TOWN OF CROSS ROADS
ORDINANCE NO. 2023-10

AN ORDINANCE OF THE TOWN OF CROSS ROADS, TEXAS, AMENDING SUBPART (1) OF SUBSECTION (b) OF ARTICLE 3.02 ("BUILDING CODES ADOPTED") OF CHAPTER 3 ("BUILDING REGULATIONS") OF THE CODE OF ORDINANCES OF THE TOWN OF CROSS ROADS, TEXAS, ADOPTING THE PROVISIONS OF THE INTERNATIONAL BUILDING CODE, 2018 EDITION, THE INTERNATIONAL RESIDENTIAL CODE, 2018 EDITION, THE INTERNATIONAL ENERGY CONSERVATION CODE, 2015 EDITION, THE INTERNATIONAL MECHANICAL CODE, 2018 EDITION, THE INTERNATIONAL PLUMBING CODE, 2018 EDITION, THE INTERNATIONAL FIRE CODE, 2018 EDITION, THE INTERNATIONAL FUEL GAS CODE, 2018 EDITION, AND THE NATIONAL ELECTRICAL CODE, 2017 EDITION; PROVIDING FOR AMENDMENTS TO EACH OF THE CODES ADOPTED HEREBY; PROVIDING A REPEALING CLAUSE; PROVIDING A SAVINGS CLAUSE; PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR A PENALTY OF FINE NOT TO EXCEED THE SUM OF TWO THOUSAND ($2,000.00) DOLLARS FOR EACH OFFENSE; AND, PROVIDING AN EFFECTIVE DATE.

BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF CROSS ROADS, TEXAS:

SECTION 1. That subpart (1) of Article 3.02(b) of Chapter 3 ("Building Regulations") of the Code of Ordinances of the Town of Cross Roads, Texas, be and is hereby amended, without amendment, repeal or change to any other part, subpart or provision of Article 3.02, such that subsection (b) (1) of Article 3.02 shall read in its entirety as follows:

"CHAPTER 3

BUILDING REGULATIONS

ARTICLE 3.02 BUILDING CODES ADOPTED

(b) (1) Certain documents, copies of which are on file and are open for inspection

by the public in the office of the town secretary and building official, being marked and designated as follows:

(A) International Building Code, 2018 edition;
(B) International Residential Code, 2018 edition;
(C) International Energy Conservation Code, 2015 edition;
(D) International Plumbing Code, 2018 edition;
(E) International Mechanical Code, 2018 edition;
(F) International Fuel Gas Code, 2018 edition;
(G) International Fire Code, 2018 edition;
(H) National Electrical Code 2017 edition;
(I) International Residential Code 2018 edition, appendix G for swimming pools, spas and hot tubs;
(J) Uniform Code for the Abatement of Dangerous Buildings, 1997 edition;

are adopted as the codes of the town for regulating the erection, construction, enlargement, alteration, repair, moving, removal, demolition, conversion, occupancy, maintenance, equipment, use, height, area and maintenance of all buildings or structures in the town; providing for issuance of permits and collection of fees for such permits; and all the regulations, provisions, conditions and terms of such publications referenced in this subsection, all of which are on file in the office of the town secretary and building official, are referred to, adopted and made a part of this article as if fully set out in this article. All references in such codes to boards of appeal shall refer to the board of adjustment of the town. Certain amendments to each of the codes referred to herein are adopted as a part of said codes and shall be maintained, together with each code to which the amendments apply, in the office of the town secretary and building official.

. . ."

SECTION 2. That the codes adopted herein are adopted with certain amendments, true and correct copies of which are identified as Exhibit "A" attached hereto and incorporated herein, and which amendments are incorporated as a part of each of the codes adopted by this ordinance. The amendments adopted herein shall be maintained on file in the offices of the town secretary and building official and shall be attached to each of the codes adopted by this ordinance.

SECTION 3. That all ordinances of the Town of Cross Roads, Texas, in conflict with the provisions of this ordinance be and the same are hereby repealed and all other ordinances of the

Town not in conflict with the provisions of the ordinance shall remain in full force and effect.

SECTION 4. That an offense committed before the effective date of this ordinance is governed by the prior law and the provisions of the Code of Ordinances and ordinances of the Town, as amended, in effect when the offense was committed and the former law is continued in effect for this purpose.

SECTION 5. That should any section, paragraph, sentence, subdivision, clause, phrase or provision of this ordinance be adjudged or held to be unconstitutional, illegal, or invalid, the same shall not affect the validity of this ordinance as a whole or any part or provision hereof other than the part so decided to be unconstitutional, illegal, or invalid and shall not affect the validity of the remainder of this ordinance or any other provision of the Code of Ordinances of the Town of Cross Roads.

SECTION 6. That any person, firm or corporation violating any of the provisions or terms of this ordinance or the codes adopted hereby, as same may be amended, shall be deemed guilty of a misdemeanor and subject to a penalty as provided for in this ordinance, and upon conviction shall be punished by fine not to exceed the sum of Two Thousand Dollars ($2,000.00) for each offense, and each and every day such violation shall continue shall constitute a separate offense.

SECTION 7. That this ordinance shall take effect immediately from and after its passage and the publication of the caption as the law in such cases provides.

DULY ADOPTED by the Town Council of Cross Roads, Texas on the **21st** day of **August, 2023**.

APPROVED:

MAYOR

ATTEST:

TOWN SECRETARY

APPROVED AS TO FORM:

ATTORNEY TOWN OF CROSS ROADS

EXHIBIT "A"

AMENDMENTS TO INTERNATIONAL CODE

Amendments to the 2018 International Building Code

The following sections, paragraphs, and sentences of the *2018 International Building Code* are hereby amended as follows: Standard type is text from the IBC. Underlined type is text inserted. ~~Lined through type is deleted text from IBC.~~ A double asterisk (**) at the beginning of a section identifies an amendment carried over from the 2015 edition of the code and a triple asterisk (***) identifies a new or revised amendment with the 2018 code.

Explanation of Options A and B:
Please note that as there is a wide range in fire fighting philosophies / capabilities of cities across the region, OPTION "A" and OPTION "B" are provided in the Fire and Building Code amendments. Jurisdictions should choose one or the other based on their fire fighting philosophies / capabilities when adopting code amendments.

***Section 101.4; change to read as follows:**

101.4 Referenced codes. The other codes listed in Sections 101.4.1 through 101.4.8 and referenced elsewhere in this code, when specifically adopted, shall be considered part of the requirements of this code to the prescribed extent of each such reference. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the amendments as well. Any reference to NFPA 70 or the Electrical Code shall mean the Electrical Code as adopted.

(Reason: Legal wording to recognize locally adopted codes and amendments adopted with referenced codes. The former ICC Electrical Code is now Appendix K of this code but no longer called by that name.)

***Section 101.4.8; add the following:**

101.4.8 Electrical. The provisions of the Electrical Code shall apply to the installation of electrical systems, including alterations, repairs, replacement, equipment, appliances, fixtures, fittings and appurtenances thereto.

(Reason: This was dropped when ICC quit publishing the ICC Electrical Code, but the Electrical Code still

should be referenced regardless of how it is adopted.)

***** Section 103 and 103.1; amend to insert the Department Name***

~~DEPARTMENT OF BUILDING SAFETY []~~

103.1 Creation of enforcement agency. The ~~Department of Building Safety~~ Building Inspections Division of the Town of Cross Roads is hereby created and the official in charge thereof shall be known as the *building official*.

****Section [A] 104.2.1 Determination of substantially improved or substantially damaged existing buildings and structures in flood hazard areas.** *(Jurisdictions may consider the option **to amend or delete** depending on local enforcement and flood hazard ordinances.)*

(Reason: Flood hazard ordinances may be administered by other departments within the city.)

***Section 104.10.1; Flood hazard areas.** *(Jurisdictions may consider the option **to amend or delete** depending on local enforcement and flood hazard ordinances.)*

(Reason: Flood hazard ordinances may be administered by other departments within the city.)

****Section 105.2 Work exempt from permit; under sub-title entitled "Building" delete items 1, 2, 10 and 11 and re-number as follows:***

Building:

1. ~~One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 120 square feet.~~
2. ~~Fences not over 7 feet (1829 mm) high.~~
3. ~~3.~~ 1. (Remainder Unchanged)
4. ~~4.~~ 2. (Remainder Unchanged)
5. ~~5.~~ 3. (Remainder Unchanged)
6. ~~6.~~ 4. (Remainder Unchanged)
7. ~~7.~~ 5. (Remainder Unchanged)
8. ~~8.~~ 6. (Remainder Unchanged)
9. ~~9.~~ 7. (Remainder Unchanged)
10. ~~Shade cloth structures constructed for nursery or agricultural purposes, not including service systems.~~
11. ~~11.~~8. (Remainder Unchanged)
12. ~~12.~~9. (Remainder Unchanged)
13. ~~13.~~10. (Remainder Unchanged)

(Reason: Item~~s~~ deleted are for one- and two-family dwellings regulated by the International Residential Code. Accessory structures, fences and shade cloth structures

would require a permit for commercial properties to ensure compliance with local ordinance, egress, accessibility, flame spread of fabric, wind/snow design load, etc.)

***Section 109; add Section 109.7 to read as follows:**

109.7 Re-inspection Fee. A fee as established by city council resolution may be charged when:

1. The inspection called for is not ready when the inspector arrives;

2. No building address or permit card is clearly posted;

3. City approved plans are not on the job site available to the inspector;

4. The building is locked or work otherwise not available for inspection when called;

5. The job site is red-tagged twice for the same item;

6. The original red tag has been removed from the job site.

7. Failure to maintain erosion control, trash control or tree protection.

Any re-inspection fees assessed shall be paid before any Final/Group II inspections are scheduled on that job site.

(Reason: This fee is not a fine or penalty but is designed to compensate for time and trips when inspections are called for when not ready.)

***Section 109; add Section 109.8, 109.8.1, 109.8.2 and 109.9 to read as follows:**

109.8 Work without a permit.

109.8.1 Investigation. Whenever work for which a permit is required by this code has been commenced without first obtaining a permit, a special investigation shall be made before a permit may be issued for such work.

109.8.2 Fee. An investigation fee, in addition to the permit fee, shall be collected whether or not a permit is subsequently issued. The investigation fee shall be equal to the amount of the permit fee required by this code or the city fee schedule as applicable. The payment of such investigation fee shall not exempt the applicant from compliance with all other provisions of either this code or the technical codes nor from penalty prescribed by law.

109.9 Unauthorized cover up fee. Any work concealed without first obtaining the required inspection in violation of Section 110 shall be assessed a red tag fee as established by the city fee schedule.

(Reason: This fee is not a fine or penalty but is designed to compensate for time and to remove incentive to attempt to evade permits and code compliance. Text taken from former Uniform Administrative Code.)

****Section 110.3.5; Lath, gypsum board and gypsum panel product inspection; Delete exception**

~~***Exception :** Gypsum board and gypsum panel products that are not part of a fire resistance rated assembly or a shear assembly.~~

(Reason: Lath or gypsum board inspections are not typically performed in this area.)

*****Section 202; amend definition of Ambulatory Care Facility as follows:**

AMBULATORY CARE FACILITY. Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than 24-hour basis to

individuals who are rendered incapable of self-preservation by the services provided ~~or staff has accepted responsibility for care recipients already incapable~~. This group may include but not be limited to the following:

- Dialysis centers
- Sedation dentistry
- Surgery centers
- Colonic centers
- Psychiatric centers

*(Reason: To clarify the range of uses included in the definition. [Explanatory note related to **Ambulatory Care Facilities**: This group of uses includes medical or dental offices where persons are put under for dental surgery or other services. Section 903.2.2 will now require such uses to be sprinklered if on other than the floor of exit discharge or if four or more persons are put under on the level of exit discharge. Recommend (1.) jurisdictions document any pre-existing non-conforming conditions prior to issuing a new C of O for a change of tenant and, (2.) On any medical or dental office specify on C of O the maximum number of persons permitted to be put under general anesthesia. It is recommended that before a Certificate of Occupancy is issued, a letter of intended use from the business owner shall be included and a C of O documenting the maximum number of care recipients incapable of self preservation allowed.)*

***Section 202; add definition of Assisting Living Facilities to read as follows.**

ASSISTED LIVING FACILITIES. *A building or part thereof housing persons, on a 24-hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment which provides personal care services. The occupants are capable of responding to an emergency situation without physical assistance from staff.*

(Reason: The code references Assisted Living facilities and definition was deleted.)

***Section 202; change definition of "Atrium" as follows:**

ATRIUM. An opening connecting ~~two~~ three or more stories… *{Balance remains unchanged}*

(Reason: Accepted practice in the region based on legacy codes. Section 1019 permits unenclosed two story stairways under certain circumstances.)

****Section 202; ~~add~~ amend definition of "Repair Garage" as follows:**

REPAIR GARAGE. A building, structure or portion thereof used for servicing or repairing motor vehicles. This occupancy shall also include garages involved in minor repair, modification and servicing of motor vehicles for items such as lube changes, inspections, windshield repair or replacement, shocks, minor part replacement and other such minor repairs.

(Reason: The code references aligns with fire code.)

***Section 202; amend definition of SPECIAL INSPECTOR to read as follows:**

SPECIAL INSPECTOR. A qualified person employed or retained by an approved agency who shall prove to the satisfaction of the registered design professional in

responsible charge and ~~approved by~~ the Building Official as having the competence necessary to inspect a particular type of construction requiring special inspection.

(Reason: The registered design professional in responsible charge should be included.)

***Section 202; amend definition to read as follows:**

HIGH-RISE BUILDING. A building with an occupied floor located more than ~~75~~ 55 feet ~~(22 860 mm)~~ (16 764 mm) above the lowest level of fire department vehicle access.

(Reason: To define high-rise, as it influences sprinkler requirement thresholds based on the fire fighting capabilities of a jurisdiction.)

****Section 303.1.3; add a sentence to read as follows:**

303.1.3 Associated with Group E occupancies. A room or space used for assembly purposes that is associated with a Group E occupancy is not considered a separate occupancy~~.~~ ~~E~~Except when applying the assembly requirements of Chapters 10 and 11.

(Reason: To clarify that egress and accessibility requirements are applicable for assembly areas, i.e. cafeteria, auditoriums, etc.)

***Section 304.1; add the following to the list of occupancies:**

Fire stations
Police stations with detention facilities for 5 or less

(Reason: Consistent with regional practice dating back to the legacy codes.)

***Section 307.1.1; add the following sentence to Exception 4:**

4. Cleaning establishments… *{Text unchanged}* …with Section 707 or 1-hour horizontal assemblies constructed in accordance with Section 711 or both. See also IFC Chapter 21, Dry Cleaning Plant provisions.

(Reason: To call attention to detailed requirements in the Fire Code.)

***Section 403.1, Exception 3; change to read as follows:**

3. The open air portion of a building *[remainder unchanged]*

(Reason: To clarify enclosed portions are not exempt.)

***Section 403.3, Exception; delete item 2.**

(Reason: To provide adequate fire protection to enclosed areas.)

***Section 403.3.2; change to read as follows:**

[F] 403.3.2 Water supply to required fire pumps. In buildings that are more than ~~420~~ 120 feet (36.5 m) in building height, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: {No change to exception.}

(Reason: The 2009 edition of the IFC added this requirement based on a need for redundancy of the water supply similar to the redundancy of the power supply to the fire pumps required for such tall buildings, partially due to the fact that these buildings are rarely fully evacuated in a fire event. More commonly, the alarm activates on the floor of the event, the floor above and the floor below. Back-up power to the fire pump becomes critical for this reason. Certainly, the power is pointless if the water supply is impaired for any reason, so a similar requirement is provided here for redundant water supplies. The 2015 edition changed the requirement to only apply to very tall buildings over 420 ft. This amendment modifies/lowers the requirement to 120 ft., based on this same height requirement for fire service access elevators. Again, the language from the 2009 and 2012 editions of the code applied to any high-rise building. This compromise at 120 ft. is based on the above technical justification of defend-in-place scenarios in fire incidents in such tall structures.)

***Section 404.5; delete Exception.**

(Reason: Consistent with amended atrium definition.)

***Section 406.3.3.1 Carport separation; add sentence to read as follows:**

A fire separation is not required between a Group R-2 and U carport provided that the carport is entirely open on all sides and that the distance between the two is at least 10 feet (3048 mm).

(Reason: Simplifies the fire separation distance and eliminates the need to obtain opening information on existing buildings when adding carports in existing apartment complexes. Consistent with legacy codes in effect in region for years and no record of problems with car fires spreading to apartments as a result.)

Section 423 is hereby amended to read as follows:

423.1 General. This section applies to the construction of storm shelters constructed as separate detached buildings or constructed as rooms or spaces within buildings for the purpose of providing protection from storms that produce high winds, such as tornadoes during the storm. Such structures shall be designed to be tornado shelters. Design of facilities for use as emergency shelters after the storm are outside the scope of ICC 500 and shall comply with Table 1604.5 as a Risk Category IV Structure. 423.2

Construction. In addition to other applicable requirements in this code, storm shelters

shall be constructed in accordance with ICC 500 for tornado shelters. The Town of Cross Roads is in the 250 mph wind speed area of Figure 304.2(1) of ICC 500. Buildings or structures that are also designated as emergency shelters shall also comply with Table 1604.5 as Risk Category IV structures.

Exceptions:
1. Sanitation facilities per ICC 500 shall not be required.
2. Doors and shutters shall not be required to auto latch if all of the following are met:
a. The opening is not required to be auto latched by other requirements within this code.
b. The opening has adjacent signage complying with Section 703.5 Visual Characters of the 2012 Texas Accessibility Standards with text stating " In case of tornado, close this door" or similar text.
c. Doors shall comply with Section 503.3 of ICC 500

423.4 Group E occupancies. In areas where the shelter design wind speed for tornados, in accordance with Figure 304.2(1) of ICC 500 is 250 MPH, all new buildings and gymnasium or cafeteria additions to existing buildigns for Group E occupancies with an aggregate occupant load ... { remainder unchanged)

***Table 506.2; delete sentence from table**

~~l. The maximum allowable area for a single-story non sprinklered Group U greenhouse is permitted to be 9000 square feet or the allowable area shall be permitted to comply with Table C102.1 of Appendix C.~~

(Reason: To eliminate the need for Appendix C adoption and remain consistent with 6000 sq. ft. sprinklering provision.)

***Section 506.3.1; add sentence to read as follows:**

506.3.1 Minimum percentage of perimeter. [Existing Text remains]

In order to be considered as accessible, if not in direct contact with a street or fire lane, a minimum 10-foot wide pathway meeting fire department access from the street or approved fire lane shall be provided.

(Reason: To define what is considered accessible. Consistent with regional amendment to IFC 504.1.)

****Section 602.1.1; add sentence to read as follows:**

602.1.1 Minimum Requirements. [Existing Text to remain]

Where a building contains more than one distinct type of construction, the building shall

comply with the most restrictive area, height, and stories, for the lesser type of construction or be separated by fire walls.

(Reason: To create definite language that requires separation between dissimilar building types.)

******Section 708.4.2; change sentence to read as follows:***

708.4.2 Fireblocks and draftstops in combustible construction. *[Body of text unchanged]*

Exceptions:

1. Buildings equipped with an automatic sprinkler system installed throughout in accordance with Section 903.3.1.1, or in accordance with Section 903.3.1.2 provided that sprinkler protection is provided in the space between the top of the fire partition and the underside of the floor or roof sheathing, deck or slab above as required for systems complying with Section 903.3.1.1. Portions of buildings containing concealed spaces filled with noncombustible insulation as permitted for sprinkler omission shall not apply to this exception for draftstopping. *[Remainder unchanged]*

Reason: (The most common exception used to eliminate the need for sprinklers in concealed spaces of combustible construction is to fill the space with noncombustible insulation. This exception was changed in 2010 to permit a 2-inch air gap at the top of the filled space. A space compliant with the permitted omission above would allow hot gas and smoke to spread unimpeded throughout a building not provided with draftstopping. For this reason, omission of sprinklers permitted in accordance with NFPA 13 referenced standard should not be permitted with IBC exception requiring draftstopping in combustible construction.)

******Section 718.3; change sentence to read as follows:***

718.3 Draftstopping in floors. *[Body of text unchanged]*

Exceptions: Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. and provided that in combustible construction, sprinkler protection is provided in the floor space.

(Reason: To remain consistent with changes in 708.4.2 code.)

******Section 718.4; change sentence to read as follows:***

718.4 Draftstopping in attics. *[Body of text unchanged]*

Exceptions: Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and provided that in combustible construction, sprinkler protection is provided in the attic space.

(Reason: To remain consistent with changes in 708.4.2 code.)

***Section 901.6.1; add Section 901.6.1.1 to read as follows:**

901.6.1.1 Standpipe Testing. Building owners/managers must maintain and test standpipe systems as per NFPA 25 requirements. The following additional requirements shall be applied to the testing that is required every 5 years:

1. The piping between the Fire Department Connection (FDC) and the standpipe shall be backflushed or inspected by approved camera when foreign material is present or when caps are missing, and also hydrostatically tested for all FDC's on any type of standpipe system. Hydrostatic testing shall also be conducted in accordance with NFPA 25 requirements for the different types of standpipe systems.

2. For any manual (dry or wet) standpipe system not having an automatic water supply capable of flowing water through the standpipe, the tester shall connect hose from a fire hydrant or portable pumping system (as approved by the *fire code official*) to each FDC, and flow water through the standpipe system to the roof outlet to verify that each inlet connection functions properly. Confirm that there are no open hose valves prior to introducing water into a dry standpipe. There is no required pressure criteria at the outlet. Verify that check valves function properly and that there are no closed control valves on the system.

3. Any pressure relief, reducing, or control valves shall be tested in accordance with the requirements of NFPA 25. All hose valves shall be exercised.

4. If the FDC is not already provided with approved caps, the contractor shall install such caps for all FDC's as required by the *fire code official*.

5. Upon successful completion of standpipe test, place a blue tag (as per Texas Administrative Code, Fire Sprinkler Rules for Inspection, Test and Maintenance Service (ITM) Tag) at the bottom of each standpipe riser in the building. The tag shall be check-marked as "Fifth Year" for Type of ITM, and the note on the back of the tag shall read "5 Year Standpipe Test" at a minimum.

6. The procedures required by Texas Administrative Code Fire Sprinkler Rules with regard to Yellow Tags and Red Tags or any deficiencies noted during the testing, including the required notification of the local Authority Having Jurisdiction (*fire code official*) shall be followed.

7. Additionally, records of the testing shall be maintained by the owner and contractor, if applicable, as required by the State Rules mentioned above and NFPA 25.

8. Standpipe system tests where water will be flowed external to the building shall not be conducted during freezing conditions or during the day prior to expected night time freezing conditions.

9. Contact the *fire code official* for requests to remove existing fire hose from Class II and III standpipe systems where employees are not trained in the utilization of this firefighting equipment. All standpipe hose valves must remain in place and be provided with an approved cap and chain when approval is given to remove hose by the *fire code official*.

(Reason: Increases the reliability of the fire protection system and re-emphasizes the requirements of NFPA 25 relative to standpipe systems, as well as ensuring that FDC connections are similarly tested/maintained to ensure operation in an emergency incident.)

*****Section 903.1.1; change to read as follows:***

903.1.1 Alternative Protection. Alternative automatic fire-extinguishing systems complying with Section 904 shall be permitted ~~instead of~~ in addition to automatic sprinkler protection where recognized by the applicable standard ~~and~~, or as *approved* by the *fire code official*.

(Reason: Such alternative systems do not provide the reliability of automatic sprinkler protection. Most gaseous type systems are highly susceptible to open doors, ceiling or floor tile removal, etc. However, an applicant could pursue an Alternate Method request to help mitigate the reliability issues with these alternative systems with the fire code official if so desired, or there may be circumstances in which the fire code official is acceptable to allowing an alternate system in lieu of sprinklers, such as kitchen hoods or paint booths.)

Section 903.1.1.3 Add Exempt Location

903.1.1.3 Automatic sprinkler protection shall not be required under attached or detached metal awnings, metal walkway covers or similar type structures if the entire cover and supporting structure is constructed of metal.

(Pending Fire approval to add to Fire Code)

*****Section 903.2; add paragraph to read as follows and delete the exception:***

Automatic Sprinklers shall not be installed in elevator machine rooms, elevator machine spaces, and elevator hoistways, other than pits where such sprinklers would not necessitate shunt trip requirements under any circumstances. Storage shall not be allowed within the elevator machine room. Signage shall be provided at the entry doors to the elevator machine room indicating "ELEVATOR MACHINERY – NO STORAGE ALLOWED."

(Reason: Firefighter and public safety. This amendment eliminates the shunt trip requirement of the International Building Code Section 3005.5 for the purpose of elevator passenger and firefighter safety. This amendment is contingent on the Building Code amendment eliminating the Exceptions to Section 3005.4, such that passive fire barriers for these areas are maintained. The exception deletion is due to the fact that such telecom areas pose an undue fire risk to the structural integrity of the building.)

***Section 903.2.9; add Section 903.2.9.3 to read as follows:**

903.2.9.3 Self-Service Storage Facility. An automatic sprinkler system shall be installed throughout all self-service storage facilities.
(Reason: Fire departments are unable to inspect these commercial occupancies and are unaware of the contents being stored. Previous allowance to separate units by fire barriers is difficult to enforce maintenance after opening.)

~~**Option A**~~
~~***Section 903.2.11; change 903.2.11.3 and add 903.2.11.7 and 903.2.11.8, as follows:***~~

~~**903.2.11.3 Buildings 55 Foot or more in Height.** An automatic sprinkler system shall be installed throughout buildings that have one or more stories with an occupant load of 30 or more, other than penthouses in compliance with Section 1510 of the *International Building Code*, located 55 feet (16 764 mm) or more above the lowest level of fire department vehicle access, measured to the finished floor.~~

~~**Exceptions:**~~

~~1. Open parking structures in compliance with Section 406.5 of the *International Building Code, having no other occupancies above the subject garage.*~~

~~2. Occupancies in Group F-2.~~

~~**903.2.11.7 High-Piled Combustible Storage.** For any building with a clear height exceeding 12 feet (4572 mm), see Chapter 32 to determine if those provisions apply.~~

~~**903.2.11.8 Spray Booths and Rooms.** New and existing spray booths and spraying rooms shall be protected by an approved automatic fire-extinguishing system.~~

Option B

Section 903.2.11; change 903.2.11.3 and add 903.2.11.7, 903.2.11.8, and 903.2.11.9 as follows:

903.2.11.3 Buildings ~~55~~ 35 feet or more in height. An automatic sprinkler system shall be installed throughout buildings that have one or more stories ~~with an occupant load of 30 or more~~, other than penthouses in compliance with Section 1510 of the *International Building Code*, located ~~55~~ 35 feet (~~16 764~~ 10 668 mm) or more above the lowest level of fire department vehicle access, measured to the finished floor.

Exceptions:

~~1.~~ Open parking structures in compliance with Section 406.5 of the *International Building Code, having no other occupancies above the subject garage*.

~~2. Occupancies in Group F-2.~~

903.2.11.7 High-Piled Combustible Storage. For any building with a clear height exceeding 12 feet (4572 mm), see Chapter 32 to determine if those provisions apply.

903.2.11.8 Spray Booths and Rooms. New and existing spray booths and spraying rooms shall be protected by an approved automatic fire-extinguishing system.

903.2.11.9 Buildings Over 6,000 sq. ft. An automatic sprinkler system shall be installed throughout all buildings with a building area 6,000 sq. ft. or greater and in all existing buildings that are enlarged to be 6,000 sq. ft. or greater. For the purpose of this provision, fire walls shall not define separate buildings.

Exception:

1. Open parking garages in compliance with Section 406.5 of the *International Building Code*.
2. For Group E buildings commonly defined as public or private schools which do not provide on-site instruction or care for students under the age of 4, sprinklers will be required for all buildings exceeding 12,000 sq. ft.

(Pending Fire approval to add to Fire Code)

(Reason: Provides jurisdictions options as to their desired level of sprinkler protection based on multiple factors including firefighting philosophies/capabilities.)

*****Section 903.3.1.1.1; change to read as follows:***

903.3.1.1.1 Exempt Locations. When approved by the *fire code official*, automatic sprinklers shall not be required in the following rooms or areas where such *...{text unchanged}…* because it is damp, of fire-resistance-rated construction or contains electrical equipment.

1. Any room where the application of water, or flame and water, constitutes a serious life or fire hazard.
2. Any room or space where sprinklers are considered undesirable because of the nature of the contents, when approved by the fire code official.
3. Generator and transformer rooms, under the direct control of a public utility, separated from the remainder of the building by walls and floor/ceiling or roof/ceiling assemblies having a fire-resistance rating of not less than 2 hours.
4. ~~In rooms or areas that are of noncombustible construction with wholly noncombustible contents.~~
5. ~~Fire service access~~ Elevator machine rooms, ~~and~~ machinery spaces, and hoistways, other than pits where such sprinklers would not necessitate shunt trip requirements under any circumstances.
6. {Delete.}

(Reason: Gives clarification. Exception 4 deleted to provide protection where fire risks are poorly addressed. Amendment 903.2 addresses Exception 5 above relative to the elimination of sprinkler protection in these areas to avoid the shunt trip requirement.)

******Section 903.3.1.2.3; delete sections and replace as follows:***

[F] Section 903.3.1.2.3 Attached Garages and Attics. Sprinkler protection is required in attached garages, and in the following attic spaces:

1. [Remainder Unchanged]
2. [Remainder Unchanged]
3. Attic spaces of buildings that are two or more stories in height above grade plane or above the lowest level of fire department vehicle access.
4. Group R-4, Condition 2 occupancy attics not required by Item 1 or 3 to have sprinklers shall comply with one of the following:
   [Remainder Unchanged]

(Reason: Attic protection is required due to issues with fire exposure via soffit vents, as well as firefighter safety. Several jurisdictions indicated experience with un-protected attic fires resulting in displacement of all building occupants. NFPA 13 provides for applicable attic sprinkler protection requirements, as well as exemptions to such, based on noncombustible construction, etc. Attached garages already require sprinklers via NFPA 13R – this amendment just re-emphasizes the requirement.)

***Section 903.3.1.3; change to read as follows:**

903.3.1.3 NFPA 13D Sprinkler Systems. *Automatic sprinkler systems* installed in one- and two-family *dwellings*; Group R-3; Group R-4, Condition 1; and *townhouses* shall be permitted to be installed throughout in accordance with NFPA 13D or in accordance with state law.

(Reason: To allow the use of the Plumbing section of the International Residential Code (IRC) and recognize current state stipulations in this regard.)

***Section 903.3.1.4; add to read as follows:**

[F] 903.3.1.4 Freeze protection. Freeze protection systems for automatic fire sprinkler systems shall be in accordance with the requirements of the applicable referenced NFPA standard and this section.

903.3.1.4.1 Attics. Only dry-pipe, preaction, or listed antifreeze automatic fire sprinkler systems shall be allowed to protect attic spaces.

Exception: Wet-pipe fire sprinkler systems shall be allowed to protect non-ventilated attic spaces where:

1. The attic sprinklers are supplied by a separate floor control valve assembly to allow ease of draining the attic system without impairing sprinklers throughout the rest of the building, and
2. Adequate heat shall be provided for freeze protection as per the applicable referenced NFPA standard, and
3. The attic space is a part of the building's thermal, or heat, envelope, such that insulation is provided at the roof deck, rather than at the ceiling level.

903.3.1.4.2 Heat trace/insulation. Heat trace/insulation shall only be allowed where approved by the fire code official for small sections of large diameter water-filled pipe.

(Reason: In the last few years, severe winters brought to light several issues with current practices for sprinklering attics, not the least of which was wet-pipe sprinklers in ventilated attics provided with space heaters, etc. for freeze protection of such piping. This practice is not acceptable for the protection of water-filled piping in a ventilated attic space as it does not provide a reliable means of maintaining the minimum 40 degrees required by NFPA, wastes energy, and presents a potential ignition source to the attic space. Listed antifreeze is specifically included because NFPA currently allows such even though there is no currently listed antifreeze at the time of development of these amendments. The intent of this amendment is to help reduce the large number of freeze breaks that have occurred in the past with water-filled wet-pipe sprinkler systems in the future, most specifically in attic spaces.)

***Section 903.3.5; add a second paragraph to read as follows:**

Water supply as required for such systems shall be provided in conformance with the supply requirements of the respective standards; however, every water-based fire protection system shall be designed with a 10 psi safety factor. Reference Section 507.4 for additional design requirements.

(Reason: To define uniform safety factor for the region.)

****Section 903.4; add a second paragraph after the exceptions to read as follows:**

Sprinkler and standpipe system water-flow detectors shall be provided for each floor tap to the sprinkler system and shall cause an alarm upon detection of water flow for more than 45 seconds. All control valves in the sprinkler and standpipe systems except for fire department hose connection valves shall be electrically supervised to initiate a supervisory signal at the central station upon tampering.

(Reason: To avoid significant water losses. Consistent with amendment to IFC 905.9.)

***Section 903.4.2; add second paragraph to read as follows:**

The alarm device required on the exterior of the building shall be a weatherproof horn/strobe notification appliance with a minimum 75 candela strobe rating, installed as close as practicable to the fire department connection.

(Reason: Fire department connections are not always located at the riser; this allows the fire department faster access.)

***Section 905.2; change to read as follows:**

905.2 Installation Standard. Standpipe systems shall be installed in accordance with this section and NFPA 14. Manual dry standpipe systems shall be supervised with a minimum of 10 psig and a maximum of 40 psig air pressure with a high/low alarm.

(Reason: To define manual dry standpipe supervision requirements. Helps ensure the

integrity of the standpipe system via supervision, such that open hose valves will result in a supervisory low air alarm.)

******Section 905.3; add Section 905.3.9 and exception to read as follows:***

905.3.9 Buildings Exceeding 10,000 sq. ft. In buildings exceeding 10,000 square feet in area per story and where any portion of the building's interior area is more than 200 feet (60960 mm) of travel, vertically and horizontally, from the nearest point of fire department vehicle access, Class I automatic wet or manual wet standpipes shall be provided.

Exceptions:

1. Automatic dry, semi-automatic dry, and manual dry standpipes are allowed as provided for in NFPA 14 where approved by the fire code official.
2. R-2 occupancies of four stories or less in height having no interior corridors.

(Reason: Allows for the rapid deployment of hose lines to the body of the fire. Manual dry option added this edition.)

*****Section 905.4, change Item 1, 3, and 5, and add Item 7 to read as follows:***

1. In every required ~~interior~~ exit stairway, a hose connection shall be provided for each story above and below grade plane. Hose connections shall be located at the main floor landing between stories, unless otherwise approved by the fire code official.
2. {No change.}
3. In every exit passageway, at the entrance from the exit passageway to other areas of a building.

Exception: Where floor areas adjacent to an exit passageway are reachable from an ~~interior~~ exit stairway hose connection by a {No change to rest.}

4. {No change.}
5. Where the roof has a slope less than four units vertical in 12 units horizontal (33.3-percent slope), each standpipe shall be provided with a two-way ~~a~~ hose connection ~~shall be~~ located to serve the roof or at the highest landing of an ~~interior~~ exit stairway with stair access to the roof provided in accordance with Section 1011.12.
6. {No change.}
7. When required by this Chapter, standpipe connections shall be placed adjacent to all required exits to the structure and at two hundred feet (200') intervals along major corridors thereafter, or as otherwise approved by the fire code official.

(Reason: Item 1, 3, and 5 amendments to remove 'interior' will help to clarify that such connections are required for all 'exit' stairways, to ensure firefighter capabilities are not diminished in these tall buildings, simply because the stair is on the exterior of the building. Item 5 reduces the amount of pressure required to facilitate testing, and

provides backup protection for fire fighter safety. Item 7 allows for the rapid deployment of hose lines to the body of the fire.)

***Section 905.9; add a second paragraph after the exceptions to read as follows:**

Sprinkler and standpipe system water-flow detectors shall be provided for each floor tap to the sprinkler system and shall cause an alarm upon detection of water flow for more than 45 seconds. All control valves in the sprinkler and standpipe systems except for fire department hose connection valves shall be electrically supervised to initiate a supervisory signal at the central station upon tampering.

(Reason: To avoid significant water losses. Consistent with amendment to IFC 903.4.)

***Section 907.1; add Section 907.1.4 to read as follows:**

907.1.4 Design Standards. Where a new fire alarm system is installed, the devices shall be addressable. Fire alarm systems utilizing more than 20 smoke detectors shall have analog initiating devices.

(Reason: Provides for the ability of descriptive identification of alarms, and reduces need for panel replacement in the future. Updated wording to match the language of the new requirement at 907.5.2.3. Change of terminology allows for reference back to definitions of NFPA 72.)

***Section 907.2.1; change to read as follows:**

907.2.1 Group A. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies ~~where the~~ having an occupant load ~~due to the assembly occupancy is~~ of 300 or more persons, or where the ~~Group A~~ occupant load is more than 100 persons above or below the *lowest level of exit discharge*. Group A occupancies not separated from one another in accordance with Section 707.3.10 of the *International Building Code* shall be considered as a single occupancy for the purposes of applying this section. Portions of Group E occupancies occupied for assembly purposes shall be provided with a fire alarm system as required for the Group E occupancy.

Exception: {No change.}

Activation of fire alarm notification appliances shall:

1. Cause illumination of the *means of egress* with light of not less than 1 foot-candle (11 lux) at the walking surface level, and
2. Stop any conflicting or confusing sounds and visual distractions.

(Reason: Increases the requirement to be consistent with Group B requirement. Also addresses issue found in Group A occupancies of reduced lighting levels and other A/V equipment that distracts from fire alarm notification devices or reduces ability of fire alarm system to notify occupants of the emergency condition.)

***Section 907.2.3; change to read as follows:**

907.2.3 Group E. A manual fire alarm system that initiates the occupant notification signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in Group E educational occupancies. When *automatic sprinkler systems* or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system. An approved smoke detection system shall be installed in Group E day care occupancies. Unless separated by a minimum of 100' open space, all buildings, whether portable buildings or the main building, will be considered one building for alarm occupant load consideration and interconnection of alarm systems.

Exceptions:

1. {No change.}
   1.1. Residential In-Home day care with not more than 12 children may use interconnected single station detectors in all habitable rooms. (For care of more than five children 2 1/2 or less years of age, see Section 907.2.6.) {No change to remainder of exceptions.}

(Reason: To distinguish educational from day care occupancy minimum protection requirements. Further, to define threshold at which portable buildings are considered a separate building for the purposes of alarm systems. Exceptions provide consistency with State law concerning such occupancies.)

*****Section 907.2.12, Exception 3; change to read as follows:***

3. Open air portions of buildings with an occupancy in Group A-5 in accordance with Section 303.1 of the *International Building Code*; however, this exception does not apply to accessory uses including but not limited to sky boxes, restaurants, and similarly enclosed areas.

(Reason: To indicate that enclosed areas within open air seating type occupancies are not exempted from automatic fire alarm system requirements.)

*****Section 907.4.2; add Section 907.4.2.7 to read as follows:***

907.4.2.7 Type. Manual alarm initiating devices shall be an approved double action type.

(Reason: Helps to reduce false alarms.)

*****Section 907.6.1; add Section 907.6.1.1 to read as follows:***

907.6.1.1 Wiring Installation. All fire alarm systems shall be installed in such a manner that a failure of any single initiating device or single open in an initiating circuit conductor will not interfere with the normal operation of other such devices. All signaling line circuits (SLC) shall be installed in such a way that a single open will not interfere with the operation of any addressable devices (Class A). Outgoing and return SLC conductors shall be installed in accordance with NFPA 72 requirements for Class A

circuits and shall have a minimum of four feet separation horizontal and one foot vertical between supply and return circuit conductors. The initiating device circuit (IDC) from a signaling line circuit interface device may be wired Class B, provided the distance from the interface device to the initiating device is ten feet or less.

(Reason: To provide uniformity in system specifications and guidance to design engineers. Improves reliability of fire alarm devices and systems.)

***Section 907.6.3; delete all four Exceptions.**

(Reason: To assist responding personnel in locating the emergency event for all fire alarm systems.)

***Section 907.6.6; add sentence at end of paragraph to read as follows:**

See 907.6.3 for the required information transmitted to the supervising station.

(Reason: To assist responding personnel in locating the emergency event for all fire alarm systems.)

(Reason: Deleted Previous code amendment Section 909.22, For removal because it is already in the code in Sections 909.20.5, 909.20.6, 909.20.6.1, 909.20.6.2, and 909.20.6.3.)

***Section 910.2; change Exception 2 and 3 to read as follows:**

2. Only manual smoke and heat removal shall ~~not~~ be required in areas of buildings equipped with early suppression fast-response (ESFR) sprinklers. Automatic smoke and heat removal is prohibited.
3. Only manual smoke and heat removal shall ~~not~~ be required in areas of buildings equipped with control mode special application sprinklers with a response time index of 50$(m*S)^{1/2}$ or less that are listed to control a fire in stored commodities with 12 or fewer sprinklers. Automatic smoke and heat removal is prohibited.

(Reason: Allows the fire department to control the smoke and heat during and after a fire event, while still prohibiting such systems from being automatically activated, which is a potential detriment to the particular sprinkler systems indicated.)

***Section 910.2; add subsections 910.2.3 with exceptions to read as follows:**

910.2.3 Group H. Buildings and portions thereof used as a Group H occupancy as follows:

1. In occupancies classified as Group H-2 or H-3, any of which are more than 15,000 square feet (1394 m^2) in single floor area.

   Exception: Buildings of noncombustible construction containing only noncombustible materials.

2. In areas of buildings in Group H used for storing Class 2, 3, and 4 liquid and solid oxidizers, Class 1 and unclassified detonable organic peroxides, Class 3 and 4 unstable (reactive) materials, or Class 2 or 3 water-reactive materials as required for a high-hazard commodity classification.

Exception: Buildings of noncombustible construction containing only noncombustible materials.

(Reason: Maintains a fire protection device utilized in such occupancies where it is sometimes necessary to allow chemicals to burn out, rather than extinguish.)

***Section 910.3; add section 910.3.4 to read as follows:**

910.3.4 Vent Operation. Smoke and heat vents shall be capable of being operated by approved automatic and manual means. Automatic operation of smoke and heat vents shall conform to the provisions of Sections 910.3.2.1 through 910.3.2.3.

910.3.4.1 Sprinklered buildings. Where installed in buildings equipped with an approved automatic sprinkler system, smoke and heat vents shall be designed to operate automatically.
The automatic operating mechanism of the smoke and heat vents shall operate at a temperature rating at least 100 degrees F (approximately 38 degrees Celsius) greater than the temperature rating of the sprinklers installed.

Exception: Manual only systems per Section 910.2.

910.3.4.2 Nonsprinklered Buildings. Where installed in buildings not equipped with an approved automatic sprinkler system, smoke and heat vents shall operate automatically by actuation of a heat-responsive device rated at between 100°F (56°C) and 220°F (122°C) above ambient.

Exception: Listed gravity-operated drop out vents.

(Reason: Amendment continues to keep applicable wording from prior to the 2012 edition of the IFC. Specifically, automatic activation criteria is no longer specifically required in the published code. Specifying a temperature range at which smoke and heat vents should activate in sprinklered buildings helps to ensure that the sprinkler system has an opportunity to activate and control the fire prior to vent operation.)

***Section 910.4.3.1; change to read as follows:**

910.4.3.1 Makeup Air. Makeup air openings shall be provided within 6 feet (1829 mm) of the floor level. Operation of makeup air openings shall be ~~manual or~~ automatic. The minimum gross area of makeup air inlets shall be 8 square feet per 1,000 cubic feet per minute (0.74 m2 per 0.4719 m3/s) of smoke exhaust.

(Reason: Makeup air has been required to be automatic for several years now in this region when mechanical smoke exhaust systems are proposed. This allows such systems to be activated from the smoke control panel by first responders without having to physically go around the exterior of the building opening doors manually. Such requires a significant number of first responders on scene to conduct this operation and significantly delays activation and/or capability of the smoke exhaust system.)

~~***Section 912.2; add Section 912.2.3 to read as follows:***~~

912.2.3 Hydrant Distance. An approved fire hydrant shall be located within 100 feet of the fire department connection as the fire hose lays along an unobstructed path.

(Reason: To accommodate limited hose lengths, improve response times where the FDC is needed to achieve fire control, and improve ease of locating a fire hydrant in those situations also. Also, consistent with NFPA 14 criteria.)

******Section 913.2.1; add Section 913.2.1.1 and exception to read as follows:***

913.2.1.1 Fire Pump Room Access. When located on the ground level at an exterior wall, the fire pump room shall be provided with an exterior fire department access door that is not less than 3 ft. in width and 6 ft. – 8 in. in height, regardless of any interior doors that are provided. A key box shall be provided at this door, as required by IFC Section 506.1.

> **Exception:** When it is necessary to locate the fire pump room on other levels or not at an exterior wall, the corridor leading to the fire pump room access from the exterior of the building shall be provided with equivalent fire resistance as that required for the pump room, or as approved by the *fire code official*. Access keys shall be provided in the key box as required by IFC Section 506.1.

(Reason: This requirement allows fire fighters safer access to the fire pump room. The requirement allows access without being required to enter the building and locate the fire pump room interior access door during a fire event. The exception recognizes that this will not always be a feasible design scenario for some buildings, and as such, provides an acceptable alternative to protect the pathway to the fire pump room.)

****Section 1006.2.2.7; add Section 1006.2.2.7 as follows:**

1006.2.2.7 Electrical Rooms. For electrical rooms, special exiting requirements may apply. Reference the electrical code as adopted.

(Reason: Cross reference necessary for coordination with the NEC which has exiting requirements as well.)

****Section 1009.8; add the following Exception 7:**

1009.8 Two Way Communication. A two-way communication system complying with Sections 1009.8.1 and 1009.8.2 shall be provided at the landing serving each elevator required to be accessible on each accessible floor that is one or more stories above or below the level of exit discharge.

Exceptions:

7. Buildings regulated under State Law and built in accordance with State registered plans, including variances or waivers granted by the State, shall be deemed to be in compliance with the requirements of Section 1009 and chapter 11.

(Reason: To accommodate buildings regulated under Texas State Law and to be consistent with amendments in Chapter 11.)

****Section 1010.1.9.5 Bolt Locks; amend exceptions 3 and 4 as follows:**

Exceptions:
3. Where a pair of doors serves an occupant load of less than 50 persons in a Group B, F, M or S occupancy. (Remainder unchanged)
4. Where a pair of doors serves a Group A, B, F, M or S occupancy (remainder unchanged)

(Reason: Application to M occupancies reflects regional practice; No. 4 expanded to Group A due to it being a similar scenario to other uses; No. 4 was regional practice.)

****Section 1020.1 Construction; add exception 6 to read as follows:**

6. In group B occupancies, corridor walls and ceilings need not be of fire-resistive construction within a single tenant space when the space is equipped with approved automatic smoke-detection within the corridor. The actuation of any detector must activate self-annunciating alarms audible in all areas within the corridor. Smoke detectors must be connected to an approved automatic fire alarm system where such system is provided.

(Reason: Regionally accepted alternate method.)

****Section 1029.1.1.1 Spaces under grandstands and bleachers; delete this section.**

(Reason: Unenforceable.)

****Section 1101.1 Scope; add exception to Section 1101.1 as follows:**

Exception: Components of projects regulated by and registered with Architectural Barriers Division of Texas Department of Licensing and Regulation shall be deemed to be in compliance with the requirements of this chapter.

(Reason: To accommodate buildings regulated under state law. Further clarified in 2015 to mean components that are specifically addressed by TDLR shall be exempt.)

*****Section 2901.1; add a sentence to read as follows:***

[P] 2901.1 Scope. {*existing text to remain*} The provisions of this Chapter are meant to work in coordination with the provisions of Chapter 4 of the International Plumbing Code. Should any conflicts arise between the two chapters, the Building Official shall determine which provision applies.

(Reason: Gives building official discretion.)

***Section 2902.1; add a second paragraph to read as follows:**

In other than E Occupancies, the minimum number of fixtures in Table 2902.1 may be lowered, if requested in writing, by the applicant stating reasons for a reduced number and approved by the Building Official.

(Reason: To allow flexibility for designer to consider specific occupancy needs.)

***Table 2902.1; add footnote g to read as follows:**

g. Drinking fountains are not required in M Occupancies with an occupant load of 100 or less, B Occupancies with an occupant load of 25 or less, and for dining and/or drinking establishments.

(Reason: Adjustment meets the needs of specific occupancy types.)

****Add new Section 2902.1.4 to read as follows:**

2902.1.4 Additional fixtures for food preparation facilities. In addition to the fixtures required in this Chapter, all food service facilities shall be provided with additional fixtures set out in this section.

2902.1.4.1 Hand washing lavatory. At least one hand washing lavatory shall be provided for use by employees that is accessible from food preparation, food dispensing and ware washing areas. Additional hand washing lavatories may be required based on convenience of use by employees.

2902.1.4.2 Service sink. In new or remodeled food service establishments, at least one service sink or one floor sink shall be provided so that it is conveniently located for the cleaning of mops or similar wet floor cleaning tool and for the disposal of mop water and similar liquid waste. The location of the service sink(s) and/or mop sink(s) shall be approved by the Cross Roads health department.

(Reason: Coordinates Health law requirements with code language for consistent regional practice.)

****Section 3001.2 Emergency Elevator Communication Systems for the deaf, hard of hearing and speech impaired; delete this section.**

(Reason: Per Elevator manufacturers input, they were not consulted prior to code approval and technology of elevator provisions as submitted are not currently available to provide this feature.)

*****Section 3002.1 Hoistway Enclosure Protection required. Add exceptions to Section 3002.1 as follows:**

Exceptions:

4. Elevators completely located within atriums shall not require hoistway enclosure protection.

5. Elevators in open or enclosed parking garages that serve only the parking garage, shall not require hoistway enclosure protection.

(Reason: Provides specific Code recognition that elevators within atriums and within parking garages do not require hoistway enclosure protection. Amendment needed since specific Code language does not currently exist.)

****Section 3005.4 Machine rooms, control rooms, machinery spaces and control spaces; delete text as follows:**

~~Elevator machine rooms, control rooms, control spaces and machinery spaces outside of but attached to a hoistway that have openings into the hoistway shall be enclosed with fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both.~~

Revise text to read:

Elevator machine rooms, control rooms, control spaces and machinery spaces shall be enclosed with fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both.

(Remainder unchanged)

(Reason: This amendment eliminates code language to be consistent with the regional goal to require passive enclosures of these areas unless a hoistway enclosure is not required by other Code provisions. See companion change to eliminate fire sprinklers thereby eliminating shunt trip.)

*****Section 3005.4 Machine rooms, control rooms, machinery spaces and control spaces;**
Delete exceptions and add two new exceptions to Section 3005.4 as follows:

Exceptions:

1. Elevator machine rooms, control rooms, machinery spaces and control spaces completely located within atriums shall not require enclosure protection.

2. Elevator machine rooms, control rooms, machinery spaces and control spaces in open or enclosed parking garages that serve only the parking garage, shall not require enclosure protection.

(Reason: This amendment eliminates the Exceptions to Section 3005.4 such that passive enclosures for these areas are to be provided and maintained. The fire rating of these enclosures is permitted to be omitted by the above added exceptions where allowed by other provisions of the code such as in atriums and parking structures. See companion change to eliminate fire sprinklers to eliminate the need for shunt trip system.)

****Section 3005.7 add a Section 3005.7 as follows:**

3005.7 Fire Protection in Machine rooms, control rooms, machinery spaces and control spaces.

3005.7.1 Automatic sprinkler system. The building shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, except as otherwise permitted by Section 903.3.1.1.1 and as prohibited by Section 3005.7.2.1.

3005.7.2.1 Prohibited locations. Automatic sprinklers shall not be installed in machine rooms, elevator machinery spaces, control rooms, control spaces and elevator hoistways.

3005.7.2.2 Sprinkler system monitoring. The sprinkler system shall have a sprinkler control valve supervisory switch and water-flow initiating device provided for each floor that is monitored by the building's fire alarm system.

3005.7.3 Water protection. An approved method to prevent water from infiltrating into the hoistway enclosure from the operation of the automatic sprinkler system outside the elevator lobby shall be provided.

3005.7.4 Shunt trip. Means for elevator shutdown in accordance with Section 3005.5 shall not be installed.

(Reason: Firefighter and public safety. This amendment eliminates the shunt trip requirement of the International Building Code Section 3005.5 for the purpose of elevator passenger and firefighter safety. The new section above is intended to be identical to Sections 3007.2, 3007.3, and 3007.4 for Fire Service Access Elevators and Sections 3008.2, 3008.3 and 3008.4 for Occupant Evacuation Elevators.)

****Section 3005.8; add Section 3005.8 as follows:**

3005.8 Storage. Storage shall not be allowed within the elevator machine room, control room, machinery spaces and or control spaces. Provide approved signage at each entry to the above listed locations stating: "No Storage Allowed.

(Reason: Reinforces the need to maintain space clean and free of combustibles. See companion change to eliminate fire sprinklers therein, to always require an enclosure - with IBC 3005.4 exceptions deleted - resulting in the limited need for a shunt trip system.)

~~**Option A**~~
~~**Section 3006.2, Hoistway opening protection required;** Revise text as follows:~~

~~5. The building is a high rise and the elevator hoistway is more than 75 feet (22 860 mm) in height. The height of the hoistway shall be measured from the lowest floor at or above grade to the highest floors served by the hoistway."~~

Option B
Section 3006.2, Hoistway opening protection required; Revise text as follows:

5. The building is a high rise and the elevator hoistway is more than ~~75 feet (22 860 mm)~~ 55 feet (16 764 mm) in height. The height of the hoistway shall be measured from the lowest floor at or above grade to the highest floors served by the hoistway."

(Reason: 2018 IBC text does not address hoistways that are greater than 75'-0" in height that are both below grade and above grade but not located above the high rise classification nor does the IBC address hoistways wholly located above grade such as those that serve sky lobbies".)

End

END

Recommended Amendments to the
2018 International Residential Code
North Central Texas Council of Governments Region

The following sections, paragraphs, and sentences of the *2018 International Residential Code* are hereby amended as follows: Standard type is text from the IRC. Underlined type is text inserted. ~~Lined through type is deleted text from IRC.~~ A double asterisk at the beginning of a section identifies an amendment carried over from the 2015 edition of the code and a triple asterisk identifies a new or revised amendment with the 2018 code.

In 2009, **the State Legislature enacted SB 1410 prohibiting cities from enacting fire sprinkler mandates in residential dwellings.** However, jurisdictions with ordinances that required sprinklers for residential dwellings prior to and enforced before January 1, 2009, may remain in place. Reference; Section R313 Automatic Fire Sprinkler Systems.

The energy provisions in IRC Chapter 11 is deleted in its entirety.
Reference the 2018 IECC for energy code provisions and recommended amendments.

***Section R102.4; change to read as follows:**

R102.4 Referenced codes and standards. The *codes*, when specifically adopted, and standards referenced in this *code* shall be considered part of the requirements of this *code* to the prescribed extent of each such reference and as further regulated in Sections R102.4.1 and R102.4.2. Whenever amendments have been adopted to the referenced *codes* and standards, each reference to said *code* and standard shall be considered to reference the amendments as well. Any reference made to NFPA 70 or the *Electrical Code* shall mean the *Electrical Code* as adopted.

(Reason: Legal wording to recognize locally adopted codes and amendments adopted with referenced codes.)

***Section R103 and R103.1 amend to insert the Department Name**

~~**DEPARTMENT OF BUILDING SAFETY**~~ Town of Cross Roads Building Department

R103.1 Creation of enforcement agency. ~~The Department of Building Safety~~ Town of Cross Roads Building Department is hereby created and the official in charge thereof shall be known as the *building official*.

(Reason: Reminder to be sure ordinance reads the same as designated by the city.)

****Section R104.10.1 Flood Hazard areas; delete this section.***

(Reason: Flood hazard ordinances may be administered by other departments within the city.)

****Section R105.2 Amend as follows***

Building:

1. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed ~~120~~ 400 square feet.
2. Fences.

(Remainder Unchanged)

*****Section R105.3.1.1& R106.1.4; delete these sections.***

(Reason: Floodplain provisions are addressed locally.)

*****Section R110 (R110.1 through R110.5); delete the section.***

(Reason: Issuing CO's for residences is not a common practice in the area.)

*****Section R202; change definition of "Townhouse" to read as follows:***

TOWNHOUSE. A single-family dwelling unit constructed in a group of three or more attached units separated by property lines in which each unit extends from foundation to roof and with a *yard* or *public way* on at least two sides.
(Reason: To distinguish Townhouses on separate lots.)

******Table R301.2 (1); fill in as follows:***

GROUND SNOW LOAD	WIND DESIGN				SEISMIC DESIGN CATEGORY[f]	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP[e]	ICE BARRIER UNDER-LAYMENT[h]	FLOOD HAZARDS[g]	AIR FREEZING INDEX[i]	MEAN ANNUAL TEMP[j]
	SPEED[d] (MPH)	Topographic Effects[k]	Special Wind Region[L]	Windborne Debris Zone[m]		Weathering[a]	Frost Line Depth[b]	Termite[c]					
5 lb/ft	115 (3 sec-gust)/ 76 fastest mile	No	No	No	A	Moderate	6"	Very Heavy	22^0 F	No	Local Code	150	64.9^0 F

Delete remainder of table Manual J Design Criteria and footnote N

(Reason: To promote regional uniformity. Manual J is utilized by third party and not part of performed plan reviews. This is reference table only, not needed.)

*****Section R302.1; add exception #6 to read as follows:***

Exceptions: *{previous exceptions unchanged}*

6. Open non-combustible carport structures may be constructed when also approved within adopted ordinances.

(Reason: Refers to other ordinances, such as zoning ordinances.)

***Section R302.3; add Exception #3 to read as follows:**

Exceptions:

1. *{existing text unchanged}*
2. *{existing text unchanged}*
3. Two-family dwelling units that are also divided by a property line through the structure shall be separated as required for townhouses.

(Reason: Provide guidance for a common construction method in this area. Correlates with amendment to IRC Section R202 Townhouse definition.)

***Section R302.5.1; change to read as follows:**

R302.5.1 Opening protection. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than 13/8 inches (35 mm) in thickness, solid or honeycomb core steel doors not less than 13/8 inches (35 mm) thick, or 20-minute fire-rated doors. ~~Equipped with a self-closing or automatic closing device~~.

(Reason: Absence of data linking self-closing devices to increased safety. Self-closing devices often fail to close the door entirely.)

***Section R303.3, Exception; amend to read as follows:**

Exception: {existing text unchanged**}** Spaces containing only a water closet or water closet and a lavatory may be ventilated with an approved mechanical recirculating fan or similar device designed to remove odors from the air.

(Reason: Consistent with common local practice as recirculating fans are recognized as acceptable air movement.)

***Section R313.2 One and Two Family Dwellings; Delete this section and subsection in their entirety**.

(Reason: In 2009, the State Legislature enacted SB 1410, amending section 1301.551 subsection I of the occupation code, prohibiting cities from enacting fire sprinkler mandates one or two family dwellings only. However, jurisdictions with ordinances that required sprinklers for one or two family dwellings prior to and enforced before January 1, 2009, may remain in place.*)*

***Section R315.2.2 Alterations, repairs and additions; amend to read as follows:**

Exception:

1. [existing text remains]
2. Installation, alteration or repairs <u>of all electrically powered mechanical systems or plumbing appliances.</u>

(Reason: Revised exception for clarity. Code intent is to protect against the products of combustion.)

***Section R322 Flood Resistant Construction; deleted section.**

(Reason: Floodplain hazard ordinances may be administered by other departments within the city.)

****Section R401.2; amended by adding a new paragraph following the existing paragraph to read as follows.**

Section R401.2. Requirements. *{existing text unchanged} …*

Every foundation and/or footing, or any size addition to an existing post-tension foundation, regulated by this code shall be designed and sealed by a Texas-registered engineer.

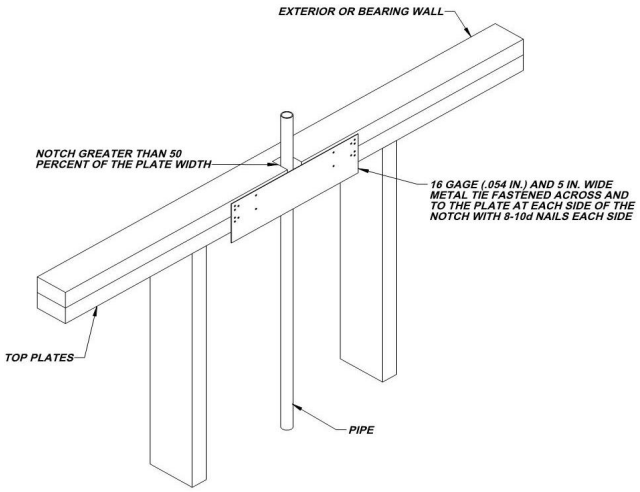
(Amendment to 2015 IRC carried forward to 2018 IRC.)

***Section R602.6.1; amend the following:**

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 50 percent of its width, a galvanized metal tie not less than 0.054 inch thick (1.37 mm) (16 Ga) and ~~1 ½ inches (38) mm~~ <u>5 inches (127 mm)</u> wide shall be fastened across and to the plate at each side of the opening with not less than eight 10d (0.148 inch diameter) having a minimum length of 1 ½ inches (38 mm) at each side or equivalent. <u>Fasteners will be offset to prevent splitting of the top plate material.</u> The metal tie must extend a minimum of 6 inches past the opening. <u>See figure R602.6.1.</u> {remainder unchanged}

(Amendment to 2015 IRC carried forward to 2018 IRC.)

***Figure R602.6.1; delete the figure and insert the following figure:**



(Amendment to 2015 IRC carried forward to 2018 IRC also provides additional assurance of maintaining the integrity of the framing by spreading the nailing pattern.)

******Add section R703.8.4.1.2 Veneer Ties for Wall Studs; to read as follows:***

R703.8.4.1.2 Veneer Ties for Wall Studs. In stud framed exterior walls, all ties may be anchored to studs as follows:

1. When studs are 16 in (407 mm) o.c., stud ties shall be spaced no further apart than 24 in (737 mm) vertically starting approximately 12 in (381 mm) from the foundation; or

2. When studs are 24 in (610 mm) o.c., stud ties shall be spaced no further apart than 16 in (483 mm) vertically starting approximately 8 in (254 mm) from the foundation.

(This amendment had been a carry over amendment for years to provide clear instruction for placement of brick ties. It is now retained with changes to reflect its correct placement and use for clarity when attachment to framing lumber (studs). It should remain for those purposes. It is in addition to the new new Table in 2018 which provides for brick ties directly to sheathing.)

*****Section R902.1; amend and add exception #5 to read as follows:***

R902.1 Roofing covering materials. Roofs shall be covered with materials as set forth in Sections R904 and R905. Class A, B, or C roofing shall be installed ~~in designated by law as requiring their use or when the edge of the roof is less than 3 feet from a lot line~~. *{remainder unchanged}*

Exceptions:

1. *{text unchanged}*
2. *{text unchanged}*
3. *{text unchanged}*
4. *{text unchanged}*

5. Non-classified roof coverings shall be permitted on one-story detached *accessory structures* used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed (area defined by jurisdiction).

(Reason: to address accessory structures Group U exempt from permits per Section R105.2)

***** Chapter 11 [RE] – Energy Efficiency is deleted in its entirety; Reference the 2015 IECC for energy code provisions and recommended amendments.**

(Reason: The recommended energy code changes from the Energy and Green Advisory Board update the amendments for Chapter 11. The 2015 International Energy Conservation Code should be referenced for residential energy provisions. This approach simply minimizes the number of amendments to the IRC.)

******Section M1305.1.2; change to read as follows:***

M1305.1.2 Appliances in attics. *Attics containing appliances shall be provided . . . {bulk of paragraph unchanged} . . . side of the appliance. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), and large enough to allow removal of the largest appliance. As a minimum, for access to the attic space, provide one of the following:*

1. A permanent stair.

2. A pull down stair with a minimum 300 lb (136 kg) capacity.

3. An *access* door from an upper floor level.

Exceptions:

1. The passageway and level service space are not required where the *appliance* can be serviced and removed through the required opening.

2. Where the passageway is unobstructed…*{remaining text unchanged}*

(Reason: To provide a safe means of accessibility to appliances in attics and to allow for different types of construction limitations. Consistent with regional amendment to IFGC and IMC 306.3.)

*****Section M1411.3; change to read as follows:***

M1411.3 Condensate disposal. Condensate from all cooling coils or evaporators shall be conveyed from the drain pan outlet to ~~an *approved* place of disposal~~ a sanitary sewer through a trap, by means of a direct or indirect drain. *{remaining text unchanged}*

(Reason: Reflects regional practice and to reduce excessive runoff into storm drains.)

*****Section M1411.3.1, Items 3 and 4; add text to read as follows:***

M1411.3.1 Auxiliary and secondary drain systems. *{bulk of paragraph unchanged}*

1. *{text unchanged}*

2. *{text unchanged}*

3. An auxiliary drain pan… *{bulk of text unchanged}…* with Item 1 of this section. A water level detection device may be installed only with prior approval of the *building official*.

4. A water level detection device… *{bulk of text unchanged}…* overflow rim of such pan. A water level detection device may be installed only with prior approval of the *building official*.

(Reason: Reflects standard practice in this area.)

***Section M1411.3.1.1; add text to read as follows:**

M1411.3.1.1 Water-level monitoring devices. On down-flow units …*{bulk of text unchanged}*… installed in the drain line. A water level detection device may be installed only with prior approval of the *building official.*

(Reason: Reflects standard practice in this area.)

****M1503.6 Makeup Air Required; amend and add exception as follows:**

M1503.6 Makeup air required. Where one or more gas, liquid or solid fuel-burning appliance that is neither direct-vent nor uses a mechanical draft venting system is located within a dwelling unit's air barrier, each exhaust system capable of exhausting in excess of 400 cubic feet per minute (0.19 m^3/s) shall be mechanically or passively provided with makeup air at a rate approximate~~ly equal~~ to the difference between exhaust air rate and 400 cubic feet per minute. Such makeup air systems shall be equipped with not fewer than one damper complying with Section M1503.6.2.

Exception*:* Makeup air is not required for exhaust systems installed for the exclusive purpose of space cooling and intended to be operated only when windows or other air inlets are open**.** Where all appliances in the house are of sealed combustion, power-vent, unvented, or electric, the exhaust hood system shall be permitted to exhaust up to 600 cubic feet per minute (0.28 m3/s) without providing makeup air. Exhaust hood systems capable of exhausting in excess of 600 cubic feet per minute (0.28 m3/s) shall be provided with a makeup air at a rate approximately to the difference between the exhaust air rate and 600 cubic feet per minute.

(Reason: Exception requires makeup air equaling the amount above and beyond 400 cfm for larger fan which will address concerns related to "fresh" air from the outdoors in hot humid climates creating a burden on HVAC equipment and negative efficiency impacts from back-drafting and wasted energy.)

****Section M2005.2; change to read as follows:**

M2005.2 Prohibited locations. Fuel-fired water heaters shall not be installed in a room used as a storage closet. Water heaters located in a bedroom or bathroom shall be installed in a sealed enclosure so that *combustion air* will not be taken from the living space. Access to such enclosure may be from the bedroom or bathroom when through a solid door, weather-stripped in accordance with the exterior door air leakage requirements of the *International Energy Conservation Code* and equipped with an *approved* self-closing device. Installation of direct-vent water heaters within an enclosure is not required.

(Reason: Corresponds with the provisions of IFGC Section 303.3, exception #5.)

****Section G2408.3 (305.5)Private Garages; delete this section in its entirety.**

(Reason: This provision does not reflect standard practice in this area.)

****Section G2415.2.1 (404.2.1) CSST; add a second paragraph to read as follows:**

Both ends of each section of medium pressure gas piping shall identify its operating gas

pressure with an *approved* tag. The tags are to be composed of aluminum or stainless steel and the following wording shall be stamped into the tag:

"WARNING: 1/2 to 5 psi gas pressure - Do Not Remove"

(Reason: To protect homeowners and plumbers.)

***Section G2415.12 (404.12) and G2415.12.1 (404.12.1); change to read as follows:**

G2415.12 (404.12) Minimum burial depth. Underground *piping systems* shall be installed a minimum depth of ~~12 inches (305 mm)~~ 18 inches (457 mm) below grade, ~~except as provided for in Section G2415.12.1.~~

G2415.12.1 (404.12.1) Individual Outdoor Appliances; Delete in its entirety

(Reason: To provide increased protection to piping systems.)

Section G2417.1 (406.1); change to read as follows:

G2417.1 (406.1) General. Prior to acceptance and initial operation, all *piping* installations shall be inspected and *pressure tested* to determine that the materials, design, fabrication, and installation practices comply with the requirements of this *code*. The *permit* holder shall make the applicable tests prescribed in Sections 2417.1.1 through 2417.1.5 to determine compliance with the provisions of this *code*. The *permit* holder shall give reasonable advance notice to the *building official* when the *piping system* is ready for testing. The *equipment*, material, power and labor necessary for the inspections and test shall be furnished by the *permit* holder and the *permit* holder shall be responsible for determining that the work will withstand the test pressure prescribed in the following tests.

(Reason: To utilize language used in the IPC regarding who is responsible for testing procedures.)

Section G2417.4; change to read as follows:

G2417.4 (406.4) Test pressure measurement. Test pressure shall be measured with a monometer 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.~~

(Reason: To require the use of more accurate diaphragm gauges. Spring gauges do not provide accurate measurement below approximately 17 psig.)

Section G2417.4.1; change to read as follows:

G2417.4.1 (406.4.1) Test pressure. The test pressure to be used shall be no less than 3 psig (20 kPa gauge), or at the discretion of the Code Official, the piping and valves may be tested at a pressure of at least six (6) inches (152 mm) of mercury, measured with a manometer or slope 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.~~ For tests requiring a pressure of 3 psig, diaphragm gauges shall utilize a dial with a minimum diameter of three and one half inches (3 ½"), a set hand, 1/10 pound incrementation and pressure range not to exceed 6 psi for tests requiring a pressure of 3 psig. For tests requiring a pressure of 10 psig, diaphragm gauges shall utilize a dial with a minimum diameter of three and one-half inches (3 ½"), a set hand, a minimum of 2/10 pound incrementation and a pressure range

not to exceed 20 psi. For welded piping, and for piping carrying gas at pressures in excess of fourteen (14) inches water column pressure (3.48 kPa) (1/2 psi) and less than 200 inches of water column pressure (52.2 kPa) (7.5 psi), the test pressure shall not be less than ten (10) pounds per square inch (69.6 kPa). For piping carrying gas at a pressure that exceeds 200 inches of water column (52.2 kPa) (7.5 psi), the test pressure shall be not less than one and one-half times the proposed maximum working pressure.

Diaphragm gauges used for testing must display a current calibration and be in good working condition. The appropriate test must be applied to the diaphragm gauge used for testing

(Reason: To provide for lesser pressures to coordinate with the use of more accurate diaphragm gauges.)

***Section G2417.4.2; change to read as follows:**

G2417.4.2 (406.4.2) Test duration. The test duration shall be held for a length of time satisfactory to the *Building Official*, but in no case for ~~be not~~ less than ~~10~~ fifteen (15) minutes. For welded *piping*, and for *piping* carrying gas at pressures in excess of fourteen (14) inches water column pressure (3.48 kPa), the test duration shall be held for a length of time satisfactory to the *Building Official*, but in no case for less than thirty (30) minutes.

(Reason: To comply with accepted regional practices.)

***Section G2420.1 (406.1); add Section G2420.1.4 to read as follows:**

G2420.1.4 Valves in CSST installations. Shutoff *valves* installed with corrugated stainless steel (CSST) *piping systems* shall be supported with an approved termination fitting, or equivalent support, suitable for the size of the *valves*, of adequate strength and quality, and located at intervals so as to prevent or damp out excessive vibration but in no case greater than 12-inches from the center of the *valve*. Supports shall be installed so as not to interfere with the free expansion and contraction of the system's *piping*, fittings, and *valves* between anchors. All *valves* and supports shall be designed and installed so they will not be disengaged by movement of the supporting *piping*.

(Reason: To provide proper security to CSST valves. These standards were established in this region in 1999 when CSST was an emerging technology.)

***Section G2420.5.1 (409.5.1); add text to read as follows:**

G2420.5.1 (409.5.1) Located within the same room. The shutoff valve…*{bulk of paragraph unchanged}…* in accordance with the appliance manufacturer's instructions. A secondary shutoff valve must be installed within 3 feet (914 mm) of the firebox if appliance shutoff is located in the firebox.

(Reason: Reflects regional practice and provides an additional measure of safety.)

***Section G2421.1 (410.1); add text and Exception to read as follows:**

G2421.1 (410.1) Pressure regulators. A line *pressure regulator* shall be *… {bulk of paragraph unchanged}… approved* for outdoor installation. Access to *regulators* shall comply with the requirements for access to *appliances* as specified in Section M1305.

Exception: A passageway or level service space is not required when the *regulator* is capable of being serviced and removed through the required *attic* opening.

(Reason: To require adequate access to regulators.)

Section G2422.1.2.3 (411.1.3.3) Prohibited locations and penetrations; delete Exception 1 and Exception 4.

(Reason: To comply with accepted regional practices.)

Section G2445.2 (621.2); add Exception to read as follows:

G2445.2 (621.2) Prohibited use. One or more *unvented room heaters* shall not be used as the sole source of comfort heating in a *dwelling unit*.

Exception: Existing *approved unvented room heaters* may continue to be used in *dwelling units*, in accordance with the *code* provisions in effect when installed, when *approved* by the *Building Official* unless an unsafe condition is determined to exist as described in *International Fuel Gas Code* Section 108.7 of the Fuel Gas Code.

(Reason: Gives code official discretion.)

Section G2448.1.1 (624.1.1); change to read as follows:

G2448.1.1 (624.1.1) Installation requirements. The requirements for *water heaters* relative to access, sizing, *relief valves*, drain pans and scald protection shall be in accordance with this *code.*

(Reason: To clarify installation requirements. Also corresponds with amendments regarding water heater access.)

****Section P2603; add to read as follows:***

P2603.3 Protection against corrosion. Metallic piping, except for cast iron, ductile iron and galvanized steel, shall not be placed in direct contact with steel framing members, concrete or cinder walls and floors or other masonry. Metallic piping shall not be placed in direct contact with corrosive soil. Where sheathing is used to prevent direct contact, the sheathing shall have a thickness of not less than 0.008 inch (8 mil) (0.203 mm) and the sheathing shall be made of approved material ~~plastic~~. Where sheathing protects piping that penetrates concrete or masonry walls or floors, the sheathing shall be installed in a manner that allows movement of the piping within the sheathing.

(Reason: Allows for other materials to be accepted.)

****Section P2603.5.1 Sewer Depth; change to read as follows:***

P2603.5.1 Sewer depth. Building sewers that connect to private sewage disposal systems shall be a minimum of [number] inches (mm) below finished grade at the point

of septic tank connection. Building sewers shall be a minimum of 12 inches (304 mm) below grade.

(Reason: Provides sewer depth that is common in this region. Deleted reference to private sewage disposal because a private sewage disposal code is not typically adopted in this region.)

******Section P2604; add to read as follows:***

P2604.2.1 Plastic sewer and DWV piping installation. Plastic sewer and DWV piping installed underground shall be installed in accordance with the manufacturer's installation instructions. Trench width shall be controlled to not exceed the outside the pipe diameter plus 16 inches or in a trench which has a controlled width equal to the nominal diameter of the piping multiplied by 1.25 plus 12 inches. The piping shall be bedded in 4 inches of granular fill and then backfilled compacting the side fill in 6-inch layers on each side of the piping. The compaction shall be to minimum of 85 percent standard proctor density and extend to a minimum of 6 inches above the top of the pipe.

(Reason: To follow manufacturer backfill requirements and to be clear to Inspectors out in the field.)

****** Section P2801; change to read as follows:***

P2801.6 Required pan.
Where a storage tank-type water heater or a hot water storage tank is installed in a location where water leakage from the tank will cause damage, the tank shall be installed in a pan constructed of one of the following:

1. Galvanized steel or aluminum of not less than 0.0236 inch (0.6010 mm) in thickness.
2. Plastic not less than 0.036 inch (0.9 mm) in thickness.
3. Other *approved* materials.

~~A plastic pan beneath a gas-fired water heater shall be constructed of material having a flame spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84 or UL 723~~.

(*Reason: Plastic burns degrading material over time on gas fired water heaters and to maintaining protection level.*)

****Section P2801.6.1; change to read as follows:**

Section P2801.6.1 Pan size and drain. The pan shall be not less than 11/2 inches (38 mm) in depth and shall be of sufficient size and shape to receive all dripping or condensate from the tank or water heater. The pan shall be drained by an indirect waste pipe having a diameter of not less than 3/4 inch (19 mm). Piping for safety pan drains shall be of those materials listed in Table P2906.5.
Multiple pan drains may terminate to a single discharge piping system when *approved*

by the administrative authority and permitted by the manufactures installation instructions and installed with those instructions. {*existing text unchanged}*

(Reason: Regionally accepted practice.)

****** Section P2804.6.1; change to read as follows:***

Section P2804.6.1 Requirements for discharge piping. The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.
2. Discharge through an air gap ~~located in the same room as the water heater.~~
3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.
4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.

   Exception: Multiple relief devices may be installed to a single T & P discharge piping system when approved by the administrative authority and permitted by the manufactures installation instructions and installed with those instructions.

5. Discharge to ~~the floor, to the pan serving the water heater or storage tank, to a waste receptor~~ an approved location or to the outdoors.

   [remainder unchanged]

(Reason: To ensure the T&P is ran to the exterior.)

*****Section P2902.5.3; change to read as follows:***

P2902.5.3 Lawn irrigation systems. The potable water supply to lawn irrigation systems shall be protected against backflow by an atmospheric-type vacuum breaker, a pressure-type vacuum breaker, a double-check assembly or a reduced pressure principle backflow preventer. A valve shall not be installed downstream from an atmospheric vacuum breaker. Where chemicals are introduced into the system, the potable water supply shall be protected against backflow by a reduced pressure principle backflow preventer.

(Reason: To provide clarity.)

*****Section P3003.9; change to read as follows:**

P3003.9.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D 2564, CSA B137.3, CSA B181.2 or CSA B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D 2855. Solvent cement joints shall be permitted above or below ground.

~~Exception: A primer is not required where both of the following conditions apply:~~

~~1. The solvent cement used is third-party certified as conforming to ASTM D 2564~~

~~2. The solvent cement is used only for joining PVC drain, waste, and vent pipe and fittings in not pressure applications in sizes up to and including 4 inches (102mm) in diameter.~~

(Reason: to keep the "process of joining PVC pipe".)

***Section P3111Combination waste and vent systems; delete this section in its entirety.**

(Reason: A combination waste and vent system is not approved for use in residential construction.)

***Section P3112.2 Vent Collection; delete and replace with the following:**

P3112.2 Installation. Traps for island sinks and similar equipment shall be roughed in above the floor and may be vented by extending the vent as high as possible, but not less than the drainboard height and then returning it downward and connecting it to the horizontal sink drain immediately downstream from the vertical fixture drain. The return vent shall be connected to the horizontal drain through a wye-branch fitting and shall, in addition, be provided with a foot vent taken off the vertical fixture vent by means of a wye-branch immediately below the floor and extending to the nearest partition and then through the roof to the open air or may be connected to other vents at a point not less than six (6) inches (152 mm) above the flood level rim of the fixtures served. Drainage fittings shall be used on all parts of the vent below the floor level and a minimum slope of one-quarter (1/4) inch per foot (20.9 mm/m) back to the drain shall be maintained. The return bend used under the drain-board shall be a one (1) piece fitting or an assembly of a forty-five (45) degree (0.79 radius), a ninety (90) degree (1.6 radius) and a forty-five (45) degree (0.79 radius) elbow in the order named. Pipe sizing shall be as elsewhere required in this Code. The island sink drain, upstream of the return vent, shall serve no other fixtures. An accessible cleanout shall be installed in the vertical portion of the foot vent.

(Reason: To clarify the installation of island venting and to provide a regional guideline on a standard installation method for this region.)

END

Recommended Amendments to the 2018 International Plumbing Code

North Central Texas Council of Governments Region

The following sections, paragraphs, and sentences of the *2018 International Plumbing Code* are hereby amended as follows: Standard type is text from the IPC. Underlined type is text inserted. ~~Lined through type is deleted text from the IPC.~~ A double asterisk at the beginning of a section identifies an amendment carried over from the 2015 edition of the code and a triple asterisk identifies a new or revised amendment with the 2018 edition of the code.

Note: Historically NCTCOG has limited Chapter 1 amendments in order to allow each city to insert their local policies and procedures. We now have suggested certain items to be brought to the attention of cities considering adoption of the code that may be of concern to several jurisdictions. **It is still intended to be discretionary to each city to determine which Chapter 1 amendments to include.**

*****Table of Contents, Chapter 7, Section 714; change to read as follows:***

714 Engineered ~~Computerized~~ Drainage Design 69

(Reason: Editorial change to make compatible with amendment to Section 714.1.)

******Section 102.8; change to read as follows:***

102.8 Referenced codes and standards. The codes and standards referenced in this code shall be those that are listed in Chapter 15 and such codes, when specifically adopted, and standards shall be considered as part of the requirements of this code to the prescribed extent of each such reference. Where the differences occur between provisions of this code and the referenced standards, the provisions of this code shall be the minimum requirements. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the adopted amendments. Any reference to NFPA 70 shall mean the Electrical Code as adopted.

(Reason: Legal wording to recognize locally adopted codes and amendments adopted with referenced codes.)

*****Sections 106.6.2 and 106.6.3; change to read as follows:***

106.6.2 Fee schedule. The fees for all plumbing work shall be as ~~indicated in the following schedule: (JURISDICTION TO INSERT APPROPRIATE SCHEDULE)~~ adopted by resolution of the governing body of the jurisdiction.

106.6.3 Fee Refunds. The code official shall establish a policy for ~~authorize~~ authorizing the refunding of fees ~~as follows~~. *{Delete balance of section}*

(Reason: This calls to attention of local jurisdictions considering adoption that they need a fee schedule and a refund policy.)

*****Section 109; delete entire section and insert the following:***

SECTION 109

MEANS OF APPEAL

109.1 Application for appeal. Any person shall have the right to appeal a decision of the code official to the board of appeals established by ordinance. The board shall be governed by the enabling ordinance.

(Reason: Most jurisdictions already have an ordinance establishing and governing an appeals board for this code. This also calls to the attention of jurisdictions not having such a board that it needs to be established.)

******Section 305; change to read as follows:***

305.1 Protection against contact. Metallic piping, except for cast iron, ductile iron and galvanized steel, shall not be placed in direct contact with steel framing members, concrete or cinder walls and floors or other masonry. Metallic piping shall not be placed in direct contact with corrosive soil. Where sheathing is used to prevent direct contact, the sheathing shall have a thickness of not less than 0.008 inch (8 mil) (0.203 mm) and the sheathing shall be made of approved material ~~plastic~~. Where sheathing protects piping that penetrates concrete or masonry walls or floors, the sheathing shall be installed in a manner that allows movement of the piping within the sheathing.

(Reason: Allows for other materials to be accepted.)

305.4.1 Sewer depth. ~~Building sewers that connect to private sewage disposal systems shall be a minimum of [number] inches (mm) below finished grade at the point of septic tank connection.~~ Building sewers shall be a minimum of 12 inches (304 mm) below grade.

(Reason: Provides sewer depth that is common in this region. Deleted reference to private sewage disposal because a private sewage disposal code is not typically adopted in this region.)

*****Section 305.7; change to read as follows:***

305.7 Protection of components of plumbing system. Components of a plumbing system installed within 3 feet along alleyways, driveways, parking garages or other locations in a manner in which they could be exposed to damage shall be recessed into the wall or otherwise protected in an *approved* manner.

(Reason: Provide a common cutoff point to designate a general separation distance at which plumbing systems should be safe for consistency in enforcement.)

******Section 306; change to read as follows:***

*****306.2.4 Plastic sewer and DWV piping installation.** Plastic sewer and DWV piping installed underground shall be installed in accordance with the manufacturer's installation instructions. Trench width shall be controlled to not exceed the outside the pipe diameter plus 16 inches or in a trench which has a controlled width equal to the nominal diameter of the diameter of the piping multiplied by 1.25 plus 12 inches. The piping shall be bedded in 4 inches of granular fill and then backfilled compacting the side fill in 6-inch layers on each side of the piping. The compaction shall be to minimum of 85 percent standard proctor density and extend to a minimum of 6 inches above the top of the pipe.

(Reason: To follow manufacturer backfill requirements and to be clear to Inspectors out in the field)

*****Section 314.2.1; change to read as follows:***

314.2.1 Condensate disposal. Condensate from all cooling coils and evaporators shall be conveyed from the drain pan outlet to an *approved* place of disposal. ... {text unchanged} **...** Condensate shall not discharge into a street, alley, sidewalk, rooftop, or other areas so as to cause a nuisance.

(Reason: Greater specificity in prohibited locations for condensate discharge. It is the intent of this amendment to send condensate discharge into a sanitary sewer drain. Consistent with regional amendment to IMC 307.2.1.)

*****Section 409.2; change to read as follows:***

409.2 Water connection. The water supply to a commercial dishwashing machine shall be protected against backflow by an air gap or backflow preventer in accordance with Section 608. (Remainder of section unchanged).

(Reason: Domestic dishwashing machines would be difficult to enforce and should already come equipped with backflow preventers. Consistent with regional amendments in IPC Section 608.)

*****Section 413.4; change to read as follows:***

413.4 Required location for floor drains ~~Public laundries and central washing facilities~~. Floor drains shall be installed in the following areas:

1. In public laundries and in the central washing facilities of multiple family dwellings, the rooms containing automatic clothes washers shall be provided with floor drains located to readily drain the entire floor area. Such drains shall have a minimum outlet of not less than 3 inches (76 mm) in diameter.

2. Commercial kitchens. In lieu of floor drains in commercial kitchens, the Code Official may accept floor sinks.

3. Public restrooms.

(Reason: To make more compatible with local health code practices.)

******Section 502.3; change to read as follows:***

502.3 Water heaters installed in attics. Attics containing a water heater shall be provided . . . {bulk of paragraph unchanged} . . . side of the water heater. The clear access opening dimensions shall be not less than 20 inches by 30 inches (508 mm by 762 mm) where such dimensions are large enough to allow removal of the water heater. As a minimum, for access to the attic space, provide one of the following:

1. A permanent stair.

2. A pull-down stair with a minimum 300 lb (136 kg) capacity.

3. An access door from an upper floor level.

4. Access Panel may be used in lieu of items 1, 2, and 3 with prior approval of the Code Official due to building conditions.

Exceptions:

1. The passageway and level service space are not required where the appliance is capable of being serviced and removed… {remainder of text unchanged}

(Reason: To provide a safe means of accessibility to appliances in attics and to allow for different types of construction limitations. Consistent with regional amendment to IMC and IFGC)

***Section 502.6; add Section 502.6 to read as follows:**

502.6 Water heaters above ground or floor. When the attic, roof, mezzanine or platform in which a water heater is installed is more than ~~16 (16)~~ eight (8) feet (2438 mm) above the ground or floor level, it shall be made accessible by a stairway or permanent ladder fastened to the building.

Exception: A max 10-gallon water heater (or larger with approval) is capable of being accessed through a lay-in ceiling and a water heater is installed is not more than ten (10) feet (3048 mm) above the ground or floor level and may be reached with a portable ladder.

(Reason: To provide safe access to water heaters. (Consistent with regional amendments to IFGC 306.7 and IMC 306.3. Note reference to amendment above.)

****Section 504.6; change to read as follows:**

504.6 Requirements for discharge piping. The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.
2. Discharge through an air gap. ~~located in the same room as the water heater~~.
3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.
4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.

   Exception: Multiple relief devices may be installed to a single T & P discharge piping system when *approved* by the administrative authority and permitted by the manufacture's installation instructions and installed with those instructions.

5. Discharge to ~~the floor, to the pan serving the water heater or storage tank, to a waste receptor~~ an approved location or to the outdoors.
6. Discharge in a manner that does not cause personal injury or structural damage.
7. Discharge to a termination point that is readily observable by the building occupants.
8. Not be trapped.
9. Be installed so as to flow by gravity.

10. Terminate not more than 6 inches above and not less than two times the discharge pipe diameter above the floor or flood level rim of the waste receptor.

11. Not have a threaded connection at the end of such piping.

12. Not have valves or tee fittings.

13. Be constructed of those materials listed in Section 605.4 or materials tested, rated and *approved* for such use in accordance with ASME A112.4.1.

14. Be one nominal size larger than the size of the relief valve outlet, where the relief valve discharge piping is installed with insert fittings. The outlet end of such tubing shall be fastened in place

(Reason: To provide a higher degree of safety.)

*****Section 504.7.1; change to read as follows:***

Section 504.7.1 Pan size and drain to read as follows: The pan shall be not less than 11/2 inches (38 mm) in depth and shall be of sufficient size and shape to receive all dripping or condensate from the tank or water heater. The pan shall be drained by an indirect waste pipe having a diameter of not less than 3/4 inch (19 mm). Piping for safety pan drains shall be of those materials listed in Table 605.4. Multiple pan drains may terminate to a single discharge piping system when *approved* by the administrative authority and permitted by the manufactures installation instructions and installed with those instructions.

*****Section 608.1; change to read as follows:***

608.1 General. A potable water supply system shall be designed, installed and maintained in such a manner so as to prevent contamination from non-potable liquids, solids or gases being introduced into the potable water supply through cross-connections or any other piping connections to the system. Backflow preventer applications shall conform to applicable local regulations, Table 608.1, ~~except~~ and as specifically stated in Sections 608.2 through 608.16.10.

(Reason: To recognize local requirements.)

*****Section 608.17.5; change to read as follows:***

608.17.5 Connections to lawn irrigation systems.
The potable water supply to lawn irrigation systems shall be protected against backflow by an atmospheric-type vacuum breaker, a pressure-type vacuum breaker, a double-check assembly or a reduced pressure principle backflow preventer. A valve shall not be installed downstream from an atmospheric vacuum breaker. Where chemicals are introduced into the system, the potable water supply shall be protected against backflow by a reduced pressure principle backflow preventer.

(Reason: To recognize regional practices.)

*****Section 608.18; change to read as follows:***

608.18 Protection of individual water supplies. An individual water supply shall be located and constructed so as to be safeguarded against contamination in accordance with applicable local regulations. Installation shall be in accordance with Sections 608.17.1 through 608.17.8.

(Reason: To allow local requirements to govern.)

Section 703.6; Delete

(Reason: not a standard practice in this region)

Section 704.5; added to read as follows:

***704.5* Single stack fittings.** Single stack fittings with internal baffle, PVC schedule 40 or cast iron single stack shall be designed by a registered engineer and comply to a national recognized standard.

(Reason: to allow owners, installers, inspectors, and design professionals to ready identify product markers to determine they meet all required standards.)

Section 712.5; add Section 712.5 to read as follows:

712.5 Dual Pump System. All sumps shall be automatically discharged and, when in any "public use" occupancy where the sump serves more than 10 fixture units, shall be provided with dual pumps or ejectors arranged to function independently in case of overload or mechanical failure. For storm drainage sumps and pumping systems, see Section 1113.

(Reason: To address dual pump system. To provide reference for storm drainage systems.)

Section 713, 713.1; change to read as follows:

SECTION 713

ENGINEERED ~~COMPUTERIZED~~ DRAINAGE DESIGN

713.1 Design of drainage system. The sizing, design and layout of the drainage system shall be ~~permitted to be~~ designed by a registered engineer using *approved* ~~computer~~ design methods.

(Reason: Code was too restrictive.)

Section 803.3; added to read as follows:

803.3 Special waste pipe, fittings, and components. Pipes, fittings, and components receiving or intended to receive the discharge of any fixture into which acid or corrosive chemicals are placed shall be constructed of CPVC, high silicone iron, PP, PVDF, chemical resistant glass, or glazed ceramic materials.

(Reason: To clarify the allowable materials which are specifically listed for chemical drainage applications.)

Section 903.1; change to read as follows:

903.1 Roof extension. Open vent pipes that extend through a roof shall terminate not less than six (6) inches (152 mm) above the roof. Where a roof is to be used for assembly or as a promenade, observation deck, sunbathing deck or similar purposes, open vent pipes shall terminate not less than 7 feet (2134 mm) above the roof.

(Reason: To provide regional guideline on standard installation method for this area and address reference number correction.)

******Section 918.8; change to read as follows.***

918.8 **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. Air admittance valves shall only be installed with the prior approval of the building official.

(Reason: Mechanical Device that is subject to fail and not installed per manufacturer)

*****Section 1003; see note below:***

{Until the Health and Water Departments of the area can coordinate a uniform grease interceptor section, each city will have to modify this section individually.}

*****Section 1106.1; change to read as follows:***

1106.1 General. The size of the vertical conductors and leaders, building storm drains, building storm sewers, and any horizontal branches of such drains or sewers shall be based on six (6) inches per hour ~~the 100-year hourly~~ rainfall rate ~~indicated in Figure 1106.1 or on other rainfall rates determined from *approved* local weather data~~.

(Reason: Specify the roof drain size normally used in the area.)

*****Section 1108.3; change to read as follows:***

1108.3 Sizing of secondary drains. Secondary (emergency) roof drain systems shall be sized in accordance with Section 1106 ~~based on the rainfall rate for which the primary system is sized in Figure 1106.1 or on other rainfall rates determined from *approved* local weather data.~~ Scuppers shall be sized to prevent the depth of ponding water from exceeding that for which the roof was designed as determined by Section 1101.7. Scuppers shall not have an opening dimension of less than 4 inches (102 mm). The flow through the primary system shall not be considered when sizing the secondary roof drain system.

(Reason: Specify that overflow drainage is to be the same size as the normal roof drains.)

****Section 1109; delete this section.**

******Section 1202.1; delete Exceptions 1 and 2.***

(Reason: State law already specifies that Med Gas systems must comply with NFPA 99.)

END

Recommended Amendments to the

2018 International Mechanical Code

North Central Texas Council of Governments Region

The following sections, paragraphs, and sentences of the *2018 International Mechanical Code* (IMC) are hereby amended as follows: Standard type is text from the IMC. Underlined type is text inserted. ~~Lined through type is deleted text from the IMC.~~ A double asterisk at the beginning of a section identifies an amendment carried over from the 2015 edition of the code and a triple asterisk identifies a new or revised amendment of the 2018 edition of the code.

Note: Historically the North Central Texas Council of Governments (NCTCOG) has limited Chapter 1 amendments in order to allow each city to insert their local policies and procedures. We now have suggested certain items to be brought to the attention of cities considering adoption of the code that may be of concern to several jurisdictions. **It is still intended to be discretionary to each city to determine which Chapter 1 amendments to include.**

******Section 102.8; change to read as follows:***

102.8 Referenced Codes and Standards. The codes and standards referenced herein shall be those that are listed in Chapter 15 and such codes, when specifically adopted, and standards shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and the referenced standards, the provisions of this code shall apply. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the adopted amendments. Any reference to NFPA 70 shall mean the Electrical Code as adopted.

(Reason: Legal wording to recognize locally adopted codes and amendments adopted with referenced codes.)

******Section 306.3; change to read as follows:***

306.3 Appliances in Attics. Attics containing appliances shall be provided *. . . {bulk of paragraph unchanged} . . .* side of the appliance. The clear *access* opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), and large enough to allow removal of the largest appliance. As a minimum, for *access* to the attic space, provide one of the following:

4. A permanent stair.

5. A pull-down stair with a minimum 300 lb. (136 kg) capacity.

6. An *access* door from an upper floor level.

7. *Access* Panel may be used in lieu of items 1, 2, and 3 with prior approval of the code official due to building conditions.

   Exceptions:

   1. The passageway and level service space are not required where the appliance is capable of being serviced and removed… *{remainder of section unchanged}*

(Reason: To provide a safe means of accessibility to appliances in attics and to allow for different types of construction limitations. Consistent with regional amendment to International Fuel and gas Code (IFGC) 306.3.)

***Section 306.5; change to read as follows:**

306.5 Equipment and Appliances on Roofs or Elevated Structures. Where *equipment* requiring *access* or appliances are located on an elevated structure or the roof of a building such that personnel will have to climb higher than ~~16 feet (4877 mm)~~ 8 feet above grade to access, an interior or exterior means of access shall be provided. ~~Exterior ladders providing roof *access* need not extend closer than 12 foot (2438 mm) to the finish~~ grade or floor level below and shall extend to the ~~*equipment* and appliances' level service space~~. Such *access* shall . . . *{bulk of section to read the same}* . . . on roofs having a slope greater than four units vertical in 12 units horizontal (33-percent slope). ... *{remainder of text unchanged}*.

(Reason: To assure access to roof appliances and provide options to not extend exterior ladders to grade. Consistent with IFGC amendments.)

***Section 306.5.1; change to read as follows:**

306.5.1 Sloped Roofs. Where appliances, *equipment*, fans or other components that require service are installed on a roof having a slope of three units vertical in 12 units horizontal (25-percent slope) or greater and having an edge more than 30 inches (762 mm) above grade at such edge, a catwalk at least 16 inches in width with substantial cleats spaced not more than 16 inches apart shall be provided from the roof *access* to a level platform at the appliance. The level platform shall be provided on each side of the appliance to which *access* is required for service, repair or maintenance. The platform shall be not less than 30 inches (762 mm) in any dimension and shall be provided with guards. The guards shall extend not less than 42 inches (1067 mm) above the platform, shall be constructed so as to prevent the passage of a 21-inch-diameter (533 mm) sphere and shall comply with the loading requirements for guards specified in the *International Building Code*…*{remainder of text unchanged}*.

(Reason: To assure safe access to roof appliances. Consistent with IFGC amendments.)

***Section 306; add Section 306.6 to read as follows:**

306.6 Water Heaters Above Ground or Floor. When the mezzanine or platform in which a water heater is installed is more than eight (8) feet (2438 mm) above the ground or floor level, it shall be made accessible by a stairway or permanent ladder fastened to the building.

> **Exception:** A maximum 10 gallon water heater (or larger with approval) is capable of being accessed through a lay-in ceiling and the water heater installed is not more than ten (10) feet (3048 mm) above the ground or floor level and may be reached with a portable ladder.

(Reason: To provide safe access to water heaters and to provide lighting and receptacle for maintenance of equipment. Consistent with regional amendments to IFGC 306.7 and International Plumbing Code (IPC) 502.5.)

***Section 307.2.3; amend item 2 to read as follows:**

2. A separate overflow drain line shall be connected to the drain pan provided with the equipment. Such overflow drain shall discharge to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The overflow drain line shall connect to the drain pan at a higher level than the primary drain connection. However, the conspicuous point shall not create a hazard such as dripping over a walking surface or other areas so as to create a nuisance.

(Reason: Greater specificity in prohibited locations for condensate discharge. Consistent with regional amendment to IPC 314.2.1.)

***Section 403.2.1; add an item 5 to read as follows:**

8. Toilet rooms within private dwellings that contain only a water closet, lavatory, or combination thereof may be ventilated with an *approved* mechanical recirculating fan or similar device

designed to remove odors from the air.

(Reason: Consistent with common regional practice. Consistent with regional amendment to International Residential Code (IRC) R303.3.)

***Section 501.3; add an exception to read as follows:**

501.3 Exhaust Discharge. The air removed by every mechanical exhaust system shall be discharged outdoors at a point where it will not cause a public nuisance and not less than the distances specified in Section 501.3.1. The air shall be discharged to a location from which it cannot again be readily drawn in by a ventilating system. Air shall not be exhausted into an attic, crawl space, or be directed onto walkways.

Exceptions:

1. Whole-house ventilation-type attic fans shall be permitted to discharge into the attic space of dwelling units having private attics.

2. Commercial cooking recirculating systems.

3. Where installed in accordance with the manufacturer's instructions and where mechanical or natural ventilation is otherwise provided in accordance with Chapter 4, listed and labeled domestic ductless range hoods shall not be required to discharge to the outdoors.

4. Toilet room exhaust ducts may terminate in a warehouse or shop area when infiltration of outside air is present.

(Reason: Provide a reasonable alternative in areas where a large volume of outside air is present.)

***Section 607.5.1; change to read as follows:**

607.5.1 Fire Walls. Ducts and air transfer openings permitted in fire walls in accordance with Section 705.11 of the International Building Code shall be protected with listed fire dampers installed in accordance with their listing**.** For hazardous exhaust systems see Section 510.1-510.9 IMC.

(Reason: Correspond with un-amended IBC 710.7.)

END

2018 International Fuel Gas Code

North Central Texas Council of Governments Region

The following sections, paragraphs, and sentences of the *2018 International Fuel Gas Code* are hereby amended as follows: Standard type is text from the IFGC. Underlined type is text inserted. ~~Lined through type is deleted text from IFGC.~~ A double asterisk at the beginning of a section identifies an amendment carried over from the 2015 edition of the code and a triple asterisk identifies a new or revised amendment with the 2018 code.

***Section 101.2**
{Local amendments to Section 101.2 may be necessary to correspond with the State Plumbing Licensing Law.}

***Section 102.2; add an exception to read as follows:**

Exception: Existing dwelling units shall comply with Section 621.2.

(Reason: Previous code provisions made unvented heater provisions retroactive except as provided for in local amendment. This amendment and amendment to IFGC 621.2 better clarify what the code already states: existing systems may stay unless considered unsafe.)

***Section 102.8; change to read as follows:**

102.8 Referenced codes and standards. The codes and standards referenced in this code shall be those that are listed in Chapter 8 and such codes, when specifically adopted, and standards shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and the referenced standards, the provisions of this code shall apply. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the amendments as well. Any reference to NFPA 70 or the ICC *Electrical Code* shall mean the Electrical Code as adopted.

(Reason: Legal wording to recognize locally adopted codes and amendments adopted with referenced codes.)

****Section 306.3; change to read as follows:**

[M] 306.3 Appliances in attics. Attics containing appliances shall be provided . . . *{bulk of paragraph unchanged}* . . . side of the *appliance*. The clear *access* opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), and large enough to allow removal of the largest *appliance.* As a minimum, for *access* to the attic space, provide one of the following:

9. A permanent stair.

10. A pull down stair with a minimum 300 lb (136 kg) capacity.

11. An *access* door from an upper floor level.

12. *Access* Panel may be used in lieu of items 1, 2, and 3 with prior approval of the code official due to building conditions.

Exceptions:

1. The passageway and level service space are not required where the *appliance* is capable of being serviced and removed through the required opening.

2. Where the passageway is not less than … *{bulk of section to read the same}*.

(Reason: To provide a safe means of accessibility to appliances in attics and to allow for different types of construction limitations. Consistent with regional amendment to IMC 306.3.)

***Section 306.5; change to read as follows:**

[M] 306.5 Equipment and Appliances on Roofs or Elevated Structures. Where *equipment* requiring *access* or appliances are located on an elevated structure or the roof of a building such that personnel will have to climb higher than ~~16 feet (4877 mm)~~ 8 feet above grade to access, an interior or exterior means of access shall be provided. ~~Exterior ladders providing roof access need not extend closer than 12 feet (2438 mm) to the finish grade or floor level below and shall extend to the *equipment* and appliances' level service space.~~ Such *access* shall . . . *{bulk of section to read the same}* . . . on roofs having a slope greater than four units vertical in 12 units horizontal (33-percent slope). ... *{remainder of text unchanged}*.

(Reason: To assure safe access to roof appliances. Consistent with IMC amendments.)

Section 306.5.1; change to read as follows:

[M] 306.5.1 Sloped roofs. Where appliances, *equipment*, fans or other components that require service are installed on a roof having a slope of 3 units vertical in 12 units horizontal (25-percent slope) or greater and having an edge more than 30 inches (762 mm) above grade at such edge, a catwalk at least 16 inches in width with substantial cleats spaced not more than 16 inches apart shall be provided from the roof *access* to a level platform at the appliance. The level platform shall be provided on each side of the appliance to which *access* is required for service, repair or maintenance. The platform shall be not less than 30 inches (762 mm) in any dimension and shall be provided with guards. The guards shall extend not less than 42 inches (1067 mm) above the platform, shall be constructed so as to prevent the passage of a 21-inch-diameter (533 mm) sphere and shall comply with the loading requirements for guards specified in the *International Building Code*.

(Reason: To assure safe access to roof appliances. Consistent with IMC amendments.)

Section 401.5; add a second paragraph to read as follows:

Both ends of each section of medium pressure gas piping shall identify its operating gas pressure with an *approved* tag. The tags are to be composed of aluminum or stainless steel and the following wording shall be stamped into the tag:

"WARNING
1/2 to 5 psi gas pressure
Do Not Remove"

(Reason: To protect homeowners and plumbers.)

Section 404.12; change to read as follows:

404.12 Minimum burial depth. Underground piping systems shall be installed a minimum depth of ~~12~~ 18 inches (~~305~~ 458 mm) top of pipe below grade, ~~except as provided for in Section 404.12.1~~.

404.12.1 Delete in its entirety

(Reason: To provide increased protection to piping systems and address reference number change.)

Section 406.4; change to read as follows:

406.4 Test pressure measurement. Test pressure shall be measured with a monometer 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.~~

(Reason: To require the use of more accurate diaphragm gauges. Spring gauges do not provide accurate measurement below approximately 17 psig.)

***Section 406.4.1; change to read as follows:**

406.4.1 Test pressure. The test pressure to be used shall be no less than ~~1 1/2 times the proposed maximum working pressure, but no less than 3~~ 3 psig (20 kPa gauge), or at the discretion of the Code Official, the piping and valves may be tested at a pressure of at least six (6) inches (152 mm) of mercury, measured with a manometer or slope 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.~~ For tests requiring a pressure of 3 psig, diaphragm gauges shall utilize a dial with a minimum diameter of three and one half inches (3 ½"), a set hand, 1/10 pound incrementation and pressure range not to exceed 6 psi for tests requiring a pressure of 3 psig. For tests requiring a pressure of 10 psig, diaphragm gauges shall utilize a dial with a minimum diameter of three and one-half inches (3 ½"), a set hand, a minimum of 2/10 pound incrementation and a pressure range not to exceed 20 psi. For welded piping, and for piping carrying gas at pressures in excess of fourteen (14) inches water column pressure (3.48 kPa) (1/2 psi) and less than 200 inches of water column pressure (52.2 kPa) (7.5 psi), the test pressure shall not be less than ten (10) pounds per square inch (69.6 kPa). For piping carrying gas at a pressure that exceeds 200 inches of water column (52.2 kPa) (7.5 psi), the test pressure shall be not less than one and one-half times the proposed maximum working pressure.

Diaphragm gauges used for testing must display a current calibration and be in good working condition. The appropriate test must be applied to the diaphragm gauge used for testing.

(Reason: To provide for lesser pressures to coordinate with the use of more accurate diaphragm gauges.)

***Section 409.1; add Section 409.1.4 to read as follows:**

409.1.4 Valves in CSST installations. Shutoff valves installed with corrugated stainless steel (CSST) piping systems shall be supported with an *approved* termination fitting, or equivalent support, suitable for the size of the valves, of adequate strength and quality, and located at intervals so as to prevent or damp out excessive vibration but in no case greater than 12-inches from the center of the valve. Supports shall be installed so as not to interfere with the free expansion and contraction of the system's piping, fittings, and valves between anchors. All valves and supports shall be designed and installed so they will not be disengaged by movement of the supporting piping.

(Reason: To provide proper security to CSST valves. These standards were established in this region in 1999 when CSST was an emerging technology.)

***Section 410.1; add a second paragraph and exception to read as follows:**

Access to regulators shall comply with the requirements for *access* to appliances as specified in Section 306.

Exception: A passageway or level service space is not required when the regulator is capable of being serviced and removed through the required attic opening.

(Reason: To require adequate access to regulators.)

***Section 621.2; add exception as follows:**

621.2 Prohibited use. One or more unvented room heaters shall not be used as the sole source of comfort heating in a dwelling unit.

Exception: Existing *approved* unvented heaters may continue to be used in dwelling units, in accordance with the code provisions in effect when installed, when *approved* by the Code Official unless an unsafe condition is determined to exist as described in Section 108.7.

(Reason: Gives code official discretion.)

END

The following sections, paragraphs, and sentences of the *2018 International Fire Code* (IFC) are hereby amended as follows: Standard type is text from the IFC. Underlined type is text inserted. ~~Lined through type is deleted text from IFC.~~ A double asterisk (**) at the beginning of a section identifies an amendment carried over from the 2015 edition of the code and a triple asterisk (***) identifies a new or revised amendment with the 2018 code.

Note: Historically, the North Central Texas Council of Governments (NCTCOG) has limited Chapter 1 amendments in order to allow each city to insert their local policies and procedures. We now have suggested certain items to be brought to the attention of cities considering adoption of the code that may be of concern to several jurisdictions. **It is still intended to be discretionary to each city to determine which Chapter 1 amendments to include.** Note that Appendices must be specifically adopted by Ordinance. As per Page vii of the 2018 IFC, note that several sections of the code require jurisdictional specificity as to dollar amounts, geographic limits, etc. and are not addressed in these amendments.

Explanation of Options A and B:
Please note that as there is a wide range in firefighting philosophies/capabilities of cities across the region, OPTIONS "A" and "B" are provided in the Fire and Building Code amendments. Jurisdictions should choose one of these based on their fire-fighting philosophies/capabilities when adopting code amendments.

***Section 102.1; change #3 to read as follows:**

3. Existing structures, facilities, and conditions when required in Chapter 11 or in specific sections of this code.

(Reason: To clarify that there are other provisions in the fire code applicable to existing buildings that are not located in Chapter 11, including but not limited to Section 505 Premises Identification.)

***Section 105.3.3; change to read as follows:**

105.3.3 Occupancy Prohibited before Approval. The building or structure shall not be occupied prior to the fire code official issuing a permit when required and conducting associated inspections indicating the applicable provisions of this code have been met.

(Reason: For clarity to allow for better understanding in areas not requiring such permits, such as unincorporated areas of counties. This amendment may be struck by a city.)

***Section 105.7; add Section 105.7.26 to read as follows:**

105.7.26 Electronic access control systems. Construction permits are required for the installation or modification of an electronic access control system, as specified in Chapter 10. A separate construction permit is required for the installation or modification of a fire alarm system that may be connected to the access control system. Maintenance performed in accordance with this code is not considered a modification and does not require a permit.

(Reason: Adds construction permit requirements for electronic access control systems affecting access and/or egress to ensure proper design and installation of such systems. These changes reflect local practices of municipalities in this region.)

***Section 202; amend and add definitions to read as follows:**

**** [B] AMBULATORY CARE FACILITY.** Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing, or similar care on a less than 24-hour basis to persons who are rendered incapable of self-preservation by the services provided or staff has accepted responsibility for care recipients already incapable. This group may include but not be limited to the following:

- Dialysis centers

- Procedures involving sedation

- Sedation dentistry

- Surgery centers

- Colonic centers

- Psychiatric centers

(Reason: to clarify the range of uses included in the definition)

**** [B] ATRIUM.** An opening connecting ~~two~~ three or more stories… *{remaining text unchanged}*

(Reason: Accepted practice in the region based on legacy codes. IBC Section 1009 permits unenclosed two story stairways under certain circumstances.)

**** [B] DEFEND IN PLACE.** A method of emergency response that engages building components and trained staff to provide occupant safety during an emergency. Emergency response involves remaining in place, relocating within the building, or both, without evacuating the building.

(*Reason: Added from International Building Code (IBC) definitions for consistency in interpretation of the subject requirements pertaining to such occupancies.)*

****FIRE WATCH.** A temporary measure intended to ensure continuous and systematic surveillance of a building or portion thereof by one or more qualified individuals or *standby personnel* when required by the *fire code official*, for the purposes of identifying and controlling fire hazards, detecting early signs of unwanted fire, raising an alarm of fire and notifying the fire department.

(Reason: Clearly defines options to the fire department for providing a fire watch.)

****FIREWORKS.** Any composition or device for the purpose of producing a visible or an audible effect for entertainment purposes by combustion, *deflagration*, ~~or~~ *detonation*, and/or activated by ignition with a match or other heat producing device that meets the definition of 1.3G fireworks or 1.4G fireworks. … *{Remainder of text unchanged}…*

(Reason: Increased safety from fireworks related injuries.)

~~****Option A**~~

~~***HIGH-PILED COMBUSTIBLE STORAGE: add a second paragraph to read as follows:***~~

~~Any building classified as a group S Occupancy or Speculative Building exceeding 12,000 sq. ft. that has a clear height in excess of 14 foot, making it possible to be used for storage in excess of 12 foot, shall be considered to be high-piled storage. When a specific product cannot be identified, a fire protection system and life safety features shall be installed as for Class IV commodities, to the maximum pile height.~~

****Option B**

HIGH-PILED COMBUSTIBLE STORAGE: add a second paragraph to read as follows:

Any building classified as a group S Occupancy or Speculative Building exceeding 6,000 sq. ft. that has a clear height in excess of 14 feet, making it possible to be used for storage in excess of 12 feet, shall be considered to be high-piled storage. When a specific product cannot be identified, a fire protection system and life safety features shall be installed as for Class IV commodities, to the maximum pile height.

(Reason: To provide protection for worst-case scenario in flexible or unknown situations.)

~~****Option A**~~

~~**HIGH-RISE BUILDING. {No Change Required}**~~

****Option B**

HIGH-RISE BUILDING. A building with an occupied floor located more than ~~75~~ 55 feet (~~22 860~~ 16 764 mm) above the lowest level of fire department vehicle access.

(Reason: Allows for additional construction safety features to be provided, based on firefighting response capabilities.)

****REPAIR GARAGE**. A building, structure or portion thereof used for servicing or repairing motor vehicles. This occupancy shall also include garages involved in minor repair, modification and servicing of motor vehicles for items such as lube changes, inspections, windshield repair or replacement, shocks, minor part replacement, and other such minor repairs.

(Reason: To further clarify types of service work allowed in a repair garage, as well as to correspond with definition in the IBC.)

SELF-SERVICE STORAGE FACILITY. **Real property designed and used for the purpose of renting or leasing individual storage spaces to customers for the purpose of storing and removing personal property on a self-service basis.

(Reason: To provide a definition that does not exist in the code.)

****STANDBY PERSONNEL.** Qualified fire service personnel, approved by the Fire Chief. When utilized, the number required shall be as directed by the Fire Chief. Charges for utilization shall be as normally calculated by the jurisdiction.

(Reason: To provide a definition that does not exist in the code for fire watch accommodations as required by the jurisdiction.)

****UPGRADED OR REPLACED FIRE ALARM SYSTEM.** A fire alarm system that is upgraded or replaced includes, but is not limited to the following:

- Replacing one single board or fire alarm control unit component with a newer model
- Installing a new fire alarm control unit in addition to or in place of an existing one
- Conversion from a horn system to an emergency voice/alarm communication system
- Conversion from a conventional system to one that utilizes addressable or analog devices

The following are not considered an upgrade or replacement:

- Firmware updates
- Software updates
- Replacing boards of the same model with chips utilizing the same or newer firmware

(Reason: This is referenced in several places, but the wording of "upgraded or replaced" is somewhat ambiguous and open to interpretation. Defining it here allows for consistent application across the region.)

***Section 307.1.1; change to read as follows:**

307.1.1 Prohibited Open Burning. Open burning ~~shall be prohibited~~ that is offensive or objectionable because of smoke emissions or when atmospheric conditions or local circumstances make such fires hazardous shall be prohibited.

Exception: {No change.}

(Reason: To further protect adjacent property owners/occupants from open burning and/or smoke emissions from open burning.)

***Section 307.2; change to read as follows:**

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 open burning ~~a bonfire~~. Application for such approval shall only be presented by and permits issued to the owner of the land upon which the fire is to be kindled.

Examples of state or local law, or regulations referenced elsewhere in this section may include but not be limited to the following:

1. Texas Commission on Environmental Quality (TCEQ) guidelines and/or restrictions.
2. State, County, or Local temporary or permanent bans on open burning.
3. Local written policies as established by the *fire code official*.

(Reason: Amendments to 307.2, 307.4, 307.4.3, and 307.5 better explain current requirements and recognize that jurisdictions have local established policies that best fit their environments.)

***Section 307.3; change to read as follows:**

307.3 Extinguishment Authority. ~~When open burning creates or adds to a hazardous situation, or a required permit for open burning has not been obtained, the fire code official is authorized to order the extinguishment of the open burning operation.~~ The fire code official is authorized to order the extinguishment by the permit holder, another person responsible or the fire department of open burning that creates or adds to a hazardous or objectionable situation.

(Reason: Provides direction as to responsible parties relative to extinguishment of the subject open burning.)

***Section 307.4; change to read as follows:**

307.4 Location. The location for open burning shall not be less than ~~50~~ 300 feet (~~15 240~~ 91 440 mm) from any structure, and provisions shall be made to prevent the fire from spreading to within ~~50~~ 300 feet (~~15 240~~ 91 440 mm) of any structure.

Exceptions: {No change.}

(*Reason: To increase the separation distance thereby increasing the safety to adjacent properties, as per applicable TCEQ rules and regulations regarding outdoor burning.)*

***Section 307.4.3, Exceptions; add exception #2 to read as follows:**

Exceptions:

2. Where buildings, balconies and decks are protected by an approved automatic sprinkler system.

(Reason: To reflect similar allowances for open-flame cooking in these same locations.)

***Section 307.4.4 and 307.4.5; change to read as follows:**

307.4.4 Permanent Outdoor Firepit. Permanently installed outdoor firepits for recreational fire purposes shall not be installed within 10 feet of a structure or combustible material.

Exception: Permanently installed outdoor fireplaces constructed in accordance with the International Building Code.

307.4.5 Trench Burns. Trench burns shall be conducted in air curtain trenches and in accordance with Section 307.2.

(Reason: To provide a greater level of safety for this potentially hazardous fire exposure condition. Decrease in separation distance allowed for outdoor firepits due to permanent nature of construction having substantial securement.)

***Section 307.5; change to read as follows:**

307.5 Attendance. *Open burning*, trench burns, bonfires, *recreational fires*, and use of portable outdoor fireplaces shall be constantly attended until the… *{Remainder of section unchanged}*

(Reason: Adds attendance for trench burns based on previous amendment provision for such.)

***Section 308.1.4; change to read as follows:**

308.1.4 Open-flame Cooking Devices. ~~Charcoal burners and other o~~Open-flame cooking devices, charcoal grills and other similar devices used for cooking shall not be ~~operated~~ located or used on combustible balconies, decks, or within 10 feet (3048 mm) of combustible construction.

Exceptions:

1. One- and two-family dwellings, except that LP-gas containers are limited to a water capacity not greater than 50 pounds (22.68 kg) [nominal 20 pound (9.08 kg) LP-gas capacity] with an aggregate LP-gas capacity not to exceed 100 pounds (5 containers).

2. Where buildings, balconies and decks are protected by an approved *automatic sprinkler system*, except that LP-gas containers are limited to a water capacity not greater than 50 pounds (22.68 kg) [nominal 20 pound (9.08 kg) LP-gas capacity], with an aggregate LP-gas capacity not to exceed 40 lbs. (2 containers).

3. {No change.}

(Reason: Decrease fire risk in multi-family dwellings and minimizes ignition sources and clarify allowable limits for 1 & 2 family dwellings, and allow an expansion for sprinklered multi-family uses. This amendment adds clarification and defines the container size allowed for residences.)

***Section 308.1.6.2, Exception #3; change to read as follows:**

Exceptions:

3. Torches or flame-producing devices in accordance with Section ~~308.4~~ 308.1.3.

(Reason: Section identified in published code is inappropriate.)

***Section 308.1.6.3; change to read as follows:**

308.1.6.3 *Sky Lanterns*. A person shall not release or cause to be released an ~~untethered~~ unmanned free-floating device containing an open flame or other heat source, such as but not limited to a *sky lantern*.

(Reason: Eliminates the potential fire hazard presented by utilization of such devices and the potential accidental release of such devices.)

***Section 311.5; change to read as follows:**

311.5 Placards. ~~Any~~ The *fire code official* is authorized to require marking of any vacant or abandoned buildings or structures determined to be unsafe pursuant to Section 110 of this code relating to structural or interior hazards, ~~shall be marked~~ as required by Section 311.5.1 through 311.5.5.

(Reason: There may be situations where placarding is not desired or necessary; also clarifies intent that it is not the fire code official's responsibility to provide the placard.)

***Section 403.5; change Section 403.5 to read as follows:**

403.5 Group E Occupancies. An approved fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for Group E occupancies and for buildings containing both a Group E occupancy and an atrium. A diagram depicting two evacuation routes shall be posted in a conspicuous location in each classroom. Group E occupancies shall also comply with Sections 403.5.1 through 403.5.3.

(Reason: The diagrams are intended to assist with egress in such occupancies – specifically, the primary teacher is not always present to assist children with egress. Also, such will help reinforce evacuation drill requirements.)

***Section 404.2.2; add Number 4.10 to read as follows:**

4.10 Fire extinguishing system controls.

(Reason: The committee believed this information could be of great help to such plans to facilitate locating sprinkler valves to minimize water damage, for instance.)

***Section 405.4; change Section 405.4 to read as follows:**

405.4 Time. The fire code official may require an evacuation drill at any time. Drills shall be held at unexpected times and under varying conditions to simulate the unusual conditions that occur in case of fire.

(Reason: This change clarifies who may require a fire or evacuation drill).

***Section 501.4; change to read as follows:**

501.4 Timing of Installation. When fire apparatus access roads or a water supply for fire protection is required to be installed for any structure or development, they shall be installed, tested, and approved prior to the time of which construction has progressed beyond completion of the foundation of any structure. , ~~such protection shall be installed and made serviceable prior to and during the time of construction except when approved alternative methods of protection are provided. Temporary street signs shall be installed at each street intersection when construction of new roadways allows passage by vehicles in accordance with Section 505.2.~~

(Reason: Reflects current practice in the region relative to ensuring fire department and EMS access during construction, which can be a time of increased frequency for emergency incidents.)

Section 503.1.1; add sentence to read as follows:

Except for one- or two-family dwellings, the path of measurement shall be along a minimum of a ten feet (10') wide unobstructed pathway around the external walls of the structure.

(Reason: Recognizes that the hose lay provision can only be measured along a pathway that is wide enough for fire fighter access.)

Section 503.2.1; change to read as follows:

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than ~~20~~ 24 feet (~~6096 mm~~ 7315 mm), exclusive of shoulders, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than ~~13 feet 6 inches (4115 mm)~~ 14 feet (4267 mm).

Exception: Vertical clearance may be reduced; provided such reduction does not impair access by fire apparatus and *approved* signs are installed and maintained indicating the established vertical clearance when approved.

(Reason: Amendments to 503.2.1 and 503.2.2 recognize that the equipment now used in firefighting is increasing in size. The code already recognizes that larger dimensions may be required under Section 503.2.2. The amendments are to standardize the dimensions for this area. With the increase in fire apparatus size, this will allow for the passage of two fire apparatus during a fire or EMS emergency.)

Section 503.2.2; change to read as follows:

503.2.2 Authority. The *fire code official* shall have the authority to require an increase in the minimum access widths and vertical clearances where they are inadequate for fire or rescue operations.

(Reason: Amendments to 503.2.1 and 503.2.2 recognize that the equipment now used in firefighting is increasing in size. The code already recognizes that larger dimensions may be required under Section 503.2.2. The amendments are to standardize the dimensions for this area. With the increase in fire apparatus size, this will allow for the passage of two fire apparatus during a fire or EMS emergency.)

Section 503.2.3; change Section 503.2.3 to read as follows:

503.2.3 Surface. Fire apparatus access roads shall be designed and maintained to support imposed loads of 80,000 Lbs. for fire apparatus and shall be surfaced so as to provide all-weather driving capabilities.

(Reason: To address the current size of fire trucks in use – figure derived from DOT requirements for waiver of vehicle exceeding such weight.)

Section 503.3; change to read as follows:

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~~ Striping, signs, or other markings, when approved by the *fire code official*, 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~~ Striping, signs and other markings shall be maintained in a clean and legible condition at all times and be replaced or repaired when necessary to provide adequate visibility.

(1) Striping – Fire apparatus access roads shall be continuously marked by painted lines of red traffic paint six inches (6") in width to show the boundaries of the lane. The words "NO PARKING FIRE

LANE" or "FIRE LANE NO PARKING" shall appear in four inch (4") white letters at 25 feet intervals on the red border markings along both sides of the fire lanes. Where a curb is available, the striping shall be on the vertical face of the curb.

(2) Signs – Signs shall read "NO PARKING FIRE LANE" or "FIRE LANE NO PARKING" and shall be 12" wide and 18" high. Signs shall be painted on a white background with letters and borders in red, using not less than 2" lettering. Signs shall be permanently affixed to a stationary post and the bottom of the sign shall be six feet, six inches (6'6") above finished grade. Signs shall be spaced not more than fifty feet (50') apart along both sides of the fire lane. Signs may be installed on permanent buildings or walls or as approved by the Fire Chief.

(Reason: Establishes a standard method of marking and reflects local long-standing practices.)

***Section 503.4; change to read as follows:**

503.4 Obstruction of Fire Apparatus Access Roads. Fire apparatus access roads shall not be obstructed in any manner, including the parking of vehicles. The minimum widths and clearances established in Section 503.2.1 and any area marked as a fire lane as described in Section 503.3 shall be maintained at all times.

(Reason: As originally worded, the section implied that vehicles could be parked in the marked fire lane and not be in violation if the minimum width is still maintained. Current accepted enforcement practice is to require the entire marked fire lane to be maintained clear and unobstructed.)

***Section 505.1; change to read as follows:**

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)~~ 6 inches (152.4 mm) high with a minimum stroke width of 1/2 inch (12.7 mm). Where required by the fire code official, address numbers shall be provided in additional approved locations to facilitate emergency response. Where access is by means of a private road, buildings do not immediately front a street, and/or the building cannot be viewed from the public way, a monument, pole or other sign with approved 6 inch (152.4 mm) height building numerals or addresses and 4 inch (101.6 mm) height suite/apartment numerals of a color contrasting with the background of the building or other approved means shall be used to identify the structure. Numerals or addresses shall be posted on a minimum 20 inch (508 mm) by 30 inch (762 mm) background on border. Address identification shall be maintained.

> **Exception:** R-3 Single Family occupancies shall have approved numerals of a minimum 3 ½ inches (88.9 mm) in height and a color contrasting with the background clearly visible and legible from the street fronting the property and rear alleyway where such alleyway exists.

(Reason: To increase the minimum addressing requirements for commercial properties and establish a minimum for single-family residential properties Such improves legibility of these signs which are critical to emergency response in a more timely manner.)

***Section 507.4; change to read as follows:**

507.4 Water Supply Test Date and Information. The water supply test used for hydraulic calculation of fire protection systems shall be conducted in accordance with NFPA 291 "Recommended Practice for Fire Flow Testing and Marking of Hydrants" and within one year of sprinkler plan submittal. The *fire code official* shall be notified prior to the water supply test. Water supply tests shall be witnessed by the *fire code official*, as required ~~or approved documentation of the test shall be provided to the *fire code official* prior to final approval of the water supply system~~. The exact location of the static/residual hydrant and the flow hydrant shall be indicated on the design drawings. All fire protection plan submittals shall be accompanied by a hard copy of the waterflow test report, or as approved by the *fire code official*. The

report must indicate the dominant water tank level at the time of the test and the maximum and minimum operating levels of the tank, as well, or identify applicable water supply fluctuation. The licensed contractor must then design the fire protection system based on this fluctuation information, as per the applicable referenced NFPA standard. Reference Section 903.3.5 for additional design requirements.

(Reason: Clarifies intent of the test to ensure contractor accounts for water supply fluctuations.)

***Section 507.5.4; change to read as follows:**

507.5.4 Obstruction. Unobstructed access to fire hydrants shall be maintained at all times. Posts, fences, vehicles, growth, trash, storage and other materials or objects shall not be placed or kept near fire hydrants, fire department inlet connections or fire protection system control valves in a manner that would prevent such equipment or fire hydrants from being immediately discernible. The fire department shall not be deterred or hindered from gaining immediate access to fire protection equipment or fire hydrants.

(Reason: Additional guidance based on legacy language to ensure these critical devices are available in an emergency incident.)

***Section 509.1.2; add new Section 509.1.2 to read as follows:**

509.1.2 Sign Requirements. Unless more stringent requirements apply, lettering for signs required by this section shall have a minimum height of 2 inches (50.8 mm) when located inside a building and 4 inches (101.6 mm) when located outside, or as approved by the *fire code official*. The letters shall be of a color that contrasts with the background.

(Reason: Provides direction as to appropriate sign criteria to develop local and regional consistency in this regard.)

****Section 603.3.2 and 603.3.2.1; change to read as follows:**

603.3.1 Fuel oil storage in outside, above-ground tanks. Where connected to a fuel-oil piping system, the maximum amount of fuel oil storage allowed outside above ground without additional protection shall be 660 gallons (2498 L). The storage of fuel oil above ground in quantities exceeding 660 gallons (2498 L) shall comply with NFPA 31 and Chapter 57.

603.3.2 Fuel oil storage inside buildings. Fuel oil storage inside buildings shall comply with Sections 603.3.2.1 through 603.3.2.5 ~~or~~ and Chapter 57.

603.3.2.1 Quantity limits. One or more fuel oil storage tanks containing Class II or III *combustible liquid* shall be permitted in a building. The aggregate capacity of all tanks shall not exceed the following:

1. 660 gallons (2498 L) in unsprinklered buildings, where stored in a tank complying with UL 80, UL 142 or UL 2085 for Class III liquids, and also listed as a double-wall/secondary containment tank for Class II liquids.
2. 1,320 gallons (4996 L) in buildings equipped with an *automatic sprinkler* system in accordance with Section 903.3.1.1, where stored in a tank complying with UL 142 or UL 2085 as a double-wall/secondary containment tank.
3. 3,000 gallons (11 356 L) where stored in protected above-ground tanks complying with UL 2085 and Section 5704.2.9.7 and the room is protected by an *automatic sprinkler system* in accordance with Section 903.3.1.1.

(Reason: Issues addressed by Chapter 57, such as venting to outside of buildings, remote fill to outside of building, overfill protection, physical protection, etc., are not included in Section 603.3, so compliance with Chapter 57 is also required. The Board determined that fuel storage in such tanks inside of buildings is commonly in double-wall tanks, and that this inherent leak protection was prudent in order to allow these quantities of combustible liquids to be stored inside a building for such purpose.)

****Section 807.5.2.2 and 807.5.2.3; change to read as follows:**

807.5.2.2 Artwork in Corridors. Artwork and teaching materials shall be limited on the walls of corridors to not more than 20 percent of the wall area. Such materials shall not be continuous from floor to ceiling or wall to wall. Curtains, draperies, wall hangings, and other decorative material suspended from the walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with Section 807 or be noncombustible.

Exception: Corridors protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 shall be limited to 50 percent of the wall area.

807.5.2.3 Artwork in Classrooms. Artwork and teaching materials shall be limited on walls of classrooms to not more than 50 percent of the specific wall area to which they are attached.
Curtains, draperies, wall hangings and other decorative material suspended from the walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with Section 807 or be noncombustible.

(Reason: This change allows an increase in wall coverage due to the presence of sprinklers. Also provides additional guidance relative to fire resistance requirements in these areas.)

*****Section 807.5.5.2 and 807.5.5.3; change to read as follows:***

807.5.5.2 Artwork in Corridors. Artwork and teaching materials shall be limited on the walls of corridors to not more than 20 percent of the wall area. Such materials shall not be continuous from floor to ceiling or wall to wall. Curtains, draperies, wall hangings and other decorative material suspended from the walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with Section 807 or be noncombustible.

Exception: Corridors protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 shall be limited to 50 percent of the wall area.

807.5.5.3 Artwork in Classrooms. Artwork and teaching materials shall be limited on walls of classrooms to not more than 50 percent of the specific wall area to which they are attached. Curtains, draperies, wall hangings and other decorative material suspended from the walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with Section 807 or be noncombustible.

(Reason: This change allows an increase in wall coverage due to the presence of sprinklers. Also provides additional guidance relative to fire resistance requirements in these areas.)

******Section 901.6.1; add Section 901.6.1.1 to read as follows:***

901.6.1.1 Standpipe Testing. Building owners/managers must maintain and test standpipe systems as per NFPA 25 requirements. The following additional requirements shall be applied to the testing that is required every 5 years:

10. The piping between the Fire Department Connection (FDC) and the standpipe shall be backflushed or inspected by approved camera when foreign material is present or when caps are missing, and also hydrostatically tested for all FDC's on any type of standpipe system. Hydrostatic testing shall also be conducted in accordance with NFPA 25 requirements for the different types of standpipe systems.

11. For any manual (dry or wet) standpipe system not having an automatic water supply capable of flowing water through the standpipe, the tester shall connect hose from a fire hydrant or portable pumping system (as approved by the *fire code official*) to each FDC, and flow water through the standpipe system to the roof outlet to verify that each inlet connection functions properly. Confirm that there are no open hose valves prior to introducing water into a dry standpipe. There is no required pressure criteria at the outlet. Verify that check valves function properly and that there are no closed control valves on the system.

12. Any pressure relief, reducing, or control valves shall be tested in accordance with the requirements of NFPA 25. All hose valves shall be exercised.

13. If the FDC is not already provided with approved caps, the contractor shall install such caps for all FDC's as required by the *fire code official*.

14. Upon successful completion of standpipe test, place a blue tag (as per Texas Administrative Code, Fire Sprinkler Rules for Inspection, Test and Maintenance Service (ITM) Tag) at the bottom of each standpipe riser in the building. The tag shall be check-marked as "Fifth Year" for Type of ITM, and the note on the back of the tag shall read "5 Year Standpipe Test" at a minimum.

15. The procedures required by Texas Administrative Code Fire Sprinkler Rules with regard to Yellow Tags and Red Tags or any deficiencies noted during the testing, including the required notification of the local Authority Having Jurisdiction (*fire code official*) shall be followed.

16. Additionally, records of the testing shall be maintained by the owner and contractor, if applicable, as required by the State Rules mentioned above and NFPA 25.

17. Standpipe system tests where water will be flowed external to the building shall not be conducted during freezing conditions or during the day prior to expected night time freezing conditions.

18. Contact the *fire code official* for requests to remove existing fire hose from Class II and III standpipe systems where employees are not trained in the utilization of this firefighting equipment. All standpipe hose valves must remain in place and be provided with an approved cap and chain when approval is given to remove hose by the *fire code official*.

(Reason: Increases the reliability of the fire protection system and re-emphasizes the requirements of NFPA 25 relative to standpipe systems, as well as ensuring that FDC connections are similarly tested/maintained to ensure operation in an emergency incident.)

***Section 901.6.4; add Section 901.6.4 to read as follows:**

901.6.4 False Alarms and Nuisance Alarms. False alarms and nuisance alarms shall not be given, signaled or transmitted or caused or permitted to be given, signaled or transmitted in any manner.

(Reason: Places the responsibility on the business or property owner to maintain their fire alarm systems in approved condition. Allows the enforcement of "prohibition of false alarms". Replaces text lost from the legacy codes that helps to ensure the maintenance of life safety systems.)

***Section 901.7; change to read as follows:**

901.7 Systems Out of Service. Where a required *fire protection system* is out of service or in the event of an excessive number of activations, the fire department and the *fire code official* shall be notified immediately and, where required by the *fire code official*, the building shall either be evacuated or an *approved fire watch* shall be provided for all occupants left unprotected by the shut down until the *fire protection system* has been returned to service. … *{Remaining text unchanged}*

(Reason: Gives fire code official more discretion with regards to enforcement of facilities experiencing nuisance alarm or fire protection system activations necessitating correction/repair/replacement. The intent of the amendment is to allow local jurisdictions to enforce fire watches, etc., where needed to ensure safety of occupants where fire protection systems are experiencing multiple nuisance activations.)

***Section 903.1.1; change to read as follows:**

903.1.1 Alternative Protection. Alternative automatic fire-extinguishing systems complying with Section 904 shall be permitted ~~instead of~~ in addition to automatic sprinkler protection where recognized by the applicable standard ~~and~~, or as *approved* by the *fire code official*.

(Reason: Such alternative systems do not provide the reliability of automatic sprinkler protection. Most gaseous type systems are highly susceptible to open doors, ceiling or floor tile removal, etc. However, an

applicant could pursue an Alternate Method request to help mitigate the reliability issues with these alternative systems with the fire code official if so desired, or there may be circumstances in which the fire code official is acceptable to allowing an alternate system in lieu of sprinklers, such as kitchen hoods or paint booths.)

Section 903.1.1.3 Add Exempt Location

903.1.1.3 Automatic sprinkler protection shall not be required under attached or detached metal awnings, metal walkway covers or similar type structures if the entire cover and supporting structure is constructed of metal.

*****Section 903.2; add paragraph to read as follows and delete the exception:***

Automatic Sprinklers shall not be installed in elevator machine rooms, elevator machine spaces, and elevator hoistways, other than pits where such sprinklers would not necessitate shunt trip requirements under any circumstances. Storage shall not be allowed within the elevator machine room. Signage shall be provided at the entry doors to the elevator machine room indicating "ELEVATOR MACHINERY – NO STORAGE ALLOWED."

(Reason: Firefighter and public safety. This amendment eliminates the shunt trip requirement of the International Building Code Section 3005.5 for the purpose of elevator passenger and firefighter safety. This amendment is contingent on the Building Code amendment eliminating the Exceptions to Section 3005.4, such that passive fire barriers for these areas are maintained. The exception deletion is due to the fact that such telecom areas pose an undue fire risk to the structural integrity of the building.)

*****Section 903.2.9; add Section 903.2.9.3 to read as follows:***

903.2.9.3 Self-Service Storage Facility. An automatic sprinkler system shall be installed throughout all self-service storage facilities.

(Reason: Fire departments are unable to inspect these commercial occupancies and are unaware of the contents being stored. Previous allowance to separate units by fire barriers is difficult to enforce maintenance after opening.)

~~****Option A**~~

~~***Section 903.2.11; change 903.2.11.3 and add 903.2.11.7 and 903.2.11.8, as follows:***~~

~~**903.2.11.3 Buildings 55 Foot or more in Height.** An automatic sprinkler system shall be installed throughout buildings that have one or more stories with an occupant load of 30 or more, other than penthouses in compliance with Section 1510 of the *International Building Code*, located 55 feet (16 764 mm) or more above the lowest level of fire department vehicle access, measured to the finished floor.~~

~~**Exceptions:**~~

~~1. Open parking structures in compliance with Section 406.5 of the *International Building Code, having no other occupancies above the subject garage.*~~

~~2. Occupancies in Group F-2.~~

~~**903.2.11.7 High-Piled Combustible Storage.** For any building with a clear height exceeding 12 feet (4572 mm), see Chapter 32 to determine if those provisions apply.~~

~~**903.2.11.8 Spray Booths and Rooms.** New and existing spray booths and spraying rooms shall be protected by an approved automatic fire-extinguishing system.~~

**Option B

Section 903.2.11; change 903.2.11.3 and add 903.2.11.7, 903.2.11.8, and 903.2.11.9 as follows:

903.2.11.3 Buildings ~~55~~ 35 feet or more in height. An automatic sprinkler system shall be installed throughout buildings that have one or more stories ~~with an occupant load of 30 or more~~, other than penthouses in compliance with Section 1510 of the *International Building Code*, located ~~55~~ 35 feet (~~16 764~~ 10 668 mm) or more above the lowest level of fire department vehicle access, measured to the finished floor.

Exceptions:

~~1.~~ Open parking structures in compliance with Section 406.5 of the *International Building Code, having no other occupancies above the subject garage*.

~~2. Occupancies in Group F-2.~~

903.2.11.7 High-Piled Combustible Storage. For any building with a clear height exceeding 12 feet (4572 mm), see Chapter 32 to determine if those provisions apply.

903.2.11.8 Spray Booths and Rooms. New and existing spray booths and spraying rooms shall be protected by an approved automatic fire-extinguishing system.

903.2.11.9 Buildings Over 6,000 sq. ft. An automatic sprinkler system shall be installed throughout all buildings with a building area 6,000 sq. ft. or greater and in all existing buildings that are enlarged to be 6,000 sq. ft. or greater. For the purpose of this provision, fire walls shall not define separate buildings.

Exception: Open parking garages in compliance with Section 406.5 of the *International Building Code*.

(Reason: Provides jurisdictions options as to their desired level of sprinkler protection based on multiple factors including firefighting philosophies/capabilities.)

Section 903.3.1.1.1; change to read as follows:

903.3.1.1.1 Exempt Locations. When approved by the *fire code official*, automatic sprinklers shall not be required in the following rooms or areas where such ... *{text unchanged}…* because it is damp, of fire-resistance-rated construction or contains electrical equipment.

7. Any room where the application of water, or flame and water, constitutes a serious life or fire hazard.
8. Any room or space where sprinklers are considered undesirable because of the nature of the contents, when approved by the code official.
9. Generator and transformer rooms, under the direct control of a public utility, separated from the remainder of the building by walls and floor/ceiling or roof/ceiling assemblies having a fire-resistance rating of not less than 2 hours.
10. ~~In rooms or areas that are of noncombustible construction with wholly noncombustible contents.~~
11. ~~Fire service access~~ Elevator machine rooms, ~~and~~ machinery spaces, and hoistways, other than pits where such sprinklers would not necessitate shunt trip requirements under any circumstances.
12. {Delete.}

(Reason: Gives more direction to code official. Exception 4 deleted to provide protection where fire risks

are poorly addressed. Amendment 903.2 addresses Exception 5 above relative to the elimination of sprinkler protection in these areas to avoid the shunt trip requirement.)

******Section 903.3.1.2.3; delete section and replace as follows:***

[F] Section 903.3.1.2.3 Attached Garages and Attics. Sprinkler protection is required in attached garages, and in the following attic spaces:

1. Attics that are used or intended for living purposes or storage shall be protected by an automatic sprinkler system.
2. Where fuel-fired equipment is installed in an unsprinklered attic, not fewer than one quick-response intermediate temperature sprinkler shall be installed above the equipment.
3. Attic spaces of buildings that are two or more stories in height above grade plane or above the lowest level of fire department vehicle access.
4. Group R-4, Condition 2 occupancy attics not required by Item 1 or 3 to have sprinklers shall comply with one of the following:
    - 4.1. Provide automatic sprinkler system protection.
    - 4.2. Provide a heat detection system throughout the attic that is arranged to activate the building fire alarm system.
    - 4.3. Construct the attic using noncombustible materials.
    - 4.4. Construct the attic using fire-retardant-treated wood complying with Section 2303.2 of the International Building Code.
    - 4.5. Fill the attic with noncombustible insulation.

(Reason: Attic protection is required due to issues with fire exposure via soffit vents, as well as firefighter safety. Several jurisdictions indicated experience with un-protected attic fires resulting in displacement of all building occupants. NFPA 13 provides for applicable attic sprinkler protection requirements, as well as exemptions to such, based on noncombustible construction, etc. Attached garages already require sprinklers via NFPA 13R – this amendment just re-emphasizes the requirement.)

*****Section 903.3.1.3; change to read as follows:***

903.3.1.3 NFPA 13D Sprinkler Systems. *Automatic sprinkler systems* installed in one- and two-family *dwellings*; Group R-3; Group R-4, Condition 1; and *townhouses* shall be permitted to be installed throughout in accordance with NFPA 13D or in accordance with state law.

(Reason: To allow the use of the Plumbing section of the International Residential Code (IRC) and recognize current state stipulations in this regard.)

*****Section 903.3.1.4; add to read as follows:***

[F] 903.3.1.4 Freeze protection. Freeze protection systems for automatic fire sprinkler systems shall be in accordance with the requirements of the applicable referenced NFPA standard and this section.

903.3.1.4.1 Attics. Only dry-pipe, preaction, or listed antifreeze automatic fire sprinkler systems shall be allowed to protect attic spaces.

Exception: Wet-pipe fire sprinkler systems shall be allowed to protect non-ventilated attic spaces where:

4. The attic sprinklers are supplied by a separate floor control valve assembly to allow ease of draining the attic system without impairing sprinklers throughout the rest of the building, and
5. Adequate heat shall be provided for freeze protection as per the applicable referenced NFPA standard, and
6. The attic space is a part of the building's thermal, or heat, envelope, such that insulation is provided at the roof deck, rather than at the ceiling level.

903.3.1.4.2 Heat trace/insulation. Heat trace/insulation shall only be allowed where approved by the fire code official for small sections of large diameter water-filled pipe.

(Reason: In the last few years, severe winters brought to light several issues with current practices for sprinklering attics, not the least of which was wet-pipe sprinklers in ventilated attics provided with space heaters, etc. for freeze protection of such piping. This practice is not acceptable for the protection of water-filled piping in a ventilated attic space as it does not provide a reliable means of maintaining the minimum 40 degrees required by NFPA, wastes energy, and presents a potential ignition source to the attic space. Listed antifreeze is specifically included because NFPA currently allows such even though there is no currently listed antifreeze at the time of development of these amendments. The intent of this amendment is to help reduce the large number of freeze breaks that have occurred in the past with water-filled wet-pipe sprinkler systems in the future, most specifically in attic spaces.)

***Section 903.3.5; add a second paragraph to read as follows:**

Water supply as required for such systems shall be provided in conformance with the supply requirements of the respective standards; however, every water-based fire protection system shall be designed with a 10 psi safety factor. Reference Section 507.4 for additional design requirements.

(Reason: To define uniform safety factor for the region.)

***Section 903.4; add a second paragraph after the exceptions to read as follows:**

Sprinkler and standpipe system water-flow detectors shall be provided for each floor tap to the sprinkler system and shall cause an alarm upon detection of water flow for more than 45 seconds. All control valves in the sprinkler and standpipe systems except for fire department hose connection valves shall be electrically supervised to initiate a supervisory signal at the central station upon tampering.

(Reason: To avoid significant water losses. Consistent with amendment to IFC 905.9.)

***Section 903.4.2; add second paragraph to read as follows:**

The alarm device required on the exterior of the building shall be a weatherproof horn/strobe notification appliance with a minimum 75 candela strobe rating, installed as close as practicable to the fire department connection.

(Reason: Fire department connections are not always located at the riser; this allows the fire department faster access.)

***Section 905.2; change to read as follows:**

905.2 Installation Standard. Standpipe systems shall be installed in accordance with this section and NFPA 14. Manual dry standpipe systems shall be supervised with a minimum of 10 psig and a maximum of 40 psig air pressure with a high/low alarm.

(Reason: To define manual dry standpipe supervision requirements. Helps ensure the integrity of the standpipe system via supervision, such that open hose valves will result in a supervisory low air alarm.)

****Section 905.3; add Section 905.3.9 and exception to read as follows:**

905.3.9 Buildings Exceeding 10,000 sq. ft. In buildings exceeding 10,000 square feet in area per story and where any portion of the building's interior area is more than 200 feet (60960 mm) of travel, vertically and horizontally, from the nearest point of fire department vehicle access, Class I automatic wet or manual wet standpipes shall be provided.

Exceptions:

3. Automatic dry, semi-automatic dry, and manual dry standpipes are allowed as provided for in NFPA 14 where approved by the fire code official.
4. R-2 occupancies of four stories or less in height having no interior corridors.

(Reason: Allows for the rapid deployment of hose lines to the body of the fire. Manual dry option added this edition.)

***Section 905.4, change Item 1, 3, and 5, and add Item 7 to read as follows:**

1. In every required ~~interior~~ exit stairway, a hose connection shall be provided for each story above and below grade plane. Hose connections shall be located at an intermediate landing between stories, unless otherwise approved by the fire code official.
2. {No change.}
3. In every exit passageway, at the entrance from the exit passageway to other areas of a building.

Exception: Where floor areas adjacent to an exit passageway are reachable from an ~~interior~~ exit stairway hose connection by a {remainder of text unchanged}

4. {No change.}
5. Where the roof has a slope less than four units vertical in 12 units horizontal (33.3-percent slope), each standpipe shall be provided with a two-way ~~a~~ hose connection ~~shall be~~ located to serve the roof or at the highest landing of an ~~interior~~ exit stairway with stair access to the roof provided in accordance with Section 1011.12.
6. {No change.}
7. When required by this Chapter, standpipe connections shall be placed adjacent to all required exits to the structure and at two hundred feet (200') intervals along major corridors thereafter, or as otherwise approved by the fire code official.

(Reason: Item 1, 3, and 5 amendments to remove 'interior' will help to clarify that such connections are required for all 'exit' stairways, to ensure firefighter capabilities are not diminished in these tall buildings, simply because the stair is on the exterior of the building. Item 5 reduces the amount of pressure required to facilitate testing, and provides backup protection for fire fighter safety. Item 7 allows for the rapid deployment of hose lines to the body of the fire.)

***Section 905.9; add a second paragraph after the exceptions to read as follows:**

Sprinkler and standpipe system water-flow detectors shall be provided for each floor tap to the sprinkler system and shall cause an alarm upon detection of water flow for more than 45 seconds. All control valves in the sprinkler and standpipe systems except for fire department hose connection valves shall be electrically supervised to initiate a supervisory signal at the central station upon tampering.

(Reason: To avoid significant water losses. Consistent with amendment to IFC 903.4.)

***Section 907.1; add Section 907.1.4 and 907.1.4.1 to read as follows:**

907.1.4 Design Standards. Where a new fire alarm system is installed, the devices shall be addressable. Fire alarm systems utilizing more than 20 smoke detectors shall have analog initiating devices.

(Reason: Provides for the ability of descriptive identification of alarms, and reduces need for panel replacement in the future. Updated wording to match the language of the new requirement at 907.5.2.3. Change of terminology allows for reference back to definitions of NFPA 72.)

***Section 907.2.1; change to read as follows:**

907.2.1 Group A. A manual fire alarm system that activates the occupant notification system in

accordance with Section 907.5 shall be installed in Group A occupancies ~~where the~~ having an occupant load ~~due to the assembly occupancy is~~ of 300 or more persons, or where the ~~Group A~~ occupant load is more than 100 persons above or below the *lowest level of exit discharge*. Group A occupancies not separated from one another in accordance with Section 707.3.~~4~~10 of the *International Building Code* shall be considered as a single occupancy for the purposes of applying this section. Portions of Group E occupancies occupied for assembly purposes shall be provided with a fire alarm system as required for the Group E occupancy.

Exception: {No change.}

Activation of fire alarm notification appliances shall:

1. Cause illumination of the *means of egress* with light of not less than 1 foot-candle (11 lux) at the walking surface level, and
2. Stop any conflicting or confusing sounds and visual distractions.

(Reason: Increases the requirement to be consistent with Group B requirement. Also addresses issue found in Group A occupancies of reduced lighting levels and other A/V equipment that distracts from fire alarm notification devices or reduces ability of fire alarm system to notify occupants of the emergency condition.)

***Section 907.2.3; change to read as follows:**

907.2.3 Group E. A manual fire alarm system that initiates the occupant notification signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in Group E educational occupancies. When *automatic sprinkler systems* or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system. An approved smoke detection system shall be installed in Group E day care occupancies. Unless separated by a minimum of 100' open space, all buildings, whether portable buildings or the main building, will be considered one building for alarm occupant load consideration and interconnection of alarm systems.

Exceptions:

2. {No change.}
1.2. Residential In-Home day care with not more than 12 children may use interconnected single station detectors in all habitable rooms. (For care of more than five children 2 1/2 or less years of age, see Section 907.2.6.) {No change to remainder of exceptions.}

(Reason: To distinguish educational from day care occupancy minimum protection requirements. Further, to define threshold at which portable buildings are considered a separate building for the purposes of alarm systems. Exceptions provide consistency with State law concerning such occupancies.)

***Section 907.2.12, Exception 3; change to read as follows:**

3. Open air portions of buildings with an occupancy in Group A-5 in accordance with Section 303.1 of the *International Building Code*; however, this exception does not apply to accessory uses including but not limited to sky boxes, restaurants, and similarly enclosed areas.

(Reason: To indicate that enclosed areas within open air seating type occupancies are not exempted from automatic fire alarm system requirements.)

***Section 907.4.2; add Section 907.4.2.7 to read as follows:**

907.4.2.7 Type. Manual alarm initiating devices shall be an approved double action type.

(Reason: Helps to reduce false alarms.)

Section 907.6.1; add Section 907.6.1.1 to read as follows:

907.6.1.1 Wiring Installation. All fire alarm systems shall be installed in such a manner that a failure of any single initiating device or single open in an initiating circuit conductor will not interfere with the normal operation of other such devices. All signaling line circuits (SLC) shall be installed in such a way that a single open will not interfere with the operation of any addressable devices (Class A). Outgoing and return SLC conductors shall be installed in accordance with NFPA 72 requirements for Class A circuits and shall have a minimum of four feet separation horizontal and one foot vertical between supply and return circuit conductors. The initiating device circuit (IDC) from a signaling line circuit interface device may be wired Class B, provided the distance from the interface device to the initiating device is ten feet or less.

(Reason: To provide uniformity in system specifications and guidance to design engineers. Improves reliability of fire alarm devices and systems.)

Section 907.6.3; delete all four Exceptions.

(Reason: To assist responding personnel in locating the emergency event for all fire alarm systems. This is moved from 907.6.5.3 in the 2012 IFC and reworded to match new code language and sections.)

Section 907.6.6; – add sentence at end of paragraph to read as follows:

See 907.6.3 for the required information transmitted to the supervising station.

(Reason: To assist responding personnel in locating the emergency event for all fire alarm systems. This is moved from 907.6.5.3 in the 2012 IFC and reworded to match new code language and sections.)

Section 909.22; add to read as follows:

909.22 Stairway or Ramp Pressurization Alternative. Where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and the stair pressurization alternative is chosen for compliance with Building Code requirements for a smokeproof enclosure, interior exit stairways or ramps shall be pressurized to a minimum of 0.10 inches of water (25 Pa) and a maximum of 0.35 inches of water (87 Pa) in the shaft relative to the building measured with all interior exit stairway and ramp doors closed under maximum anticipated conditions of stack effect and wind effect. Such systems shall comply with Section 909, including the installation of a separate fire-fighter's smoke control panel as per Section 909.16, and a Smoke Control Permit shall be required from the fire department as per Section 105.7.

909.22.1 Ventilating equipment. The activation of ventilating equipment for the stair or ramp pressurization system shall be by smoke detectors installed at each floor level at an approved location at the entrance to the smokeproof enclosure. When the closing device for the stairway or ramp shaft and vestibule doors is activated by smoke detection or power failure, the mechanical equipment shall activate and operate at the required performance levels. Smoke detectors shall be installed in accordance with Section 907.3.

909.22.1.1 Ventilation Systems. Smokeproof enclosure ventilation systems shall be independent of other building ventilation systems. The equipment, control wiring, power wiring and ductwork shall comply with one of the following:

1. Equipment, control wiring, power wiring and ductwork shall be located exterior to the building and directly connected to the smokeproof enclosure or connected to the smokeproof enclosure by ductwork enclosed by not less than 2-hour fire barriers constructed in accordance with Section 707 of the Building Code or horizontal assemblies constructed in accordance with Section 711 of the Building Code, or both.
2. Equipment, control wiring, power wiring and ductwork shall be located within the smokeproof

enclosure with intake or exhaust directly from and to the outside or through ductwork enclosed by not less than 2-hour barriers constructed in accordance with Section 707 of the Building Code or horizontal assemblies constructed in accordance with Section 711 of the Building Code, or both.

3. Equipment, control wiring, power wiring and ductwork shall be located within the building if separated from the remainder of the building, including other mechanical equipment, by not less than 2-hour fire barriers constructed in accordance with Section 707 of the Building Code or horizontal assemblies constructed in accordance with Section 711 of the Building Code, or both.

Exceptions:

1. Control wiring and power wiring utilizing a 2-hour rated cable or cable system.
2. Where encased with not less than 2 inches (51 mm) of concrete.
3. Control wiring and power wiring protected by a listed electrical circuit protective systems with a fire-resistance rating of not less than 2 hours.

909.21.1.2 Standby Power. Mechanical vestibule and stairway and ramp shaft ventilation systems and automatic fire detection systems shall be provided with standby power in accordance with Section 2702 of the Building Code.

909.22.1.3 Acceptance and Testing. Before the mechanical equipment is approved, the system shall be tested in the presence of the fire code official to confirm that the system is operating in compliance with these requirements.

(Reason: To assist with enforcement of such as a smoke control system, as per Section 909.6.3, especially since a permit is now specifically required for such systems in the Fire Code. Also ensures that a firefighter's override panel is provided as per 909.16 for such systems. The above amendment copies the applicable requirements for such systems from Section 909.20 of the Building Code into the Fire Code. Although the published code did copy the elevator pressurization requirements into the Fire Code, it did not copy over the stair pressurization requirements.)

***Section 910.2; change Exception 2. and 3.to read as follows:**

2. Only manual smoke and heat removal shall ~~not~~ be required in areas of buildings equipped with early suppression fast-response (ESFR) sprinklers. Automatic smoke and heat removal is prohibited.
3. Only manual smoke and heat removal shall ~~not~~ be required in areas of buildings equipped with control mode special application sprinklers with a response time index of 50$(m*S)^{1/2}$ or less that are listed to control a fire in stored commodities with 12 or fewer sprinklers. Automatic smoke and heat removal is prohibited.

(Reason: Allows the fire department to control the smoke and heat during and after a fire event, while still prohibiting such systems from being automatically activated, which is a potential detriment to the particular sprinkler systems indicated.)

***Section 910.2; add subsections 910.2.3 with exceptions to read as follows:**

910.2.3 Group H. Buildings and portions thereof used as a Group H occupancy as follows:

1. In occupancies classified as Group H-2 or H-3, any of which are more than 15,000 square feet (1394 m^2) in single floor area.

   Exception: Buildings of noncombustible construction containing only noncombustible materials.

2. In areas of buildings in Group H used for storing Class 2, 3, and 4 liquid and solid oxidizers,

Class 1 and unclassified detonable organic peroxides, Class 3 and 4 unstable (reactive) materials, or Class 2 or 3 water-reactive materials as required for a high-hazard commodity classification.

Exception: Buildings of noncombustible construction containing only noncombustible materials.

(Reason: Maintains a fire protection device utilized in such occupancies where it is sometimes necessary to allow chemicals to burn out, rather than extinguish.)

***Section 910.3; add section 910.3.4 to read as follows:**

910.3.4 Vent Operation. Smoke and heat vents shall be capable of being operated by approved automatic and manual means. Automatic operation of smoke and heat vents shall conform to the provisions of Sections 910.3.2.1 through 910.3.2.3.

910.3.4.1 Sprinklered buildings. Where installed in buildings equipped with an approved automatic sprinkler system, smoke and heat vents shall be designed to operate automatically.
The automatic operating mechanism of the smoke and heat vents shall operate at a temperature rating at least 100 degrees F (approximately 38 degrees Celsius) greater than the temperature rating of the sprinklers installed.

Exception: Manual only systems per Section 910.2.

910.3.4.2 Nonsprinklered Buildings. Where installed in buildings not equipped with an approved automatic sprinkler system, smoke and heat vents shall operate automatically by actuation of a heat-responsive device rated at between 100°F (56°C) and 220°F (122°C) above ambient.

Exception: Listed gravity-operated drop out vents.

(Reason: Amendment continues to keep applicable wording from prior to the 2012 edition of the IFC. Specifically, automatic activation criteria is no longer specifically required in the published code. Specifying a temperature range at which smoke and heat vents should activate in sprinklered buildings helps to ensure that the sprinkler system has an opportunity to activate and control the fire prior to vent operation.)

***Section 910.4.3.1; change to read as follows:**

910.4.3.1 Makeup Air. Makeup air openings shall be provided within 6 feet (1829 mm) of the floor level. Operation of makeup air openings shall be ~~manual or~~ automatic. The minimum gross area of makeup air inlets shall be 8 square feet per 1,000 cubic feet per minute (0.74 m2 per 0.4719 m3/s) of smoke exhaust.

(Reason: Makeup air has been required to be automatic for several years now in this region when mechanical smoke exhaust systems are proposed. This allows such systems to be activated from the smoke control panel by first responders without having to physically go around the exterior of the building opening doors manually. Such requires a significant number of first responders on scene to conduct this operation and significantly delays activation and/or capability of the smoke exhaust system.)

***~~Section 912.2; add Section 912.2.3 to read as follows:~~**

912.2.3 Hydrant Distance. An approved fire hydrant shall be located within 100 feet of the fire department connection as the fire hose lays along an unobstructed path.

(Reason: To accommodate limited hose lengths, improve response times where the FDC is needed to achieve fire control, and improve ease of locating a fire hydrant in those situations also. Also, consistent with NFPA 14 criteria.)

***Section 913.2.1; add second paragraph and exception to read as follows:**

When located on the ground level at an exterior wall, the fire pump room shall be provided with an exterior fire department access door that is not less than 3 ft. in width and 6 ft. – 8 in. in height, regardless of any interior doors that are provided. A key box shall be provided at this door, as required by Section 506.1.

Exception: When it is necessary to locate the fire pump room on other levels or not at an exterior wall, the corridor leading to the fire pump room access from the exterior of the building shall be provided with equivalent fire resistance as that required for the pump room, or as approved by the *fire code official*. Access keys shall be provided in the key box as required by Section 506.1.

(Reason: This requirement allows fire fighters safer access to the fire pump room. The requirement allows access without being required to enter the building and locate the fire pump room interior access door during a fire event. The exception recognizes that this will not always be a feasible design scenario for some buildings, and as such, provides an acceptable alternative to protect the pathway to the fire pump room.)

***Section 914.3.1.2; change to read as follows:**

914.3.1.2 Water Supply to required Fire Pumps. In buildings that are more than ~~420~~ 120 feet (37 m) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: {No change to exception.}

(Reason: The 2009 edition of the IFC added this requirement based on a need for redundancy of the water supply similar to the redundancy of the power supply to the fire pumps required for such tall buildings, partially due to the fact that these buildings are rarely fully evacuated in a fire event. More commonly, the alarm activates on the floor of the event, the floor above and the floor below. Back-up power to the fire pump becomes critical for this reason. Certainly, the power is pointless if the water supply is impaired for any reason, so a similar requirement is provided here for redundant water supplies. The 2015 edition changes the requirement to only apply to very tall buildings over 420 ft. This amendment modifies/lowers the requirement to 120 ft., based on this same height requirement for fire service access elevators. Again, the language from the 2009 and 2012 editions of the code applied to any high-rise building. This compromise at 120 ft. is based on the above technical justification of defend-in-place scenarios in fire incidents in such tall structures.)

****Section 1006.2.2.7; Add Section 1006.2.2.7 as follows:**

1006.2.2.7 Electrical Rooms. For electrical rooms, special exiting requirements may apply. Reference the electrical code as adopted.

(Reason: Cross reference necessary for coordination with the NEC which has exiting requirements as well.)

****Section 1009.8; add the following Exception 7:**

Exceptions:
7. Buildings regulated under State Law and built in accordance with State registered plans, including variances or waivers granted by the State, shall be deemed to be in compliance with the requirements of

Section 1009 and chapter 11.

(Reason: To accommodate buildings regulated under Texas State Law and to be consistent with amendments in Chapter 11.)

****Section 1010.1.9.5 Bolt Locks; amend exceptions 3 and 4 as follows:**

Exceptions:
3. Where a pair of doors serves an occupant load of less than 50 persons in a Group B, F, M or S occupancy. (Remainder unchanged)
4. Where a pair of doors serves a Group A, B, F, M or S occupancy (remainder unchanged)

(Reason: Application to M occupancies reflects regional practice; No. 4 expanded to Group A due to it being a similar scenario to other uses; No. 4 was regional practice.)

****Section 1020.1 Construction; add exception 6 to read as follows:**

6. In group B occupancies, corridor walls and ceilings need not be of fire-resistive construction within a single tenant space when the space is equipped with approved automatic smoke-detection within the corridor. The actuation of any detector must activate self-annunciating alarms audible in all areas within the corridor. Smoke detectors must be connected to an approved automatic fire alarm system where such system is provided.

(Reason: Regionally accepted alternate method.)

****Section 1029.1.1.1 Spaces under grandstands and bleachers; delete this section.**
(Reason: Unenforceable.)

*****Section 1031.2; change to read as follows:***

1031.2 Reliability. Required *exit accesses, exits* and *exit discharges* shall be continuously maintained free from obstructions or impediments to full instant use in the case of fire or other emergency ~~where the building area served by the means of egress is occupied~~. An *exit* or *exit passageway* shall not be used for any purpose that interferes with a means of egress.

(Reason: Maintain legacy levels of protection and long-standing regional practice, and provide firefighter safety.)

*****Section 1103.3; add sentence to end of paragraph as follows:***

Provide emergency signage as required by Section 606.3.

(Reason: Coordinates requirements of previous amendment.)

*****Section 1103.5.1: add sentence to read as follows:**

Fire sprinkler system installation shall be completed within 24 months from date of notification by the fire code official.

(Reason: Regional consistency of this retroactive requirement to allow business owners adequate time to budget to accommodate the cost of the fire sprinkler system.)

*****Section 1103.5; add Section 1103.5.5 to read as follows:***

1103.5.5 Spray Booths and Rooms. Existing spray booths and spray rooms shall be protected by an

approved automatic fire-extinguishing system in accordance with Section 2404.

(Reason: Consistent with amendment to IFC 2404, and long-standing regional requirement to protect this hazardous operation.)

*****Section 1103.7; add Section 1103.7.7 and 1103.7.7.1 to read as follows:**

1103.7.7 Fire Alarm System Design Standards. Where an existing fire alarm system is upgraded or replaced, the devices shall be addressable. Fire alarm systems utilizing more than 20 smoke and/or heat detectors shall have analog initiating devices.

Exception: Existing systems need not comply unless the total building, or fire alarm system, remodel or expansion exceeds 30% of the building. When cumulative building, or fire alarm system, remodel or expansion initiated after the date of original fire alarm panel installation exceeds 50% of the building, or fire alarm system, the fire alarm system must comply within 18 months of permit application.

1103.7.7.1 Communication requirements. Refer to Section 907.6.6 for applicable requirements.

(Reason: To assist responding personnel in locating the emergency event and provide clarity as to percentages of work that results in a requirement to upgrade the entire fire alarm system.)

******Section 1203; change and add to read as follows:***

1203.1.1 {No change.}
1203.1.2 {No change.}
1203.1.3 Emergency power systems and standby power systems shall be installed in accordance with the *International Building Code*, NFPA 70, NFPA 110 and NFPA 111. Existing installations shall be maintained in accordance with the original approval, except as specified in Chapter 11.
1203.1.4 through 1203.1.9 {No changes to these sections.}
1203.1.10 Critical Operations Power Systems (COPS). For Critical Operations Power Systems necessary to maintain continuous power supply to facilities or parts of facilities that require continuous operation for the reasons of public safety, emergency management, national security, or business continuity, see NFPA 70.
1203.2 Where Required. Emergency and standby power systems shall be provided where required by Sections 1203.2.1 through 1203.2.~~18~~26 or elsewhere identified in this code or any other referenced code.
1203.2.1 through 1203.2.3 {No change.}
1203.2.4 Emergency Voice/alarm Communications Systems. Emergency power shall be provided for emergency voice/alarm communications systems in the following occupancies, or as specified elsewhere in this code, as required in Section 907.5.2.2.5. The system shall be capable of powering the required load for a duration of not less than 24 hours, as required in NFPA 72.

Covered and Open Malls, Section 907.2.19 and 914.2.3
Group A Occupancies, Sections 907.2.1 and 907.5.2.2.4.
Special Amusement Buildings, Section 907.2.11
High-rise Buildings, Section 907.2.12
Atriums, Section 907.2.13
Deep Underground Buildings, Section 907.2.18

1203.2.5 through 1203.2.13 {No change.}
1203.2.14 Means of Egress Illumination. Emergency power shall be provided for *means of egress* illumination in accordance with Sections 1008.3 and 1104.5.1. (90 minutes)
1203.2.15 Membrane Structures. Emergency power shall be provided for *exit* signs in temporary tents and membrane structures in accordance with Section 3103.12.6. (90 minutes) Standby power shall be provided for auxiliary inflation systems in permanent membrane structures in accordance with Section 2702 of the *International Building Code*. (4 hours) Auxiliary inflation systems shall be provided in temporary air-supported and air-inflated membrane structures in accordance with section 3103.10.4.

1203.2.16 {No change.}
1203.2.17 Smoke Control Systems. Standby power shall be provided for smoke control systems in the following occupancies, or as specified elsewhere in this code, as required in Section 909.11:

Covered Mall Building, *International Building Code*, Section 402.7
Atriums, *International Building Code*, Section 404.7
Underground Buildings, *International Building Code*, Section 405.8
Group I-3, *International Building Code*, Section 408.4.2
Stages, *International Building Code*, Section 410.2.5
Special Amusement Buildings (as applicable to Group A's), *International Building Code*, Section 411.1
Smoke Protected Seating, Section 1029.6.2.

1203.2.18 {No change.}
1203.2.19 Covered and Open Mall Buildings. Emergency power shall be provided in accordance with Section 907.2.19 and 914.2.3.
1203.2.20 Airport Traffic Control Towers. A standby power system shall be provided in airport traffic control towers more than 65 ft. in height. Power shall be provided to the following equipment:

1. Pressurization equipment, mechanical equipment and lighting.
2. Elevator operating equipment.
3. Fire alarm and smoke detection systems.

1203.2.21 Smokeproof Enclosures and Stair Pressurization Alternative. Standby power shall be provided for smokeproof enclosures, stair pressurization alternative and associated automatic fire detection systems as required by the *International Building Code*, Section 909.20.6.2.
1203.2.22 Elevator Pressurization. Standby power shall be provided for elevator pressurization system as required by the *International Building Code*, Section 909.21.5.
1203.2.23 Elimination of Smoke Dampers in Shaft Penetrations. Standby power shall be provided when eliminating the smoke dampers in ducts penetrating shafts in accordance with the *International Building Code*, Section 717.5.3, exception 2.3.
1203.2.24 Common Exhaust Systems for Clothes Dryers. Standby power shall be provided for common exhaust systems for clothes dryers located in multistory structures in accordance with the *International Mechanical Code,* Section 504.10, Item 7.
1203.2.25 Hydrogen Cutoff Rooms. Standby power shall be provided for mechanical ventilation and gas detection systems of Hydrogen Cutoff Rooms in accordance with the *International Building Code*, Section 421.
1203.2.26 Means of Egress Illumination in Existing Buildings. Emergency power shall be provided for *means of egress* illumination in accordance with Section 1104.5 when required by the fire code official. (90 minutes in I-2, 60 minutes elsewhere.)
1203.3 through 1203.6 {No change.}
1203.7 Energy Time Duration. Unless a time limit is specified by the fire code official, in this chapter or elsewhere in this code, or in any other referenced code or standard, the emergency and standby power system shall be supplied with enough fuel or energy storage capacity for not less than 2-hour full-demand operation of the system.

Exception: Where the system is supplied with natural gas from a utility provider and is approved.

(Reason: These amendments were moved from Chapter 6, due to relocation of the published sections to this new Chapter 12. These provisions provide a list to complete and match that throughout the codes. The only additional requirements are the reference to COPS in NFPA 70, and the specified Energy time duration. Other changes are a reference to a code provision that already exists.)

*****Section 2304.1; change to read as follows:***

2304.1 Supervision of Dispensing. The dispensing of fuel at motor fuel-dispensing facilities shall be ~~conducted by a qualified attendant or shall be under the supervision of a qualified attendant at all times or shall be~~ in accordance with ~~Section 2204.3.~~ the following:

1. Conducted by a qualified attendant; and/or,

2. Shall be under the supervision of a qualified attendant; and/or

3. Shall be an unattended self-service facility in accordance with Section 2304.3.

At any time the qualified attendant of item Number 1 or 2 above is not present, such operations shall be considered as an unattended self-service facility and shall also comply with Section 2304.3.

(Reason: Allows a facility to apply the attended and unattended requirements of the code when both are potentially applicable.)

***Section 2401.2; delete this section.**

(Reason: This section eliminates such booths from all compliance with Chapter 15 including, but not limited to: size, ventilation, fire protection, construction, etc. If the product utilized is changed to a more flammable substance, the lack of compliance with Chapter 15 could result in significant fire or deflagration and subsequent life safety hazard.)

****Section 3103.3.1; delete this section.**

(Reason: This new section of the Fire Code requires a fire sprinkler system to be installed in temporary tents and membrane structures, which is not a reasonable or enforceable requirement for a temporary use. A fire watch or fire alarm system is a more advisable approach for such occupancies that are only temporary.)

***Table 3206.2, footnote h; change text to read as follows:**

h. ~~Not required~~ Where storage areas are protected by either early suppression fast response (ESFR) sprinkler systems or control mode special application sprinklers with a response time index of 50 (m • s) 1/2 or less that are listed to control a fire in the stored commodities with 12 or fewer sprinklers, installed in accordance with NFPA 13, manual smoke and heat vents or manually activated engineered mechanical smoke exhaust systems shall be required within these areas.

(Reason: Allows the fire department to control the smoke and heat during and after a fire event, while ensuring proper operation of the sprinkler protection provided. Also, gives an alternative to smoke and heat vents.)

****Table 3206.2, footnote j; add footnote j to row titled 'High Hazard' and 'Greater than 300,000' to read as follows:**

j. High hazard high-piled storage areas shall not exceed 500,000 square feet. A 2-hour fire wall constructed in accordance with Section 706 of the *International Building Code* shall be used to divide high-piled storage exceeding 500,000 square feet in area.

(Reason: This is a long-standing legacy requirement and provides passive protection for extremely large buildings where it would be otherwise impossible to control the spread of fire without the fire wall in place in an uncontrolled fire event, which is much more likely in high hazard commodities, such as tires, flammable liquids, expanded plastics, etc.)

***Section 3310.1; add sentence to end of paragraph to read as follows:**

When fire apparatus access roads are required to be installed for any structure or development, they shall be approved prior to the time at which construction has progressed beyond completion of the foundation of any structure.

(Reason: Reference requirement of Section 501.4.)

~~*****Section 5601.1.3; change to read as follows:***~~

~~**5601.1.3 Fireworks.** The possession, manufacture, storage, sale, handling, and use of fireworks are prohibited.~~

~~**Exceptions:**~~

~~1. Only when approved for fireworks displays, storage, and handling of fireworks as allowed in Section 5604 and 5608.~~

~~2. Manufacture, assembly and testing of fireworks as allowed in Section 5605.~~

~~3.~~2. ~~The use of fireworks for~~ approved ~~fireworks displays as allowed in Section 5608.~~

~~4. The possession, storage, sale… *{Delete remainder of text.}*~~

~~*(Reason: Restricts fireworks to approved displays only, which is consistent with regional practice. Such is intended to help protect property owners and individuals from unintentional fireworks fires within the jurisdiction, as well as to help protect individuals from fireworks injuries. It is noted that there has been a change in the State Law to allow possession of unopened fireworks in certain areas of the vehicle, and it is highly recommended that AHJ's familiarize themselves with the applicable State Laws in this regard.)*~~

*****Section 5703.6; add a sentence to read as follows:***

5703.6 Piping Systems. Piping systems, and their component parts, for flammable and combustible liquids shall be in accordance with Sections 5703.6.1 through 5703.6.11. An *approved* method of secondary containment shall be provided for underground tank and piping systems.

(Reason: Increased protection in response to underground leak problems and remediation difficulty in underground applications. Coordinates with TCEQ requirements.)

*****Section 5704.2.11.4; add a sentence to read as follows:***

5704.2.11.4 Leak Prevention. **Leak prevention for underground tanks shall comply with Sections 5704.2.11.4.1 ~~and 5704.2.11.4.2~~ through 5704.2.11.4.3. An *approved* method of secondary containment shall be provided for underground tank and piping systems.**

(Reason: Increased protection in response to underground leak problems and remediation difficulty in underground applications.)

*****Section 5704.2.11.4.2; change to read as follows:***

5704.2.11.4.2 Leak Detection. Underground storage tank systems shall be provided with an *approved* method of leak detection from any component of the system that is designed and installed in accordance with NFPA 30 and as specified in Section 5704.2.11.4.3.

(Reason: Reference to IFC Section 5704.2.11.4.3 amendment.)

***Section 5704.2.11.4.3; add Section 5704.2.11.4.3 to read as follows:**

5704.2.11.4.3 Observation Wells. Approved sampling tubes of a minimum 4 inches in diameter shall be installed in the backfill material of each underground flammable or combustible liquid storage tank. The tubes shall extend from a point 12 inches below the average grade of the excavation to ground level and shall be provided with suitable surface access caps. Each tank site shall provide a sampling tube at the corners of the excavation with a minimum of 4 tubes. Sampling tubes shall be placed in the product line excavation within 10 feet of the tank excavation and one every 50 feet routed along product lines towards the dispensers, a minimum of two are required.

(Reason: Provides an economical means of checking potential leaks at each tank site.)

***Section 5707.4; add paragraph to read as follows:**

Mobile fueling sites shall be restricted to commercial, industrial, governmental, or manufacturing, where the parking area having such operations is primarily intended for employee vehicles. Mobile fueling shall be conducted for fleet fueling or employee vehicles only, not the general public. Commercial sites shall be restricted to office-type or similar occupancies that are not primarily intended for use by the public.

(Reason: The general public does not expect a hazardous operation to be occurring in a typical parking lot or for a fuel truck to be traversing such parking lot, temporarily fueling a vehicle, and moving on to the next area in the parking lot to fuel the next vehicle. Vehicular accidents occur in parking lots on a regular basis, but the presence of a fuel truck, especially one in the process of fueling a vehicle with gasoline, greatly adds to the potential risk involved in such accidents. By restricting such operations to the occupancies in question, the employees of the business may be adequately notified to expect such operations to occur in the parking lot.)

***Section 6103.2.1; add Section 6103.2.1.8 to read as follows:**

6103.2.1.8 Jewelry Repair, Dental Labs and Similar Occupancies. Where natural gas service is not available, portable LP-Gas containers are allowed to be used to supply approved torch assemblies or similar appliances. Such containers shall not exceed 20-pound (9.0 kg) water capacity. Aggregate capacity shall not exceed 60-pound (27.2 kg) water capacity. Each device shall be separated from other containers by a distance of not less than 20 feet.

(Reason: To provide a consistent and reasonable means of regulating the use of portable LP-Gas containers in these situations. Reduces the hazard presented by portable containers when natural gas is already available. Please note that current State Law does not allow for the enforcement of any rules more stringent than that adopted by the State, so this amendment is only applicable as to the extent allowed by that State Law.)

***Section 6104.2, Exception; add an exception 2 to read as follows:**

Exceptions:

1. *{existing text unchanged}*

2. Except as permitted in Sections 308 and 6104.3.2, LP-gas containers are not permitted in residential areas.

(Reason: To provide a consistent and reasonable means of regulating the use LP-Gas containers. Reduces the hazard presented by such containers when natural gas is already available. References regional amendment to IFC 6104.3.2. Please note that current State Law does not allow for the enforcement of any rules more stringent than that adopted by the State, so this amendment is only applicable as to the extent allowed by that State Law.)

***Section 6104.3; add Section 6104.3.3 to read as follows:**

6104.3.3 Spas, Pool Heaters, and Other Listed Devices. Where natural gas service is not available, an LP-gas container is allowed to be used to supply spa and pool heaters or other listed devices. Such container shall not exceed 250-gallon water capacity per lot. See Table 6104.3 for location of containers.

Exception: Lots where LP-gas can be off-loaded wholly on the property where the tank is located may install up to 500 gallon above ground or 1,000 gallon underground approved containers.

(Reason: Allows for an alternate fuel source. Dwelling density must be considered and possibly factored into zoning restrictions. Reduces the hazard presented by over-sized LP-Gas containers. Please note that current State Law does not allow for the enforcement of any rules more stringent than that adopted by the State, so this amendment is only applicable as to the extent allowed by that State Law.)

***Section 6107.4 and 6109.13; change to read as follows:**

6107.4 Protecting Containers from Vehicles. Where exposed to vehicular damage due to proximity to alleys, driveways or parking areas, LP-gas containers, regulators and piping shall be protected in accordance with ~~NFPA 58~~ Section 312.

6109.13 Protection of Containers. LP-gas containers shall be stored within a suitable enclosure or otherwise protected against tampering. Vehicle impact protection shall be provided as required by Section 6107.4.

~~**Exception:** Vehicle impact protection shall not be required for protection of LP-gas containers where the containers are kept in lockable, ventilated cabinets of metal construction.~~

(Reason: NFPA 58 does not provide substantial physical protection [it allows raised sidewalks, fencing, ditches, parking bumpers as 'vehicle barrier protection'] of the container(s) from vehicular impact as is required and has been required historically, as per Section 312, i.e. bollard protection. Further, the exception to Section 6109.13 would allow for portable containers in ventilated metal cabinets to not require any physical protection whatsoever from vehicular impact, regardless of the location of the containers. Please note that current State Law does not allow for the enforcement of any rules more stringent than that adopted by the State, so this amendment is only applicable as to the extent allowed by that State Law.)

***** {Applicable to those jurisdictions adopting Appendix B}***
***Table B105.2; change footnote a. to read as follows:**

a. The reduced fire-flow shall be not less than ~~1,000~~ 1,500 gallons per minute.

(Reason: The minimum fire-flow of 1,500 gpm for other than one- and two- family dwellings has existed since the 2000 edition of the IFC, as well as the Uniform Fire Code before that. Little to no technical justification was provided for the proposed code change at the code hearings. The board believes that the already-allowed 75 percent reduction in required fire-flow for the provision of sprinkler protection is already a significant trade-off. The minimum 1,500 gpm is not believed to be overly stringent for the vast majority of public water works systems in this region, especially since it has existed as the requirement for so many years. Further, the continued progression of trading off more and more requirements in the codes for the provision of sprinkler protection has made these systems extremely operation-critical to the

safety of the occupants and properties in question. In other words, should the sprinkler system fail for any reason, the fire-flow requirements drastically increase from that anticipated with a sprinkler-controlled fire scenario.)

END

Recommended Amendments to the
2017 National Electrical Code
North Central Texas Council of Governments

The following articles, paragraphs, and sentences of the *2017 National Electrical Code (NEC)* are hereby amended as follows: Standard type is text from the NEC. Highlighted with gray shading is text inserted. ~~Lined through type is deleted text from NEC.~~ A double asterisk (**) at the beginning of an article identifies an amendment carried over from the 2014 edition of the code and a triple asterisk (***) identifies a new or revised amendment with the 2017 code.

***Article 100; add the following to definitions:**

Engineering Supervision. Supervision by a Qualified State of Texas Licensed Professional Engineer engaged primarily in the design or maintenance of electrical installations.

(REASON FOR CHANGE: To better define the qualifications for engineering supervision. This term is used twenty four times in the 2017 National Electrical Code*.)*

****Article 100; remove the amendment to the following definition:**

Intersystem Bonding Termination. A device that provides a means for connecting intersystem bonding conductors for communication systems ~~and other systems such as metallic gas piping systems~~ to the grounding electrode system. ~~Bonding conductors for other systems shall not be larger than 6 AWG.~~

(REASON FOR CHANGE: Remove the above amendment. Updates to the 2017 National Electrical Code *Article 250.94(A) only accommodate connecting communication systems to an intersystem bonding termination device, but Article 250.94(B) provides an alternative or other means. ~~To allow for a termination point for other bonding conductors in addition to communication systems that are required by the~~*

~~*various model codes. 6 AWG was chosen to coincide with the minimum size of bonding conductor required to the intersystem bonding jumper.)*~~

*****Article 110.2; change the following to read as follows:***

110.2 Approval. The conductors and equipment required or permitted by this *Code* shall be acceptable only if approved. Approval of equipment may be evident by listing and labeling of equipment by a Nationally Recognized Testing Lab (NRTL) with a certification mark of that laboratory or a qualified third party inspection agency approved by the AHJ.

Exception: Unlisted equipment that is relocated to another location within a jurisdiction or is field modified is subject to the approval by the AHJ. This approval may be by a field evaluation by a NRTL or qualified third party inspection agency approved by the AHJ.

~~Manufacturer's self-certification of any equipment shall not be used as a basis for approval by the AHJ.~~

Informational Note No. 1: See 90.7, Examination of Equipment for Safety, and 110.3, Examination, Identification, Installation, and Use of Equipment. See definitions of *Approved*, *Identified*, *Labeled*, and *Listed*.

Informational Note No. 2: Manufacturer's self-certification of equipment may not necessarily comply with U.S. product safety standards as certified by an NRTL.

Informational Note No. 3: National Fire Protection Association (NFPA) 790 and 791 provide an example of an approved method for qualifying a third party inspection agency.

(REASON FOR CHANGE: To add clarity and provide more positive options for enforcement and approval of unlisted equipment.)

******Article 210.52(G) (1) Garages:* remove the amendment that deleted the following:**

(1) Garages. In each attached garage and in each detached garage with electric power. ~~The branch circuit supplying this receptacle(s) shall not supply outlets outside of the garage.~~ At least one receptacle outlet shall be installed for each car space.

(*REASON FOR CHANGE: Installations in compliance with this Code are not necessarily efficient, convenient, or adequate for good service or future expansion of electrical use.)*

(REASON FOR CHANGE: Updates to this section in the 2017 National Electrical Code *provided relief by removing "shall not supply outlets outside of the garage.")*

*****Article 230.71(A); remove the amendment that added the following exception:**

Exception: Multi-occupant buildings. Individual service disconnecting means is limited to six for each occupant. The number of individual disconnects at one location may exceed six.

(REASON FOR CHANGE: This is currently the accepted installation practice of the region. No noteworthy complaints have surfaced. It is more reasonable than the current NEC requirements. It allows more than six disconnects grouped at one location. This also allows designers more flexibility in the placement of electrical meters and main service disconnects.)

(REASON FOR CHANGE: This is below the minimum standard of the 2017 National Electrical Code *adopted by the State of Texas.)*

*****Article 300.11; remove the amendment that added the following exception:**
Exception: Ceiling grid support wires may be used for structural supports when the associated wiring is located in that area, not more than two raceways or cables supported per wire, with a maximum nominal metric designation 16 (trade size 1/2").

(REASON FOR CHANGE: To provide limited support of raceways and cables by ceiling grid support wire.)

(REASON FOR CHANGE: This is below the minimum standard of the 2017 National Electrical Code *adopted by the State of Texas.)*

******Article 310.15(B) (7); remove the amendment that changed the following to read as follows:***

~~**(7)** This Article shall not be used in conjunction with 220.82.~~

~~*(REASON FOR CHANGE: 310.15(B) (7) has been revised and the table has been deleted.)*~~

(REASON FOR CHANGE: Upon review of the 2014 and 2017 code-making panel 6 and in conjunction with the wire manufacturing industry, based on the diversification of loads in modern construction, this amendment becomes irrelevant.)

***Article 500.8 (A) (3); change to read as follows:**

500.8 Equipment.
Articles 500 through 504 require equipment construction and installation that ensure safe performance under conditions of proper use and maintenance.

Informational Note No. 1: It is important that inspection authorities and users exercise more than ordinary care with regard to installation and maintenance.

Informational Note No. 2: Since there is no consistent relationship between explosion properties and ignition temperature, the two are independent requirements.

Informational Note No. 3: Low ambient conditions require special consideration. Explosion proof or dust-ignition proof equipment may not be suitable for use at temperatures lower than -25°C
(-13°F) unless they are identified for low-temperature service. However, at low ambient temperatures, flammable concentrations of vapors may not exist in a location classified as Class I, Division 1 at normal ambient temperature.

(A) Suitability. Suitability of identified equipment shall be determined by one of the following:

(1) Equipment listing or labeling;
(2) Evidence of equipment evaluation from a qualified testing laboratory or inspection agency concerned with product evaluation; or,
(3) Evidence acceptable to the authority having jurisdiction such as a manufacturer's self-evaluation or ~~an owner's engineering judgment.~~ an engineering judgment signed and sealed by a qualified ~~Registered~~ licensed Professional Engineer in the State of Texas.

Informational Note: Additional documentation for equipment may include certificates demonstrating compliance with applicable equipment standards, indicating special conditions of use, and other pertinent information.

(REASON FOR CHANGE: Carry over from previous amendment with change to better

define the qualifications for an engineering judgment.)

***Article 505.7 (A) changed to read as follows:**

505.7 Special Precaution.
Article 505 requires equipment construction and installation that ensures safe performance under conditions of proper use and maintenance.

Informational Note No. 1: It is important that inspection authorities and users exercise more than ordinary care with regard to the installation and maintenance of electrical equipment in hazardous (classified) locations.

Informational Note No. 2: Low ambient conditions require special consideration. Electrical equipment depending on the protection techniques described by 505.8(A) may not be suitable for use at temperatures lower than -20°C (-4°F) unless they are identified for use at lower temperatures. However, at low ambient temperatures, flammable concentrations of vapors may not exist in a location classified Class I, Zones 0, 1, or 2 at normal ambient temperature.

(A) Implementation of Zone Classification System. Classification of areas, engineering and design, selection of equipment and wiring methods, installation, and inspection shall be performed by a qualified ~~persons~~ ~~Registered~~ licensed Professional Engineer in the State of Texas.

(REASON FOR CHANGE: Carry over from previous amendment with change to better define the qualifications for an engineering judgment.)

***Article 517.30 Essential Electrical Systems for Hospitals; remove the amendment that created a new (H) and added the following language:**

(G) Coordination. Overcurrent protective devices serving the ~~equipment branch of the~~ essential electrical system shall be coordinated for the period of time that a fault's duration extends beyond 0.1 second.

Exception No. 1: Between transformer primary and secondary overcurrent protective devices, where only one overcurrent protective device or set of overcurrent protective devices exists on the transformer secondary.

Exception No. 2: Between overcurrent protective devices of the same size (ampere rating) in series.

Informational Note: The terms coordination and coordinated as used in this section do not cover the full range of overcurrent conditions.

~~**(H) Selective Coordination.** Overcurrent protective devices serving the life safety, and critical branches of the essential electrical system shall be selectively coordinated with all supply-side overcurrent protective devices.~~

~~Exception No. 1: Between transformer primary and secondary overcurrent protective devices, where only one overcurrent protective device or set of overcurrent protective devices exists on the transformer secondary.~~

~~Exception No. 2: Between overcurrent protective devices of the same size (ampere rating) in series.~~

~~Informational Note: The terms coordination and coordinated as used in this section do not cover the full range of overcurrent conditions.~~

~~*(REASON FOR CHANGE: Changes made by deleting the definition of emergency systems in Article 517 Health Care Facilities and removing emergency systems as "Essential Electrical Systems for Hospitals in 517.30(B) (2), plus the new addition of section 517.30(G) for "Coordination" instead of using selective coordination, has diminished the reliability of the "Life Safety and Critical Branches of the Essential Electrical System" to deliver power to vital loads. By providing only "coordination," the instantaneous portion of the time-current curve has been eliminated from the overcurrent device settings.)*~~

(REASON FOR CHANGE: Due to no action by the 2017 code-making panel 15 and NFPA 99, this amendment is not applicable.)

*****Article 600.6(A) (1) At Point of Entry to a Sign; Exception 1 changed to read as follows:**

Exception No.1: A disconnect shall not be required for branch circuits(s) or feeder conductor(s) passing through the sign where enclosed in a Chapter 3 listed raceway or metal-jacketed cable identified for the location. The conductor(s) shall not serve the sign body or sign enclosure where passing through.

*****Article 600.6(A) (1) At Point of Entry to a Sign; create a new Exception No. 2 to**

add the following language:

Exception No. 2. A disconnect shall not be required at the point of entry to a sign body, sign enclosure, or pole for branch circuit conductor(s). The conductors shall be enclosed in a Chapter 3 listed raceway or metal-jacketed cable identified for the location. The conductor(s) shall be routed to a device box which contains the disconnect. A field-applied permanent warning label that is visible during servicing shall be applied to the raceway at or near the point of entry into the sign enclosure or sign body. The warning label shall comply with 110.21(B) and state the following: “Danger. This raceway contains energized conductors.” The marking shall include the location of the disconnecting means for the energized conductor(s). The disconnecting means shall be capable of being locked in the open position in accordance with 110.25.

*****Article 600.6(A) (1) At Point of Entry to a Sign; move the original Exception 2 to create a new Exception No. 3 and add the following language:**

Exception No. 3: A disconnect shall not be required at the point of entry to a sign enclosure or sign body for branch circuit(s) or feeder conductor(s) that supply an internal panelboard(s) in a sign enclosure or sign body. The conductors shall be enclosed in a Chapter 3 listed raceway or metal-jacketed cable identified for the location. A field-applied permanent warning label that is visible during servicing shall be applied to the raceway at or near the point of entry into the sign enclosure or sign body. The warning label shall comply with 110.21(B) and state the following: “Danger. This raceway contains energized conductors.” The marking shall include the location of the disconnecting means for the energized conductor(s). The disconnecting means shall be capable of being locked in the open position in accordance with 110.25.

(*2017 Code)* Informational Note: The location of the disconnect is intended to allow service or maintenance personnel complete and local control of the disconnecting means.

(REASON FOR CHANGE: This is a modification of the nationwide sign manufacturing practice that was standard before the 2014 Code revision. It is more reasonable but not less than the current Code requirements. It provides local control of the disconnect by service personnel as the informational note suggests, while requiring a sign disconnect to be at or within sight of the sign. This also allows sign designers more flexibility in the placement of the disconnecting means in relation to the location of the sign.)

*****Article 680.25(A) remove the amendment that added the following language and exception:**

680.25 Feeders.

These provisions shall apply to any feeder on the supply side of panelboards supplying branch circuits for pool equipment covered in Part II of this article and on the load side of the service equipment or the source of a separately derived system.

(A) Wiring Methods.

(1) Feeders. Feeders shall be installed in rigid metal conduit, intermediate metal conduit. The following wiring methods shall be permitted if not subject to physical damage:

(1) Liquidtight flexible nonmetallic conduit
(2) Rigid polyvinyl chloride conduit
(3) Reinforced thermosetting resin conduit
(4) Electrical metallic tubing where installed on or in a building
(5) Electrical nonmetallic tubing where installed within a building
(6) Type MC Cable where installed within a building and if not subject to corrosive environment
~~(7) Nonmetallic-sheathed cable~~
~~(8) Type SE cable~~

~~Exception: A feeder within a one-family dwelling or two-family dwelling unit between remote panelboard and service equipment shall be permitted to run in flexible metal conduit or an approved cable assembly that includes an insulated equipment grounding conductor within its outer sheath. The equipment grounding conductor shall comply with 250.24(A) (5).~~

~~(REASON FOR CHANGE: Carry over from previous amendments. Text changed to reflect 2014 National Electrical Code. Exception deleted per Errata No.70-14-2)~~

(REASON FOR CHANGE: Updates to this section in the 2017 National Electrical Code *provided relief by recognizing these wiring methods.)*

END