalanced fill shall be designed in accordance with accepted engineering practice to ensure stability against overturning, sliding, excessive foundation pressure and water uplift. Retaining walls shall be designed for a safety factor of 1.5 against lateral sliding and overturning.

Language Amended for IRC 404.4 (2012 Version) and Strikethrough

~~R404.4 Retaining Walls. Retaining walls that are not laterally supported at the top and that retain in excess of forty eight inches (48") (610 mm) of unbalanced fill, that support a surcharge, or are adjacent to a public right-of-way shall be designed to ensure stability against overturning, sliding, excessive foundation pressure and water uplift. Retaining wall shall be designed for a safety factor of 1.5 against lateral sliding and overturning.~~

New Language: IRC 404.4 (2018 Version)

R404.4 **Retaining walls**. Retaining walls that are not laterally supported at the top and that retain in excess of forty eight (48) inches (1219 mm) of unbalanced fill, that support a surcharge, or are adjacent to a public right-of-way or retaining walls exceeding 24 inches (610 mm) in height that resist lateral loads in addition to soil, shall be designed in accordance with accepted engineering practice to ensure stability against overturning, sliding, excessive foundation pressure and water uplift. Retaining walls shall be designed for a safety factor of 1.5 against lateral sliding and overturning. This section shall not apply to foundation walls supporting buildings.

Footnote: Language highlighted in yellow is new amended language to IRC 2018 Section 404.4

Original Language: IRC 405.2.3 (2012 Version Amended)

405.2.3 **Drainage system**. In other than Group I soils, a sealed or gasket sump shall be provided to drain the porous layer and footings. The sump shall be at least twenty four inches (24") (610 mm) in diameter or 20 inches square (0.0129m ^{2}), shall extend at least twenty four inches (24") (610 mm) below the bottom of the basement floor and shall be

capable of positive gravity or mechanical drainage to remove any accumulated water. The drainage system shall discharge to daylight only.

New Language:

405.2.3 Drainage system. In other than Group I soils, a sealed or gasket sump shall be provided to drain the porous layer and footings. The sump shall be at least twenty four inches (24") (610 mm) in diameter or 20 inches square (0.0129m ^{2}), shall extend at least twenty four inches (24") (610 mm) below the bottom of the basement floor and shall be capable of positive gravity or mechanical drainage to remove any accumulated water. Sumps receiving storm water from any exposed exterior drain(s) or opening(s) shall be provided with back-up system(s) capable of ensuring proper operation in case of power failure. The drainage system shall discharge to an approved storm sewer system or to daylight.

Original Language: IRC 506.2.5 - NONE

New Language:

R506.2.5 Interior underslab drainage. Where foundations retain earth and enclose habitable or usable space(s) located below grade, drains shall be provided below the floor slab. Drainage tiles, perforated pipe or other approved systems or materials shall be installed at or below the areas(s) to be protected, around the inner perimeter of the area(s) and shall discharge by positive gravity or mechanical drainage to an approved storm sewer system or daylight. Interior underslab drainage systems installed on non-compacted fill material shall be supported by mechanical means adequately tied into the concrete slab.

R507.9.2 Lateral connection, is deleted.

Original Language and Strikethrough: IRC 602.6.1

~~R602.6.1, Figure R602.6.1 Drilling and notching of top plate. When piping or ductwork is placed in or partly in an exterior wall or interior load bearing wall, necessitating cutting, drilling or notching of the top plate by more than fifty percent (50%) of its width, a galvanized metal tie of not less than 0.054 inch thick (1.37 mm) (16 ga) and 1 ½ inches (38 mm) wide shall be fastened across and to the plate at each side of the opening with not less than four 10d (0.148 inch diameter) or equivalent. The metal tie must extend a minimum of six inches (6") past the opening. See Figure R602.6.1.~~

~~Exception: When the entire side of the wall with the notch or cut is covered by wood structural panel sheathing.~~

Footnote: This is now written in IRC 2018 and no amendment is needed anymore.

Original Language: IRC 801.3

R801.3 **Roof drainage**. In areas where expansive soils or collapsible soils are known to exist, all dwellings shall have a controlled method of water disposal from roofs that will collect and discharge roof drainage to the ground surface not less than 5 feet (1524 mm) from foundation walls or to an approved drainage system.

New Langauge:

R801.3 Roof drainage. ~~In areas where expansive soils or collapsible soils are known to exist,~~ All dwellings shall have a controlled method of water disposal from roofs that will collect and discharge roof drainage to the ground surface not less than ~~5 feet~~ three (3) feet (1 m) from foundation walls or to an approved drainage system.

Original Language: IRC 802.11.1

R802.11.1 **Uplift resistance**. Roof assemblies shall have uplift resistance in accordance with Sections R802.11.1.1 and R802.11.1.2.

Where the uplift force does not exceed 200 pounds (90.8 kg), rafters and trusses spaced not more than 24 inches (610 mm) on center shall be permitted to be attached to their supporting wall assemblies in accordance with Table R602.3(1).

Where the basic wind speed does not exceed 115 mph, the wind exposure category is B, the roof pitch is 5:12 (42-percent slope) or greater, and the roof span is 32 feet (9754 mm) or less, rafters and trusses spaced not more than 24 inches (610 mm) on center shall be permitted to be attached to their supporting wall assemblies in accordance with Table R602.3(1).

> R802.11.1.1 **Truss uplift resistance**. Trusses shall be attached to supporting wall assemblies by connections capable of resisting uplift forces as specified on the truss design drawings for the ultimate design wind speed as determined by Figure R301.2(5)A and listed in Table R301.2(1) or as shown on the construction documents. Uplift forces shall be permitted to be determined as specified by Table R802.11, if applicable, or as determined by accepted engineering practice.
>
> R802.11.1.2 **Rafter uplift resistance**. Individual rafters shall be attached to supporting wall assemblies by connections capable of resisting uplift forces as determined by Table R802.11 or as determined by accepted engineering practice. Connections for beams used in a roof system shall be designed in accordance with accepted engineering practice.

New Language and Strikethrough:

R802.11.1 Uplift resistance. Roof assemblies shall have uplift resistance in accordance with Section R802.11.1.1 and R802.11.1.2. Ties, tiedowns, anchors or

screws manufactured specifically to resist uplift, as indicated in the manufacturer's listing(s), literature or specification(s), minimum forty-eight (48) inches on center, is required.

~~Where the uplift force does not exceed 200 pounds (90.8 kg), rafters and trusses spaced not more than 24 inches (610 mm) on center shall be permitted to be attached to their supporting wall assemblies in accordance with Table R602.3(1).~~

~~Where the basic wind speed does not exceed 115 mph, the wind exposure category is B, the roof pitch is 5:12 (42 percent slope) or greater and the roof span is 32 feet (9754 mm) or less, rafters and trusses spaced not more than 24 inches (610 mm) on center shall be permitted to be attached to their supporting wall assemblies in accordance with Table 602.3(1).~~

R802.11.1.1 and R802.11.1.2: No change in text ….

Original Language and Strikethrough: IRC 907.3 Amended

~~R907.3 Re-covering versus replacement. New roof coverings shall not be installed without first removing existing roof coverings where any of the following conditions occur:~~

1. ~~Where the existing roof or roof covering is water-soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base additional roofing.~~
2. ~~Where the existing roof covering is wood shake, slate, clay, cement or asbestos-cement tile.~~
3. ~~Where the existing roof has two or more applications of any type of roof covering.~~
4. ~~For asphalt shingles, when the building is located in an area subject to moderate or severe hail exposure according to Figure R907.5.~~

Language in IRC 908.3 (2018)

R908.3 **Roof replacement**. Roof replacement shall include the removal of existing layers of roof coverings down to the roof deck.

Exception:

Where the existing roof assembly includes an ice barrier membrane that is adhered to the roof deck, the existing ice barrier membrane shall be permitted to remain in place and covered with an additional layer of ice barrier membrane in accordance with Section R905.

R908.3.1 **Roof recover**. The installation of a new roof covering over an existing roof covering shall be permitted where any of the following conditions occur:

1. Where the new roof covering is installed in accordance with the roof covering manufacturer's approved instructions

2. Complete and separate roofing systems, such as standing-seam metal roof systems, that are designed to transmit the roof loads directly to the building's structural system and do not rely on existing roofs and roof coverings for support, shall not require the removal of existing roof coverings.

3. Metal panel, metal shingle and concrete and clay tile roof coverings shall be permitted to be installed over existing wood shake roofs where applied in accordance with Section R908.4.

4. The application of a new protective roof coating over an existing protective roof coating, metal roof panel, metal roof shingle, mineral surfaced roll roofing, built-up roof, modified bitumen roofing, thermoset and thermoplastic single-ply roofing and spray polyurethane foam roofing system shall be permitted without tear-off of existing roof coverings.

R908.3.1.1 **Roof recover not allowed**. A roof recover shall not be permitted where any of the following conditions occur:

1. Where the existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.

2. Where the existing roof covering is slate, clay, cement or asbestos-cement tile.

3. Where the existing roof has two or more applications of any type of roof covering.

R908.4 **Roof recovering**. Where the application of a new roof covering over wood shingle or shake roofs creates a combustible concealed space, the entire existing surface shall be covered with gypsum board, mineral fiber, glass fiber or other approved materials securely fastened in place.

New Language:

908.3 Roof replacement. *Roof replacement* shall include the removal of all existing layers of roof coverings down to the roof deck.

Exceptions:

1. Where the existing roof assembly includes an ice barrier membrane that is adhered to the roof deck, the existing ice barrier membrane shall be

permitted to remain in place and covered with an additional layer of ice barrier membrane in accordance with Section 905.

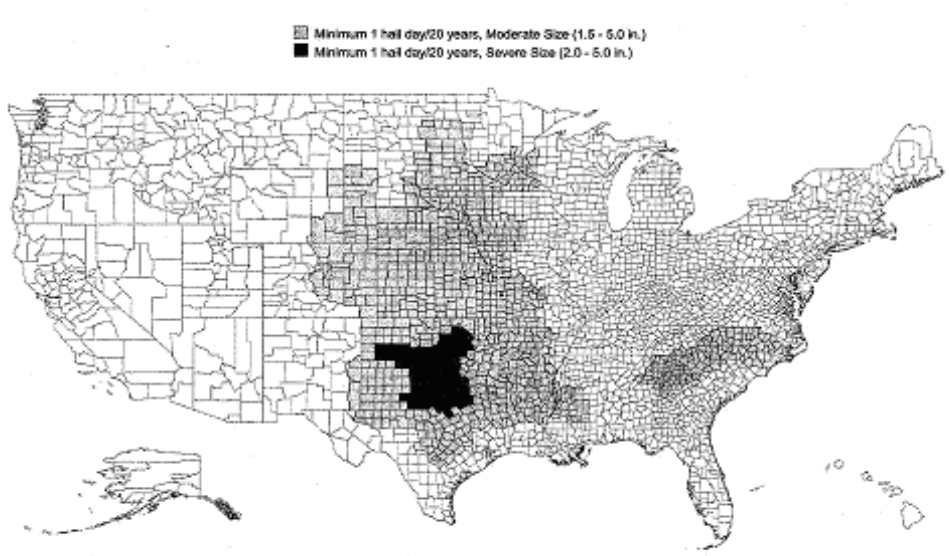
2. Complete and separate roofing systems, such as standing-seam metal roof panel systems, that are designed to transmit the roof loads directly to the building's structural system and that do not rely on existing roofs and roof coverings for support, shall not require the removal of existing roof coverings.
3. The application of a new protective roof coating over an existing protective roof coating, metal roof panel, built-up roof, spray polyurethane foam roofing system, metal roof shingles, mineral-surfaced roll roofing, modified bitumen roofing or thermoset and thermoplastic single-ply roofing shall be permitted without tear off existing roof coverings.
4. For asphalt shingles, when the building is located in an area subject to moderate or severe hail exposure according to Figure R908.5, a repair of five (5) percent or less of the total roof covering in any three (3) year period may utilize approved roofing materials comparable to the existing roofing materials.

R908.3.1 Roof recover, is deleted.

R908.3.1.1 Roof recover not allowed, is deleted.

R908.4 Roof recovering, is deleted.

Figure R908.3 Hail Exposure Map



Original Language: IRC 2414.5.3

G2414.5.3 (403.5.3) **Copper or copper-alloy tubing**. Copper tubing shall comply with Standard Type K or L of ASTM B88 or ASTM B280. Copper and copper-alloy tubing shall not be used if the gas contains more than an average of 0.3 grains of hydrogen sulfide per 100 standard cubic feet of gas (0.7 milligrams per 100 liters).

New Language:

Copper and brass tubing shall not be installed for the distribution of natural gas (CNG) or distribute any other fuel gas within a building or structure.

Footnote: The gas provider for this region does not allow copper or brass tubing installations.

Original Language: IRC 2415.2.1 - NONE

New Language:

G2415.2.1 CSST Prohibited use. Corrugated Stainless Steel Tubing (CSST) shall not be used or connect appliance(s) in the following locations:

1. Outdoor appliances;
2. Underground or under slab on ground; or
3. On the building's exterior.

Exception: Where Corrugated Stainless Steel Tubing (CSST) is installed in conduit for protection.

Original Language: IRC 2415.2.1.2 - NONE

New Language:

G2415.2.1.2 Minimum size. Minimum size of CSST gas piping shall be one-half inch (½") or larger to connect any appliance.

Original Language: IRC 2417.4, 2417.4.1 and 2417.4.2

G2417.4 (406.4) **Test pressure measurement**. Test pressure shall be measured with a manometer or with a pressure-measuring device designed and calibrated to read, record, or indicate a pressure loss caused by leakage during the pressure test period. The source of pressure shall be isolated before the pressure tests are made. Mechanical gauges used to measure test pressures shall have a range such that the highest end of the scale is not greater than five times the test pressure.

G2417.4.1 (406.4.1) **Test pressure**. The test pressure to be used shall be not less than

11 /2 times the proposed maximum working pressure, but not less than 3 psig (20 kPa gauge), irrespective of design pressure. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the piping greater than 50 percent of the specified minimum yield strength of the pipe.

G2417.4.2 (406.4.2) **Test duration**. The test duration shall be not less than 10 minutes.

New Language:

G2417.4 (406.4) Test pressure measurement. No changes in text …

G2417.4.1 (406.4.1) Test pressure. The test on all gas piping designed for two(2) PSIG and less, shall not less than one and one-half times the proposed maximum working pressure, but not less than ten (10) PSIG (68.9kPa) irrespective of design pressure, with a twenty (20) minute duration. The test on all gas piping designed for greater than 2 PSIG (68.9kPa) shall be a minimum of twenty (20) PSIG with a one hundred twenty (120) minute duration. The measurement range of the test gauge shall be not less than sixty (60) PSIG and shall be readily visible for reading on the inside of the building.

G2417.4.2 Test duration, is deleted.

Original Language: IRC 2601.2.1 - NONE

New Language:

P2601.2.1 Prohibited connection to drainage system. Sanitary sewer system shall be designed, built and maintained in such a manner to prevent all storm or ground water from draining, discharging or entering into the sanitary sewer system. Connection of sump pumps, foundation drains, yard drains, gutter downspouts and any other storm drainage receptacles(s) or system(s) are specifically prohibited from being connected to the sanitary sewer system.

Original Language: IRC 2603.5.1

P2603.5.1 **Sewer depth**. Building sewers that connect to private sewage disposal systems shall be not less than [**NUMBER**] inches (mm) below finished grade at the point of septic tank connection. Building sewers shall be not less than [**NUMBER**] inches (mm) below grade.

New Language:

P2603.5.1 Sewer depth. Building sewers shall not be less than twelve (12) inches below grade.

Original Language: IRC 2604.5 - NONE

New Language:

2604.5 Inspection. Excavations required for the installation of a building drainage system shall be open trench work, kept open and identification side of piping facing up until the piping has been inspected and approved to cover, or as approved by the Building Official for repairs.

Original Language: IRC 2903.3.1

P2903.3.1 **Maximum pressure**. The static water pressure shall be not greater than 80 psi (551 kPa). Where the main pressure exceeds 80 psi (551 kPa), an approved pressure reducing valve conforming to ASSE 1003 or CSA B356 shall be installed on the domestic water branch main or riser at the connection to the water service pipe.

New Language:

P2903.3.1 Maximum pressure. An approved water-pressure reducing valve conforming to ASSE 1003 with strainer shall be installed on the domestic water branch main or riser at the connection to the water-service pipe to reduce the pressure in the building water distribution piping to not more than eighty (80) psi (552 kPa) static.

Original Language: IRC 3302.1

P3302.1 Subsoil drains. Subsoil drains shall be open-jointed, horizontally split or perforated pipe conforming to one of the standards indicated in Table P3302.1. Such drains shall be not less than 4 inches (102 mm) in diameter. Where the building is subject to backwater, the subsoil drain shall be protected by an accessibly located backwater valve. Subsoil drains shall discharge to a trapped area drain, sump, dry well or approved location above ground. The subsoil sump shall not be required to have either a gas-tight cover or a vent. The sump and pumping system shall comply with Section P3303.

New Language with Strikeouts:

P3302.1 Subsoil drains. Subsoil drains shall be open-jointed, horizontally split or perforated pipe conforming to one of the standards indicated in Table P3302.1. Such drains shall be not less than 4 inches (102 mm) in diameter. ~~Where the building is subject to backwater, the subsoil drain shall be protected by an accessibly located backwater valve.~~ Subsoil drains shall discharge to a ~~trapped area drain,~~ sump~~, dry well~~ or approved location above ground. The subsoil sump shall not be required to have ~~either a gas-tight cover or~~ a vent. The sump and pumping system shall comply with Section P3303.

Original Language: IRC 3601.6.2

E3601.6.2 Service disconnect location. The service disconnecting means shall be installed at a readily accessible location either outside of a building or inside nearest the point of entrance of the service conductors. Service disconnecting means shall not be installed in bathrooms. Each occupant shall have access to the disconnect serving the dwelling unit in which they reside. [230.70(A)(1)(2), 230.72(C)]

New Language:

E3601.6.2 Service disconnect location. The service disconnecting means shall be installed at a readily accessible location either outside of the building or inside nearest the point of entrance of the service conductors. Service conductors ten (10) or more from the point of entry (electric meter) to the service panel, a separate means of disconnect shall be installed at the electric meter to the building or structure. Service disconnecting means shall not be installed in bathrooms, bedrooms, closets or within fifteen (15) feet measured along the wall(s) of an egress window in the basement. Each occupant shall have access to the disconnect serving the dwelling unit in which they reside.

Exceptions:

1. A service disconnecting means may be located in a bedroom or closer than fifteen (15) feet to an egress window in a basement, provided a separate means of disconnect is installed at the point of entry (electric meter).
2. An electrical service upgrade in an existing bedroom or basement near a required egress window, in an existing one-and-two family dwellings built before 2005 .

Original Language: IRC 3601.8 -- NONE

New Language:

E3601.8 Residential service upgrades. All one-and-two family dwellings requiring an electrical service upgrade for renovation, room additions, fire or storm damage repair to an electrical system, the following improvement upgrades shall be included:

1. GFI receptacles in kitchens and bathrooms;
2. Smoke and carbon monoxide detectors in accordance with Chapter 3 of this Code.
3. Any hazards or inferior wiring repaired or replaced.

Original Language: IRC 3602.1

E3602.1 Ampacity of ungrounded conductors. Ungrounded service conductors shall have an ampacity of not less than the load served. For one-family dwellings, the ampacity of the ungrounded conductors shall be not less than 100 amperes, 3 wire. For all other installations, the ampacity of the ungrounded conductors shall be not less than 60 amperes. [230.42(B), 230.79(C) & (D)]

New Language:

E3602.1 Ampacity of ungrounded conductors. Ungrounded service conductors shall have an ampacity of not less than the load served. For one- and two- family dwellings, the ampacity of the ungrounded conductors shall not be less than two hundred (200) amperes, 3 wire. For all other installations, the ampacity of the ungrounded conductors shall be not less than sixty (60) amperes. [230.42(B), 230.79 (C) & (D)]

Footnote: This change is to stay consistent with amended changes in the NEC (Article IV).

Original Language (Amended) IRC 3902.12

E3902.12 Arc-fault circuit-interrupter protection. All branch circuits that supply 120-volt, single-phase, 15- and 20-ampere outlets installed in bedrooms shall be protected by a combination type arc-fault circuit interrupter installed to provide protection of the entire branch circuit.

New Language:

E3902.16 Arc-fault circuit-interrupter protection. All branch circuits that supply 120-volt, single-phase, 15- and 20-ampere outlets installed in bedrooms shall be protected by a combination type arc-fault circuit interrupter installed to provide protection of the entire branch circuit.

~~Exceptions: 1, 2, & 3 remain un-amended.~~

Original Language: IRC Appendices is deleted

New Language and Adopted IRC Appendices:

Part X, Appendices: The following appendix Chapters are hereby adopted:

Appendix A: Sizing and Capacities of Gas Piping

Appendix B: Sizing of Venting Systems Serving Appliances Equipped with Draft Hoods, Category 1 Appliances and Appliances Listed for Use with Type B Vents

Appendix C: Exit Terminals of Mechanical Draft and Direct-Vent Venting Systems

Appendix E :Manufactured Housing Used as Dwellings

Section AE 101.1 General.

Section AE 101.1.1 Design. A manufactured home of residential design shall comply with Section 420.010 (D) of the Unified Development Code.

Appendix F : Radon Control Methods

Appendix M: Home Day Care -- R-3 Occupancy

Appendix Q: Tiny Houses

AQ101.1 Scope. This appendix shall be applicable to tiny houses use as single dwelling units.

AQ101.2 Design. Tiny houses shall comply with Section 420.010 (C) 11 of the Unified Development Code except as otherwise stated in this appendix.

Article IV- National Electric Code (NEC) 2017

Black -- Original Language
Blue -- New Action
Yellow Highlight -- New Amended Language

Original Language for Service Repair and Service Upgrade: NONE

New Language:

Article 100 Definitions.

Service Repair. The repair or replacement of a device or element of the service with a new device or element of the service, provided the repair or replacement material is of the same size or ampacity as the original.

Service Upgrade. Any service work that cannot be defined as a service repair.

Original Language: NEC 225.39

225.39 Rating of Disconnect. The feeder or branch-circuit disconnecting means shall have a rating of not less than the calculated load to be supplied, determined in accordance with Parts I and II of Article 220 for branch circuits, Part III or IV of Article 220 for feeders, or Part V of Article 220 for farm loads. Where the branch circuit or feeder disconnecting means consists of more than one switch or circuit breaker, as permit- ted by 225.33, combining the ratings of all the switches or circuit breakers for determining the rating of the disconnect- ing means shall be permitted. In no case shall the rating be lower than specified in 225.39(A), (B), (C), or (D).

(A) One-Circuit Installation. For installations to supply only limited loads of a single branch circuit, the branch circuit disconnecting means shall have a rating of not less than 15 amperes.

(B) Two-Circuit Installations. For installations consisting of not more than two 2-wire branch circuits, the feeder or branch circuit disconnecting means shall have a rating of not less than 30 amperes.

(C) One-Family Dwelling. For a one-family dwelling, the feeder disconnecting means shall have a rating of not less than 100 amperes, 3-wire.

(D) All Others. For all other installations, the feeder or branch-circuit disconnecting means shall have a rating of not less than 60 amperes.

New Language:

225.39 Rating of Disconnect. The feeder or branch-circuit disconnecting means shall

have a rating of not less than the calculated load to be supplied, determined in accordance with Parts I and II of Article 220 for branch circuits, Part III or IV of Article 220 for feeders, or Part V of Article 220 for farm loads. Where the branch circuit or feeder disconnecting means consists of more than one switch or circuit breaker, as permitted by 225.33, combining the ratings of all the switches or circuit breakers for determining the rating of the disconnect- ing means shall be permitted. In no case shall the rating be lower than specified in 225.39(A), (B), (C),(D) or (E).

(A) No change in text …

(B) No change in text …

(C) For one- and two- family dwellings the feeder disconnecting means for new construction, service upgrade or replacement shall be in accordance with the International Residential Code (IRC).

(D) For multi-family dwellings, the feeder disconnecting means for new construction, service upgrade or replacement shall have a rating of not less than one hundred (100) ampres.

(E) All others. For all other installations, the feeder or branch-circuit disconnecting means shall have a rating of not less than sixty (60) amperes.

Original Language: NEC 230.70

Part VI. Service Equipment — Disconnecting Means 230.70

General. Means shall be provided to disconnect all conductors in a building or other structure from the service entrance conductors.

(A) Location. The service disconnecting means shall be instal- led in accordance with 230.70(A)(1), (A)(2), and (A)(3).

(1) Readily Accessible Location. The service disconnecting means shall be installed at a readily accessible location either outside of a building or structure or inside nearest the point of entrance of the service conductors.

(2) Bathrooms. Service disconnecting means shall not be installed in bathrooms.

(3) Remote Control. Where a remote control device(s) is used to actuate the service disconnecting means, the service disconnecting means shall be located in accordance with 230.70(A)(1).

New Language:

Part VI. Service Equipment --- Disconnecting Means

230.70 General. Means shall be provided to disconnect all conductors in a building or other structure from the service entrance conductors.

(A) Location. The service disconnecting means shall not be installed in accordance with 230.70 (A) 1, (A) 2, and (A)3.

(1) No change in text ....
(2) **Bathrooms, Closets and Bedrooms**. Service disconnecting means shall not be installed in bathrooms, clothes closets or bedrooms.
(3) No change in text ....

Original Language: Article IV: National Electrical Code (NEC); Section C; Amendments

C. The following Sections are hereby added to the *National Electrical Code:*

SECTION 500.200: - AMENDMENTS

A. All one- and two- family dwellings, new construction or replacement electrical service entrances that require an electrical permit shall have a minimum two hundred (200) amp service installed. All applicable *NEC 2011* Codes apply for these installations.

B . Approved fan outlet boxes must be installed in all living areas except hallways, bathrooms and kitchens.

C. For all residential structures constructed after April 30, 2005, no disconnection means shall be installed in bedrooms, closets and bathrooms or directly within fifteen feet (15') of an egress window in the basement. A "bedroom" shall be defined as an enclosed space with a closet for storage.

D. Circuits of all electrical wiring systems shall be in minimum flexible metal conduit (FMC) for all commercial electrical projects.

SECTIONS 500.205—500.215: - RESERVED

New Language:

C. The following Sections are hereby added to the *National Electrical Code:*

SECTION 500.200: - AMENDMENTS

~~A. All one- and two- family dwellings, new construction or replacement electrical service entrances that require an electrical permit shall have a minimum two hundred (200) amp service installed. All applicable *NEC 2011* Codes apply for these installations.~~

~~B~~ A. Approved ~~fan~~ load rated outlet boxes must be installed in all living areas except hallways, bathrooms and kitchens.

~~C. For all residential structures constructed after April 30, 2005, no disconnection means shall be installed in bedrooms, closets and bathrooms or directly within fifteen feet (15') of an egress window in the basement. A "bedroom" shall be~~

~~defined as an enclosed space with a closet for storage.~~

~~D~~ B. Circuits of all electrical wiring systems shall be in minimum flexible metal conduit (FMC) for all commercial electrical projects.

SECTIONS 500.205—500.215: - RESERVED

Article V: International Mechanical Code 2018

Black -- Original Language
Blue -- New Action
Yellow Highlight -- New Amended Language

Original Language: City Adoption of the Uniform Mechanical Code

ARTICLE V. - UNIFORM MECHANICAL CODE

SECTION 500.220: - ADOPTION OF UNIFORM MECHANICAL CODE (2012)

A. The *Uniform Mechanical Code (2012),* promulgated by the International Association of Plumbing and Mechanical Officials (IAPMO), is adopted and incorporated in this Article by reference as if fully set forth, except as it is amended by the following provisions of this Section. Provisions of this Article are to regulate all commercial projects.

All references within the model Codes to any building, electrical, gas, mechanical, plumbing, sewage disposal, elevator, energy conservation, or existing building code shall be construed to be a reference to the respective building, electrical, gas, mechanical, plumbing, sewage disposal, elevator, energy conservation, or existing building Code specifically adopted by reference in Articles II though XI of this Chapter.

B. The following Section of the *Uniform Mechanical Code* is hereby revised:

Chapter 1, Administration, is deleted.

New Language:

ARTICLE V. - ~~UNIFORM~~ INTERNATIONAL MECHANICAL CODE

SECTION 500.220: - ADOPTION OF ~~UNIFORM~~ INTERNATIONAL MECHANICAL CODE (~~2012~~ 2018)

A. The ~~*Uniform*~~ *International Mechanical Code (~~2012~~ 2018),* promulgated by the International ~~Association of Plumbing and Mechanical Officials (IAPMO)~~ Code Council (ICC), is adopted and incorporated in this Article by reference as if fully set forth, except as it is amended by the following provisions of this Section. Provisions of this Article are to regulate all commercial projects.

All references within the model Codes to any building, electrical, gas, mechanical, plumbing, sewage disposal, elevator, energy conservation, or existing building c~~C~~ode

shall be construed to be a reference to the respective building, electrical, gas, mechanical, plumbing, sewage disposal, elevator, energy conservation, or existing building Code specifically adopted by reference in Articles II through XII of this Chapter.

B. The following Section of the ~~*Uniform*~~ *International Mechanical Code* is hereby revised or added:

Chapter 1, Administration, is deleted.

Original Language: IMC 401.2

401.2 **Ventilation required**. Every occupied space shall be ventilated by natural means in accordance with Section 402 or by mechanical means in accordance with Section 403. Where the air infiltration rate in a dwelling unit is less than 5 air changes per hour when tested with a blower door at a pressure of 0.2-inch water column (50 Pa) in accordance with Section R402.4.1.2 of the International Energy Conservation Code, the dwelling unit shall be ventilated by mechanical means in accordance with Section 403. Ambulatory care facilities and Group I-2 occupancies shall be ventilated by mechanical means in accordance with Section 407.

New Language with Strikethrough:

401.2 Ventilation required. Every occupied space shall be ventilated by natural means in accordance with Section 402 or by mechanical means in accordance with Section 403. ~~Where the air infiltration rate in a dwelling unit is less than 5 air changes per hour when tested with a blower door at a pressure of 0.2 -inch water column (50 Pa) in accordance with Section R402.4.1.2 of the International Energy Conservation Code, the dwelling unit shall be ventilated by mechanical means in accordance with Section 403.~~ Ambulatory care facilities and Group I-2 occupancies shall be ventilated by mechanical means in accordance with Section 407.

Original Language: IMC 502.14

502.14 **Motor vehicle operation**. In areas where motor vehicles operate, mechanical ventilation shall be provided in accordance with Section 403. Additionally, areas in which stationary motor vehicles are operated shall be provided with a source capture system that connects directly to the motor vehicle exhaust systems. Such system shall be engineered by a registered design professional or shall be factory-built equipment designed and sized for the purpose.

Exceptions:

1. This section shall not apply where the motor vehicles being operated or repaired are electrically powered.

2. This section shall not apply to one- and two-family dwellings.

3. This section shall not apply to motor vehicle service areas where engines are operated inside the building only for the duration necessary to move the motor vehicles in and out of the building.

New Language:

502.14 Motor Vehicle Operation. No change in text....

Exceptions: 1, 2 and 3, no change in text ....

4. Upon approval by the Building Official, an area of motor vehicle operation in an existing building, previously used as a motor vehicle operation area with no additional increase of space, a listed and labeled exhaust hose not greater than eight (8) feet in length may be substituted, provided the listed hose is connected to the vehicle while in operation and securely attached to a permanent opening through the exterior surface of the building.

Original Language: IMC 506.3.2.5

506.3.2.5 Grease duct test. Prior to the use or concealment of any portion of a grease duct system, a leakage test shall be performed. Ducts shall be considered to be concealed where installed in shafts or covered by coatings or wraps that prevent the ductwork from being visually inspected on all sides. The permit holder shall be responsible to provide the necessary equipment and perform the grease duct leakage test. A light test shall be performed to determine that all welded and brazed joints are liquid tight.

A light test shall be performed by passing a lamp having a power rating of not less than 100 watts through the entire section of ductwork to be tested. The lamp shall be open so as to emit light equally in all directions perpendicular to the duct walls. A test shall be performed for the entire duct system, including the hood-to-duct connection. The duct work shall be permitted to be tested in sections, provided that every joint is tested. For listed factory-built grease ducts, this test shall be limited to duct joints assembled in the field and shall exclude factory welds.

New Language:

506.3.2.5 Grease duct test. Prior to the use or concealment of any portion of a grease duct system, a leakage test shall be performed. Ducts shall be considered to be concealed where installed in shafts or covered by coatings or wraps that prevent the ductwork from being visually inspected on all sides. The permit holder shall be responsible to provide the necessary equipment and perform the grease duct leakage test.

A vacuum or air pressure test shall be performed to determine that all welded and brazed joints are liquid tight on the installed grease duct to a minimum of four (4) inches water column (995 pa, 0.144 psi). The test shall be witnessed by the Building Official or designated person for a period of not less than fifteen (15) minutes with no leakage. Test measurement shall be made with a digital manometer or pressure gauge connected to the test cover of the hood and duct connection. The measurement device shall be readily accessible for reading.

Appendices proposed:

Appendix: The following Chapter of the appendix are hereby adopted:

Appendix A: Chimney Connector Pass-Throughs

Article VI: International Plumbing Code 2018

Black -- Original Language
Blue -- New Action
Yellow Highlight -- New Amended Language

Original Language: City Adoption of the Uniform Plumbing Code

ARTICLE VI. - UNIFORM PLUMBING CODE

SECTION 500.245: - ADOPTION OF UNIFORM PLUMBING CODE (2012)

A. The *Uniform Plumbing Code (2012),* promulgated by the International Association of Plumbing and Mechanical Officials (IAPMO), is adopted and incorporated in this Article by reference as if fully set forth, except as it is amended by the following provisions of this Section. Provisions of this Article are to regulate all commercial projects.

All references within the model Codes to any building, electrical, gas, mechanical, plumbing, sewage disposal, elevator, energy conservation, or existing building Code shall be construed to be a reference to the respective building, electrical, gas, mechanical, plumbing, sewage disposal, elevator, energy conservation, or existing building Code specifically adopted by reference in Articles II through XII of this Chapter.

B. The following Sections of the *Uniform Plumbing Code* are revised or added:

Chapter 1, Administration, is deleted. See Article I of this Chapter.

New Language: Adoption of the International Plumbing Code

ARTICLE VI. - ~~UNIFORM~~ INTERNATIONAL PLUMBING CODE

SECTION 500.245: - ADOPTION OF ~~UNIFORM~~ INTERNATIONAL PLUMBING CODE (~~2012~~ 2018)

A. The ~~*Uniform*~~ *International Plumbing Code (~~2012~~ 2018),* promulgated by the International ~~Association of Plumbing and Mechanical Officials (IAPMO)~~ Code Council (ICC), is adopted and incorporated in this Article by reference as if fully set forth, except as it is amended by the following provisions of this Section. Provisions of this Article are to regulate all commercial projects.

All references within the model Codes to any building, electrical, gas, mechanical, plumbing, sewage disposal, elevator, energy conservation, or existing building Code

shall be construed to be a reference to the respective building, electrical, gas, mechanical, plumbing, sewage disposal, elevator, energy conservation, or existing building Code specifically adopted by reference in Articles II through XII of this Chapter.

B. The following Sections of the ~~*Uniform*~~ *International Plumbing Code* are revised or added:

Chapter 1, Administration, is deleted. See Article I of this Chapter.

Original Language: IPC 305.4.1

305.4.1 **Sewer depth**. Building sewers that connect to private sewage disposal systems shall be installed not less than [NUMBER] inches (mm) below finished grade at the point of septic tank connection. Building sewers shall be installed not less than [NUMBER] inches (mm) below grade.

New Language:

305.4.1 Sewer depth. Building sewers that connect to private sewage disposal systems shall be installed not less than eighteen (18) inches below finished grade at the point of septic tank connection. Building sewers shall be installed not less than twelve (12) inches below grade.

Original Language: IPC 403.2

403.2 **Separate facilities**. Where plumbing fixtures are required, separate facilities shall be provided for each sex.

Exceptions:

1. Separate facilities shall not be required for dwelling units and sleeping units.
2. Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 15 or fewer.
3. Separate facilities shall not be required in mercantile occupancies in which the maximum occupant load is 100 or fewer.
4. Separate facilities shall not be required in business occupancies in which the maximum occupant load is 25 or fewer.

New Language:

403.2 Separate facilities. Where plumbing fixtures are required, separate facilities shall be provided for each sex.

Exceptions:

1. Separate facilities shall not be required for dwelling units and sleeping units.
2. Except for mercantile and business uses, occupancies which do not serve food or beverages to be consumed within the structure or tenant space, do not require separate facilities when the total occupant load, including both employees and customers, is forty-nine (49) or fewer.
3. Separate facilities shall not be required in mercantile occupancies in which the maximum occupant load is one hundred (100) or fewer.
4. Separate facilities shall not be required in business occupancies in which the maximum occupant load is twenty-five (25) or fewer.

Original Language: IPC 410.4

410.4 **Substitution**. Where restaurants provide drinking water in a container free of charge, drinking fountains shall not be required in those restaurants. In other occupancies where drinking fountains are required, water dispensers shall be permitted to be substituted for not more than 50 percent of the required number of drinking fountains.

New Language:

410.4 Substitution. Where restaurants provide drinking water in a container free of charge, drinking fountains shall not be required in those restaurants. In all other occupancies where the occupant load is forty-nine (49) or fewer and drinking fountains are required, a bottled water dispenser or water cooler with a minimum two (2) gallon capacity may be substituted.

Original Language and Strikethrough: Formerly UPC 422.0

~~422.0 Minimum Number of Required Fixtures is deleted. See Article II of this Chapter.~~

Footnote: The IBC and IPC mirror each other on minimum number of fixture requirements.

Original Language: IPC 604.8

604.8 **Water pressure-reducing valve or regulator**. Where water pressure within a building exceeds 80 psi (552 kPa) static, an approved water pressure-reducing valve conforming to ASSE 1003 or CSA B356 with strainer shall be installed to reduce the pressure in the building water distribution piping to not greater than 80 psi (552 kPa) static.

> Exception: Service lines to sill cocks and outside hydrants, and main supply risers where pressure from the mains is reduced to 80 psi (552 kPa) or less at individual fixtures.

New Language:

604.8 Maximum pressure. An approved water-pressure reducing valve conforming to ASSE 1003 with strainer shall be installed on the domestic water branch main or riser at the connection to the water-service pipe to reduce the pressure in the building water distribution piping to not more than eighty (80) psi (552 kPa) static.

Exception: Service lines to sill cocks and outside hydrants, and main supply risers where pressure from the mains is reduced to 80 psi (522 kPa) or less at individual fixtures.

Original Language and Strikethrough: Formerly UPC 807.4 and 902.3

~~807.4 Dishwashing Machines. Dishwashing machines shall discharge separately into a trap or trapped fixture. Residential dwelling unit dishwashing machines may discharge in the dishwasher connection of a food waste grinder or disposer.~~

~~902.3 Floor Drain. A floor drain (where used as such) need not be vented, provided it is within twenty five feet (25') of a three inch (3") stack or horizontal drain which has at least a three inch (3") diameter vent extension through the roof.~~

Footnote: IPC addresses both provisions for commercial construction where the UPC differed.

Original Language: IPC 918.3

918.3 **Where permitted**. Individual, branch and circuit vents shall be permitted to terminate with a connection to an individual or branch-type air admittance valve in accordance with Section 918.3.1. Stack vents and vent stacks shall be permitted to terminate to stack-type air admittance valves in accordance with Section 918.3.2.

> 918.3.1 **Horizontal branches**. Individual and branch-type air admittance valves shall vent only fixtures that are on the same floor level and connect to a horizontal branch drain. Where the horizontal branch is located more than four branch intervals from the top of the stack, the horizontal branch shall be provided with a relief vent that shall connect to a vent stack or stack vent, or extend outdoors to the open air. The relief vent shall connect to the horizontal branch drain between the stack and the most downstream fixture drain connected to the horizontal branch drain. The relief vent shall be sized in accordance with Section 906.2 and installed in accordance with Section 905. The relief vent shall be permitted to serve as the vent for other fixtures.
>
> 918.3.2 **Stack**. Stack-type air admittance valves shall be prohibited from serving as the vent terminal for vent stacks or stack vents that serve drainage stacks having more than six branch intervals.

New Language:

918.3 Where permitted. The use of air-admittance valves shall not be permitted in

new buildings or additions, unless otherwise approved by the Building Official.

Exception: Vents may terminate to an air admittance valve under the following conditions:

1. For sinks located where there is no wall accessible from the sink location (ex: island or peninsula sinks); or where access to the vent system would require notching or boring of studs in excess of the limitations of Article II, Chapter 23.
2. In existing construction, where the existing vent system is not accessible to the fixture location without the removal of finish materials or structural members.

Original Language: IPC 1003.3.1

1003.3.1 Grease interceptors and automatic grease removal devices required. A grease interceptor or automatic grease removal device shall be required to receive the drainage from fixtures and equipment with grease-laden waste located in food preparation areas, such as in restaurants, hotel kitchens, hospitals, school kitchens, bars, factory cafeterias and clubs. Fixtures and equipment shall include pot sinks, pre-rinse sinks; soup kettles or similar devices; wok stations; floor drains or sinks into which kettles are drained; automatic hood wash units and dishwashers without pre-rinse sinks. Grease interceptors and automatic grease removal devices shall receive waste only from fixtures and equipment that allow fats, oils or grease to be discharged. Where lack of space or other constraints prevent the installation or replacement of a grease interceptor, one or more grease interceptors shall be permitted to be installed on or above the floor and upstream of an existing grease interceptor.

New Language:

1003.3.1 Grease interceptors and automatic grease removal devices required. A grease interceptor or automatic grease-removal device shall be required to receive the drainage from fixtures and equipment with grease-laden waste located in food preparation areas, such as in restaurants, hotel kitchens, hospitals, school kitchens, day care facilities of Group I-4 or E occupancies, bars, factory cafeterias and clubs. Fixtures and equipment shall include mop sinks, kitchen floor drains and sinks, culinary sinks, pot sinks, pre-rinse sinks; soup kettles or similar devices; wok stations; floor drains or sinks which kettles are drained; automatic hood wash units and dishwashers without pre-rinse sinks. Grease interceptors and automatic grease removal devices shall receive waste only from fixtures and equipment that allow fats, oils or grease to be discharged. Were lack of space or other constraints prevent the installation or replacement of a grease interceptor, one or more grease interceptors shall be permitted to be installed on or above the floor and upstream of an existing

grease interceptor.

Original Language: IPC 1003.3.1.2 -- NONE

New Language:

1003.3.1.2 Location. Each grease interceptor shall be so installed, connected and easily accessible for inspection, cleaning, and removal of the intercepted grease. A gravity grease interceptor shall not be installed in a building where food is handled. Location of the grease interceptor shall meet the approval of the Building Official.

1003.3.1.2.1 Interceptors. Interceptors shall be placed as close as practical to the fixtures they serve.

1003.3.1.2.2 Business Establishment. Each business establishment for which a gravity grease or hydromechanical grease interceptor is required shall have an interceptor which shall serve that establishment.

1003.3.1.2.3 Access. Each gravity grease interceptor shall be located so as to be readily accessible to the equipment required for maintenance.

Original Language: IPC 1003.3.3

1003.3.3 **Additives to grease interceptors**. Dispensing systems that dispense interceptor performance additives to grease interceptors shall not be installed except where such systems dispense microbes for the enhancement of aerobic bioremediation of grease and other organic material, or for inhibiting growth of pathogenic organisms by anaerobic methods. Such microbial dispensing systems shall be installed only where the grease interceptor manufacturer's instructions allow such systems and the systems conform to ASME A112.14.6. Systems that discharge emulsifiers, chemicals or enzymes to grease interceptors shall be prohibited.

New Language:

1003.3.3 Additives to grease interceptors. Dispensing systems that dispense interceptor performance additives to a grease interceptor shall not be installed. Systems that discharge emulsifiers, chemicals or enzymes to grease interceptors are prohibited.

Original Language: IPC 1003.11 -- NONE

New Language:

1003.11 Sampling manhole. Where a grease interceptor or automatic grease removal device is required, a sampling manhole shall be installed to monitor the entire facility

or individual tenant space as determined by Raymore Public Works.

Original Language: IPC 1102.4

1102.4 Building storm sewer pipe. Building storm sewer pipe shall conform to one of the standards listed in Table 1102.4.

TABLE 1102.4 BUILDING STORM SEWER PIPE MATERIAL STANDARD

Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall. ASTM D2661; ASTM F628; ASTM F1488; CSA B181.1; CSA B182.1 Cast-iron pipe ASTM A74; ASTM A888; CISPI 301 Concrete pipe ASTM C14; ASTM C76; CSA A257.1M; CSA A257.2M Copper or copper-alloy tubing (Type K, L, M or DWV) ASTM B75; ASTM B88; ASTM B251; ASTM B306 Polyethylene (PE) plastic pipe ASTM F667; ASTM F2306/F2306M; ASTM F2648/F2648M Polypropylene (PP) pipe ASTM F2881; CSA B182.13 Polyvinyl chloride (PVC) plastic pipe (Type DWV, SDR26, SDR35, SDR41, PS50 or PS100) in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall. ASTM D2665; ASTM D3034; ASTM F891; ASTM F1488; CSA B182.4; CSA B181.2; CSA B182.2 Vitrified clay pipe ASTM C4; ASTM C700 Stainless steel drainage systems, Type 316L ASME A112.3.1

New Language:

1102.4 Building Storm Sewers. Building storm sewers shall be in accordance with the applicable standards referenced in Table ~~701.1~~ 1102.4 for building sewer pipe and fittings, ~~Table 1401.1,~~ or the adopted Raymore Technical Specifications & Design Criteria for Utility and Street Construction, latest edition.

TABLE 1102.4 BUILDING STORM SEWER PIPE. Cellular core is deleted.

Original Language: IPC 1202.2 & 1202.3-- NONE

New Language:

Section 1202.2 Medical gas piping installation. The installation of all medical gas piping shall be installed by a certified medical gas installer holding an unexpired 6010 National Inspection Testing & Certification (NITC), or an equivalent certification as approved by the Building Official.

Section 1202.3 Medical gas piping inspections. Inspections and the special final inspection of a medical gas system shall be inspected by a certified medical gas inspector holding an unexpired 6020 National Inspection Testing & Certification (NITC), or an equivalent certification as approved by the Building Official. All inspection reports shall be submitted to the Building Official before issuance of any Certificate of Occupancy.

Appendices proposed:

Appendices: The following Chapters of the appendix are hereby adopted:

Appendix B: Rates of Rainfall for Various Cities

Appendix C: ~~Alternate Plumbing Systems~~ Structural Safety

Appendix D: ~~Sizing Stormwater Drainage Systems~~ Degree Day and Design Temperature

Appendix E: Sizing of Water Piping System

Article VII - International Swimming Pool and Spa Code (ISPSC) 2018

Black -- Original Language
Blue -- New Action
Yellow Highlight -- New Amended Language

ARTICLE VII. - INTERNATIONAL SWIMMING POOL, AND SPA ~~AND HOT TUB~~ CODE

SECTION 500.270: - Adoption of International Swimming Pool, and Spa Code (~~2012~~ 2018)

A. The *International Swimming Pool, and Spa ~~and Hot Tub~~ Code (~~2012~~ 2018),* promulgated by the International Code Council (ICC), is adopted and incorporated in this Article by reference as if fully set forth, except as it is amended by the following provisions of this Section. Provisions of this Article are to regulate all commercial and residential projects.

All references within the model Codes to any building, electrical, gas, mechanical, plumbing, sewage disposal, elevator, energy conservation, or existing building Code shall be construed to be a reference to the respective building, electrical, gas, mechanical, plumbing, sewage disposal, elevator, energy conservation, or existing building Code specifically adopted by reference in Articles II through ~~XI~~ XII of this Chapter.

B. The following Section of the *International Swimming Pool, and Spa ~~and Hot Tub~~ Code* is hereby revised:

Chapter 1, Administration, is deleted. See Article I of this Chapter.

Article VIII - International Existing Building Code (IEBC) 2018

Black -- Original Language
Blue -- New Action
Yellow Highlight -- New Amended Language

401.3, 502.3 and 1103.3 are numerical order changes only.

Original Language: IEBC 705.3

[BS] 705.3 Roof replacement. Roof replacement shall include the removal of all existing layers of roof coverings down to the roof deck.

> Exception: Where the existing roof assembly includes an ice barrier membrane that is adhered to the roof deck, the existing ice barrier membrane shall be permitted to remain in place and covered with an additional layer of ice barrier membrane in accordance with Section 1507 of the International Building Code.

New Language: IEBC 705.3

705.3 Roof replacement. Roof replacement shall be in accordance with 1511.3 of the International Building Code.

Original Language: IEBC 705.3.1

[BS] 705.3.1 Roof recover. The installation of a new roof covering over an existing roof covering shall be permitted where any of the following conditions occur:

> 1. The new roof covering is installed in accordance with the roof covering manufacturer's approved instructions.
>
> 2. Complete and separate roofing systems, such as standing-seam metal roof panel systems, that are designed to transmit the roof loads directly to the building's structural system and that do not rely on existing roofs and roof coverings for support, are installed.
>
> 3. Metal panel, metal shingle and concrete and clay tile roof coverings are installed over existing wood shake roofs in accordance with Section 705.4.
>
> 4. A new protective roof coating is applied over an existing protective roof coating, a metal roof panel, metal roof shingles, mineral-surfaced roll roofing, a built-up roof, modified bitumen roofing, thermoset and thermoplastic single-ply roofing or a spray polyurethane foam roofing system.

New Language:

705.3.1 Roof recover, is deleted.

Original Language: IEBC 705.3.1.1

> **[BS] 705.3.1.1 Exceptions.** A roof recover shall not be permitted where any of the following conditions occur:
>
> 1. The existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.
> 2. The existing roof covering is slate, clay, cement or asbestos-cement tile.
> 3. The existing roof has two or more applications of any type of roof covering.

New Language:

705.3.1.1 Exceptions, is deleted.

Original Language: IEBC 705.4

[BS] 705.4 Roof recovering. Where the application of a new roof covering over wood shingle or shake roofs creates a combustible concealed space, the entire existing surface shall be covered with gypsum board, mineral fiber, glass fiber or other approved materials securely fastened in place.

New Language:

705.4 Roof Recovering, is deleted.

Original Language: IEBC 1401.1

1401.2 Applicability. Structures existing prior to 1895, in which there is work involving additions, alterations or changes of occupancy shall be made to conform to the requirements of this Chapter or the provisions of Chapters 4 through 12. The provisions in Section 1401.2.1 through 1401.2.5 shall apply to existing occupancies that will continue to be, or are proposed to be, in Groups A, B, E, F, M, R, S, and U. These provisions shall not apply to buildings with occupancies in Group H or I.

Strike through:

~~1401.2 Applicability. Structures existing prior to 1895, in which there is work involving additions, alterations or changes of occupancy shall be made to conform to the requirements of this Chapter or the provisions of Chapters 4 through 12. The provisions in Section 1401.2.1 through 1401.2.5 shall apply to existing occupancies~~

~~that will continue to be, or are proposed to be, in Groups A, B, E, F, M, R, S, and U. These provisions shall not apply to buildings with occupancies in Group H or I.~~

Footnote: No insertion date is required in IEBC 2018 and has changed to Section 1301.1.

Original Language: Appendix C Amendment for adoption - NONE

New Language:

Appendices: The following appendix is hereby adopted:

Appendix C: Guidelines for the Wind Retrofit of Existing Buildings

Article IX - International Energy Conservation Code (IECC) 2009
Black -- Original Language
Blue -- New Action
Yellow Highlight -- New Amended Language

Original Language: IECC 402.1.1

402.1.1 Insulation and fenestration criteria. The building thermal envelope shall meet the requirements of Table 402.1.1 based on the climate zone specified in Chapter 3.

Table 402.1.1

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] R-Value	Slab[d] R-Value & Depth	Crawl Space[c] Wall R-Value
4 except Marine	0.35	0.60	NR	38	13	5/10	19	10/13	10,2	10/13

(Footnotes unchanged)

New Language:

402.1.1 Insulation and fenestration criteria. The building thermal envelope shall meet the requirements of Table 402.1.1.

Table 402.1.1

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] R-Value	Slab[d] R-Value & Depth	Crawl Space[c] Wall R-Value
4 except Marine	0.35	0.55	0.40	49	15	5/10	19	10/13	10,2	10/13

(Footnotes unchanged)

Original Language: IECC 402.1.1 - NONE

New Language:

402.2.1.1 Eave baffle. For air permeable insulation in attics, a baffle shall be installed adjacent to soffit and eave vents. Baffles shall maintain an opening equal or greater than the size of the vent. The baffle shall extend over the top of the attic insulation. The baffle shall be permitted to be any solid material.

Original Language: IECC 403.4

403.4 Circulating hot water systems (Mandatory). All circulating service hot water piping shall be insulated to at least R-2. Circulating hot water systems shall include an automatic or readily accessible manual switch that can turn off the hot water circulating pump when the system is not in use.

New Language:

403.4 Service hot water systems. Energy conservation measures for service hot water systems shall be in accordance with Sections 403.4.1 and 403.4.2.

403.4.1 Circulating hot water systems (Mandatory). Circulating hot water systems shall be provided with an automatic or readily accessible manual switch that can turn off the hot-water circulating pump when the system is not in use.

403.4.2 Hot water pipe insulation (Prescriptive). Insulation for hot water pipe with a minimum thermal resistance (R-value) of R-3 shall be applied to the following:

1. Piping located outside the conditioned space.
2. Piping located under a floor slab.
3. Buried piping less than thirty-six (36) inches.

Original Language: IECC 403.6

403.6 Equipment sizing (Mandatory). Heating and cooling equipment shall be sized in accordance with Section M1401.3 of the International Residential Code.

New Language:

403.6 Equipment Sizing (Mandatory). Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculations methodologies.

Original Language: IECC 404.1

404.1 Lighting equipment (Prescriptive). A minimum of 50 percent of the lamps in permanently installed lighting fixtures shall be high-efficacy lamps.

New Language:

404.1 No change in text ....

Exception: Low-voltage lighting shall not be required to utilize high-efficiency lamps.

404.1.1 Lighting equipment (Mandatory. Fuel gas lighting systems shall not have continuously burning pilot lights.

Original Language: IECC 502.2.4

502.2.4 Below-grade walls. The minimum thermal resistance (R-value) of the insulating material installed in, or continuously on, the below-grade walls shall be as specified in Table 502.2(1), and shall extend to a depth of 10 feet (3048 mm) below the outside finished ground level, or to the level of the floor, whichever is less.

New Language:

502.2.4 Below-grade walls. The minimum thermal resistance (R-value) of the insulating material installed in, or continuously on, the below grade walls shall be R-7.5 continuous insulation (ci), and shall extend to a depth of ten (10) feet below the outside finished ground level, or to the level of the floor, whichever is less.
Footnote: This provision applies to commercial construction.

Original Language: IECC 506.2.6

502.2.6 Slabs on grade. The minimum thermal resistance (R-value) of the insulation around the perimeter of unheated or heated slab-on-grade floors shall be as specified in Table 502.2 (1). The insulation shall be placed on the outside of the foundation or on the inside of a foundation wall. The insulation shall extend downward from the top of the slab for a minimum distance as shown in the table or to the top of the footing, whichever is less, or downward to at least the bottom of the slab and then horizontally to the interior or exterior for the total distance shown in the table.

New Language:

502.2.6 Slabs on grade. The minimum thermal resistance (R-value) of the insulation around the perimeter of unheated or heated slab-on-grade floors shall be R-10. The insulation shall be placed on the outside or on the inside of the foundation wall. The insulation shall extend downward from the top of the slab for a minimum of twenty-four (24) inches below grade, or downward to at least the bottom of the slab and then horizontally to the interior for the total distance of twenty-four (24) inches.

Footnote: This provision applies to commercial construction.

Article X: Lawn Sprinkler and Cross Connection Code

No additions or changes to language to this Section of City Code.

Article XI - International Fire Code (IFC) 2018

Black -- Original Language
Blue -- New Action
Yellow Highlight -- New Amended Language

New Section Added: Section C for revisions or additions

C. The following Sections of the *International Fire Code* are hereby revised or added:

Original Language: IFC 307.2

307.2 Permit required. A permit shall be obtained from the fire code official in accordance with Section 105.6 prior to kindling a fire for recognized silvicultural or range or wildlife management practices, prevention or control of disease or pests, or a bonfire. Application for such approval shall only be presented by and permits issued to the owner of the land on which the fire is to be kindled.

New Language:

307.2 Permits required. A permit shall be obtained by the Fire Code Official ~~in accordance with Section 105.6~~ prior to kindling a fire for recognized silvicultural or range or wildlife management practices, prevention or control of disease or pest or a bonfire. Application for such approval shall only be presented by and permit issued to the owner of the land upon which the fire is to be kindled.

Original Language: IFC 307.4

307.4 Location. The location for open burning shall be not less than 50 feet (15 240 mm) from any structure, and provisions shall be made to prevent the fire from spreading to within 50 feet (15 240 mm) of any structure.

Exceptions:

1. Fires in approved containers that are not less than 15 feet (4572 mm) from a structure.

2. The minimum required distance from a structure shall be 25 feet (7620 mm) where the pile size is 3 feet (914 mm) or less in diameter and 2 feet (610 mm) or less in height.

307.4.1 Bonfires. A bonfire shall not be conducted within 50 feet (15 240 mm) of a structure or combustible material unless the fire is contained in a barbecue pit. Conditions that could cause a fire to spread within 50 feet (15 240 mm) of a structure shall be eliminated prior to ignition.

307.4.2 Recreational fires. Recreational fires shall not be conducted within 25 feet (7620 mm) of a structure or combustible material. Conditions that could cause a fire to spread within 25 feet (7620 mm) of a structure shall be eliminated prior to ignition.
307.4.3 Portable outdoor fireplaces. Portable outdoor fireplaces shall be used in accordance with the manufacturer's instructions and shall not be operated within 15 feet (3048 mm) of a structure or combustible material.

Exception: Portable outdoor fireplaces used at one-and two-family dwellings.

New Language:

307.4 Location. The location for open burning shall be not less than the State regulations in Mo DNR 10 CSR 10-6.045 unless conducted and approved by the Fire Code Official in accordance with Sections 307.4.1 through 307.4.3.

Exceptions, unchanged.

307.4.1 Bonfires. A *bonfire* shall not be conducted within fifty (50) feet (15.24 m) of a structure or combustible material unless the fire is contained in a barbecue pit. Conditions that could cause a fire to spread with fifty (50) feet (15.24 m) of a structure shall be eliminated prior to ignition.

307.4.2 Recreational fires. *Recreational fires* shall not be conducted within twenty-five (25) feet (7.62 m) of a structure or combustible material. Conditions that could cause a fire to spread within twenty-five (25) feet (7.62 m) of a structure shall be eliminated prior to ignition.

307.4.3 Portable outdoor fireplaces. *Portable outdoor fireplaces* shall be used in accordance with the manufacturer's instructions and shall not be operated within fifteen (15) feet (4.572 m) of a structure or combustible material.

Footnote: Numbers are spelled out for consistency with City Code.

307.4.3 Exception, is deleted.

Original Language: IFC 503.3

503.3 Marking. Where required by the fire code official, approved signs or other approved notices or markings that include the words NO PARKING—FIRE LANE shall be provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof. The means by which fire lanes are designated shall be maintained in a clean and legible condition at all times and be replaced or repaired when necessary to provide adequate visibility.

New Language:

503.3 Marking. Where required by the Fire Code Official, approved signs, striping or markings shall be red paint with white letters that include the words NO PARKING OR STANDING---FIRE LANE and provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof. The means by which fire lanes are designated shall be maintained in a clean and legible condition at all times and be replaced or repaired when necessary to provide adequate visibility.

Original Language: IFC 505.1

505.1 Address identification. New and existing buildings shall be provided with approved address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. Each character shall be not less than 4 inches (102 mm) high with a minimum stroke width of 1 /2 inch (12.7 mm). Where required by the fire code official, address identification shall be provided in additional approved locations to facilitate emergency response. Where access is by means of a private road and the building cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure. Address identification shall be maintained.

New Language:

505.1 Address identification. New and existing buildings shall be provided with *approved* address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. Each character shall be a minimum of 4 inches (102 mm) high with a minimum stroke width of ½ inch (12.7 mm). Where commercial buildings have tenants with multiple entrances located on different sides of the building, each door shall be addressed. Address characters shall be capable of being illuminated by an internal or external lighting source and maintained.

Original Language: IFC 507.5

507.5 Fire hydrant systems. Fire hydrant systems shall comply with Sections 507.5.1 through 507.5.6.

> **507.5.1 Where required.** Where a portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than 400 feet (122 m) from a hydrant on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains shall be provided where required by the fire code official.

Exceptions:

1. For Group R-3 and Group U occupancies, the distance requirement shall be 600 feet (183 m).

2. For buildings equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the distance requirement shall be 600 feet (183 m).

507.5.1.1 Hydrant for standpipe systems. Buildings equipped with a standpipe system installed in accordance with Section 905 shall have a fire hydrant within 100 feet (30 480 mm) of the fire department connections. Exception: The distance shall be permitted to exceed 100 feet (30 480 mm) where approved by the fire code official.

507.5.2 Inspection, testing and maintenance. Fire hydrant systems shall be subject to periodic tests as required by the fire code official. Fire hydrant systems shall be maintained in an operative condition at all times and shall be repaired where defective. Additions, repairs, alterations and servicing shall comply with approved standards. Records of tests and required maintenance shall be maintained.

507.5.3 Private fire service mains and water tanks. Private fire service mains and water tanks shall be periodically inspected, tested and maintained in accordance with NFPA 25 at the following intervals:

1. Private fire hydrants of all types: Inspection annually and after each operation; flow test and maintenance annually.

2. Fire service main piping: Inspection of exposed, annually; flow test every 5 years.

3. Fire service main piping strainers: Inspection and maintenance after each use. Records of inspections, testing and maintenance shall be maintained.

507.5.4 Obstruction. Unobstructed access to fire hydrants shall be maintained at all times. The fire department shall not be deterred or hindered from gaining immediate access to fire protection equipment or fire hydrants.

507.5.5 Clear space around hydrants. A 3-foot (914 mm) clear space shall be maintained around the circumference of fire hydrants, except as otherwise required or approved.

507.5.6 Physical protection. Where fire hydrants are subject to impact by a motor vehicle, guard posts or other approved means shall comply with Section 312.

New Language:

507.5 Fire hydrants systems. Fire hydrants systems shall comply with Section 507.5.1 through 507.5.6.

507.5.1 Where required. Where a portion of the facility or building ~~hereafter~~ constructed or moved into or within the jurisdiction is more than three hundred (300) feet (91.44 m) from a hydrant on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains shall be provided where required by the Fire Code Official.

Exception: For Group R-2, R-3 and U occupancies, the distance requirement shall be five hundred (500) feet (152.4 m).

507.5.1 Exception 2, is deleted.

507.5.2 through 507.5.6; no change in text ....

Original Language: IFC 903.2.9.1

903.2.9.1 Repair garages. An automatic sprinkler system shall be provided throughout all buildings used as repair garages in accordance with Section 406.8 of the International Building Code, as shown:

1. Buildings having two or more stories above grade plane, including basements, with a fire area containing a repair garage exceeding 10,000 square feet (929 m2).

2. Buildings not more than one story above grade plane, with a fire area containing a repair garage exceeding 12,000 square feet (1115 m2).

3. Buildings with repair garages servicing vehicles parked in basements.

4. A Group S-1 fire area used for the repair of commercial motor vehicles where the fire area exceeds 5,000 square feet (464 m2).

New Language:

903.2.9.1 Repair garages. An *automatic sprinkler system* shall be provided throughout all buildings used as repair garages in accordance with Section 406, as shown:

1. Buildings having two (2) or more *stories above grade plane*, including basements, with a *fire area* containing a repair garage exceeding five thousand (5,000) square feet (464 m^2).
2. Buildings not more than one (1) *story above grade plane,* with a *fire area* containing a repair garage exceeding five thousand (5,000) square feet (464 m^2).
3. Buildings with repair garages servicing vehicles parked in basements.

4. Group S-1 *fire area* used for the repair of commercial motor vehicles where the *fire area* exceeds five thousand (5,000) square feet (464 m^2).

Original Language: IFC 903.4.2

903.4.2 Alarms. An approved audible device, located on the exterior of the building in an approved location, shall be connected to each automatic sprinkler system. Such sprinkler waterflow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Where a fire alarm system is installed, actuation of the automatic sprinkler system shall actuate the building fire alarm system.

New Language:

903.4.2 Alarms. One(1) all-weather horn/strobe shall be connected to every *automatic sprinkler system* on the exterior of the building above the fire department connection (FDC) or in an approved location. Such sprinkler water-flow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Where a fire alarm system is installed, actuation of the *automatic sprinkler system* shall actuate the building fire alarm system. Interior alarm notification appliances shall be installed as required with Section 903.4.2.1.

903.4.2.1 Notification device. Where an *automatic sprinkler system* is installed in a building, audible and visible notification appliances shall be installed throughout the building as follows:

1. Audible notification appliances shall be audible at fifteen (15) dBa above sound pressure level throughout the building.
2. Visible notification appliances shall be in all public and common use areas, restrooms and corridors in accordance with the spacing requirements of NFPA 72.
3. Visible notification appliances may be eliminated in regularly unoccupied portions of buildings where approved by the Fire Code Official.

Exception: The requirements of this Section do not apply to Group R-3 occupancies.

Original Language: IFC 912.2

912.2 Location. With respect to hydrants, driveways, buildings and landscaping, fire department connections shall be so located that fire apparatus and hose connected to supply the system will not obstruct access to the buildings for other fire apparatus. The

location of fire department connections shall be approved by the fire code official.

New Language:

912.2 Location. With respect to hydrants, driveways, buildings and landscaping, fire department connections shall be located that fire apparatus and hose connected to supply the system will not obstruct access to the buildings for other fire apparatus. The location of fire department connections (FDC) shall be approved by the Fire Code Official. Connections shall be a locking five (5) inch Storz with a thirty (30) degree elbow type fitting and located within one hundred (100) feet of a fire hydrant, or as approved by the Fire Code Official.

Original Language: IFC 1004.

[BE] 1004.9 Posting of occupant load. Every room or space that is an assembly occupancy shall have the occupant load of the room or space posted in a conspicuous place near the main exit or exit access doorway from the room or space, for the intended configurations. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or the owner's authorized agent.

New Language:

1004.9 Posting of occupant load. Every room or space that is an assembly occupancy shall have the occupant load of the room or space posted in a conspicuous place near the main exit or exit access doorway from the room or space for the intended configurations. At the main entrance to the building, the occupant load for the entire assembly use group shall be posted in a conspicuous place. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or the owner's authorized agent.

Original Language: IFC 1013.2

[BE] 1013.2 Floor-level exit signs in Group R-1. Where exit signs are required in Group R-1 occupancies by Section 1013.1, additional low-level exit signs shall be provided in all areas serving guest rooms in Group R-1 occupancies and shall comply with Section 1013.5.

The bottom of the sign shall be not less than 10 inches (254 mm) nor more than 18 inches (455 mm) above the floor level. The sign shall be flush mounted to the door or wall. Where mounted on the wall, the edge of the sign shall be within 4 inches (102 mm) of the door frame on the latch side.

New Language:

1013.2 Low-level exit signs in Group A and R-1. Where exit signs are required in Group A with an occupant load of one hundred fifty (150) or more or Group R-1 occupancies by Section 1013.1, additional low-level exit signs shall be provided in all areas serving the exits in Group A or guestrooms in Group R-1 occupancies and shall

comply with Section 1013.5.

The bottom of the sign shall be not less than ten (10) inches (254 mm) nor more than eighteen (18) inches (455 mm) above the floor level. The sign shall be flush mounted to the door or wall. Where mounted on the wall, the edge of the sign shall be within four (4) inches (102 mm) of the door frame on the latch side.

Original Language: IFC 1013.6.3

[BE] 1013.6.3 Power source. Exit signs shall be illuminated at all times. To ensure continued illumination for a duration of not less than 90 minutes in case of primary power loss, the sign illumination means shall be connected to an emergency power system provided from storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 604. Group I-2, Condition 2 exit sign illumination shall not be provided by unit equipment batteries only.

> Exception: Approved exit sign illumination types that provide continuous illumination independent of external power sources for a duration of not less than 90 minutes, in case of primary power loss, are not required to be connected to an emergency electrical system.

New Language:

1013.6.3 Power source. Exit signs shall be illuminated at all times. To ensure continued illumination for a duration of not less than ninety (90) minutes in case of primary power loss, the sign illumination means shall be connected to an emergency power system provided from storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 604. Group I-2 Condition 2 exit sign illumination shall not be provided by unit equipment batteries only.

> Exception: For all occupancies other than Group I-1 and I-2, with an occupant load of 49 or less, an approved *self-luminous* or *photoluminescent* exit sign illumination type, in accordance with UL 924, that provide continuous illumination independent of external power sources for a duration of ninety (90) minutes, in case of primary power loss, are not required to be connected to an emergency electrical system.

Original Language: Appendices Amendments for adoption - NONE

New Language:

Appendices: The following appendix Chapters are hereby adopted:

Appendix B: Fire-Flow Requirements for Buildings

Exception B105.1: One-and two- family dwellings, Group R3 and R4 and buildings and townhouses. Where a fire sprinkler is installed, the minimum fire-flow and flow duration requirements for one- and two- family dwellings, Group R-3 and R-4 buildings and townhouses shall be as specified in Tables B105.2 and B105.1(2).

Appendix C: Fire Hydrant Locations and Distribution

Appendix D: Fire Apparatus Access Roads

Article XII: International Fuel Gas Code 2018

Black -- Original Language
Blue -- New Action
Yellow Highlight -- New Amended Language

Original Language: NONE

New Adoption of Code Language:

ARTICLE XII. - INTERNATIONAL FUEL GAS CODE

SECTION 500.245: - ADOPTION OF INTERNATIONAL FUEL GAS CODE (2018)

A. The *International Fuel Gas Code (2018),* promulgated by the International Code Council (ICC), is adopted and incorporated in this Article by reference as if fully set forth, except as it is amended by the following provisions of this Section. Provisions of this Article are to regulate all commercial projects.

All references within the model Codes to any building, electrical, gas, mechanical, plumbing, sewage disposal, elevator, energy conservation, or existing building Code shall be construed to be a reference to the respective building, electrical, gas, mechanical, plumbing, sewage disposal, elevator, energy conservation, or existing building Code specifically adopted by reference in Articles II through XII of this Chapter.

B. The following Sections of the *International Plumbing Code* are revised or added:

Chapter 1, Administration, is deleted. See Article I of this Chapter.

Original Language: IFGC 405.1

401.5 **Identification**. For other than steel pipe, exposed piping shall be identified by a yellow label marked “Gas” in black letters. The marking shall be spaced at intervals not exceeding 5 feet (1524 mm). The marking shall not be required on pipe located in the same room as the appliance served.

New Language:

401.5 Identification. All gas piping shall be identified by a yellow background marked “Gas” in black letters. Identification shall in the form of a tag, stencil, or other permanent marking. Identification shall be clear and legible from the floor of the room or space where gas piping is located. Identification spacing of black steel pipe shall be at intervals of not more than fifteen (15) feet in concealed locations, twenty-five (25) feet in exposed locations, and not less than once in any room or space.

Identification marking for all other piping shall be at intervals not exceeding five (5) feet and not less than once in any room or space.

Original Language: IFGC 403.4 & 403.4

403.4.3 Copper and copper alloy. Copper and copper alloy pipe shall not be used if the gas contains more than an average of 0.3 grains of hydrogen sulfide per 100 standard cubic feet of gas (0.7 milligrams per 100 liters). Threaded copper, copper alloy and aluminum-alloy pipe shall not be used with gases corrosive to such materials.

403.4.4 Aluminum. Aluminum-alloy pipe shall comply with ASTM B241 except that the use of alloy 5456 is prohibited. Aluminum-alloy pipe shall be marked at each end of each length indicating compliance. Aluminum-alloy pipe shall be coated to protect against external corrosion where it is in contact with masonry, plaster or insulation, or is subject to repeated wettings by such liquids as water, detergents or sewage. Aluminum-alloy pipe shall not be used in exterior locations or underground.

New Language:

403.4.3 Copper and copper alloy. Copper and brass tubing shall not be installed for the distribution of fuel gas.

403.4.4 Aluminum. Aluminum or aluminum alloy tubing shall not be installed for the distribution of fuel gas.

Original Language: IFGC 403.5.1

403.5.1 **Steel tubing**. Steel tubing shall comply with ASTM A254.

New Language:

403.5.1 Steel tubing. Steel tubing shall not be installed for the distribution of compressed natural gas (CNG) or shall it distribute any other fuel gas within a building or structure.

Original Language: IFGC 403.5.3 & 405.5.4

403.5.3 **Copper and copper alloy tubing**. Copper tubing shall comply with Standard Type K or L of ASTM B88 or ASTM B280.

Copper and copper alloy tubing shall not be used if the gas contains more than an average of 0.3 grains of hydrogen sulfide per 100 standard cubic feet of gas (0.7 milligrams per 100 liters).

403.5.4 **Aluminum tubing**. Aluminum-alloy tubing shall comply with ASTM B210 or ASTM B241. Aluminum alloy tubing shall be coated to protect against external corrosion where it is in contact with masonry, plaster or insulation, or is subject to repeated wettings by such

liquids as water, detergent or sewage.

Aluminum-alloy tubing shall not be used in exterior locations or underground.

New Language:

403.5.3 Copper and copper alloy tubing. Copper and brass tubing shall not be installed for the distribution of compressed natural gas (CNG) or shall it distribute any other fuel gas within a building or structure.

403.5.4 Aluminum tubing. Aluminum tubing shall not be installed for the distribution of compressed natural gas (CNG) or shall it distribute any other fuel gas within a building or structure.

Original Language: IFGC 406.4.1

406.4.1 **Test pressure**. The test pressure to be used shall be not less than 11 /2 times the proposed maximum working pressure, but not less than 3 psig (20 kPa gauge), irrespective of design pressure. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the piping greater than 50 percent of the specified minimum yield strength of the pipe.

406.4.2 **Test duration**. Test duration shall be not less than 1 /2 hour for each 500 cubic feet (14 m3) of pipe volume or fraction thereof. When testing a system having a volume less than 10 cubic feet (0.28 m3) or a system in a single family dwelling, the test duration shall be not less than 10 minutes. The duration of the test shall not be required to exceed 24 hours

New Language:

406.4.1 Test pressure. The test on all gas piping designed for two(2) PSIG and less, shall not less than one and one-half times the proposed maximum working pressure, but not less than ten (10) PSIG (68.9kPa) irrespective of design pressure, with a twenty (20) minute duration. The test on all gas piping designed for greater than 2 PSIG (68.9kPa) shall be a minimum of twenty (20) PSIG with a one hundred twenty (120) minute duration. The measurement range of the test gauge shall be not less than sixty (60) PSIG and shall be readily visible for reading on the inside of the building.

406.4.2 Test duration, is deleted.

Appendices proposed for adoption:

Appendices: The following appendix Chapters are hereby adopted:

Appendix A: Sizing and Capacities of Gas Piping

Appendix B: Sizing of Venting Systems Serving Appliances Equipped with Draft Hoods, Category 1 Appliances and Appliances Listed for Use with Type B Vents

Appendix C: Exit Terminals of Mechanical Draft and Direct-vent Venting Systems

IN THE Q

Dec. 2, 2019

Bids in Progress

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Vacancies

-

Upcoming Meetings

- 12-4-2019 - City Clerk Jeanie Woerner - Missouri Municipal League Board of Directors meeting
- 12-10-2019 - HR Manager Shawn Aulgur - Benefits Advisory Committee
- 1-15-2020 - City Clerk Jeanie Woerner and Deputy City Clerk Erica Hill - Western Division of Missouri City Clerks and Finance Officers meeting
- 1-23-2020 - Missouri Municipal League West Gate meeting - Mayor and Councilmembers
- 2-19-2020 - Jt. Cities Meeting - Mayor and Councilmembers

Training Updates

- 12-4-2019- Assistant Director Steve Welch, Crew Leaders Mike Donahoe and Justin Paith- APWA Public Works Institute Graduation
- 12-6-2019 - Court Clerk Deborah Calhoon - Municipal Division Clerk Regional Training
- 12-06-2019 - Finance Director Elisa Williams - KU Public Manager Graduation
- 12-09-12-2019 - Capt. Jim Wilson & Chief Jan Zimmerman - Missouri Police Chiefs Conference
- 12-09-13-2019 - Communications Officer Anyssa Washington - Basic Telecommunicator Training

- 3-8-12-2020 - City Clerk Jeanie Woerner and Deputy City Clerk Erica Hill - Missouri City Clerks and Finance Officers Master Academy and Spring Institute

Upcoming Community Events

- Holiday Movie Night: "The Star" December 13, RAC - 6:30-9:30 p.m.

Major Public Works Projects

- Owen Good Forecemain replacement
- Dean Avenue Meter Station
- Kentucky Road Relocation
- Harold Estates Sanitary Sewer Extension

Major Parks & Recreation Projects

- TB Hanna Station Improvements
- Memorial Park Arboretum Playground Replacement

Other