CITY OF BELLMEAD, TEXAS
ORDINANCE 2021-07

AN ORDINANCE OF THE CITY OF BELLMEAD, TEXAS AMENDING CHAPTER 4 – BUILDINGS AND BUILDING REGULATIONS, ARTICLE II. – BUILDING CODE; PROVIDING FOR THE ADOPTION OF THE *INTERNATIONAL FIRE CODE 2018 EDITION;* AMENDING CHAPTER 7 – FIRE PROTECTION AND PREVENTION; PROVIDING FOR THE ADOPTION OF LOCAL AMENDMENTS AND APPENDICES THERETO; PROVIDING FOR RECORDING OF SUCH CODE AS A PUBLIC RECORD; PROVIDING THAT THIS ORDINANCE SHALL BE CUMULATIVE OF ALL ORDINANCES; PROVIDING A SEVERABILITY CLAUSE; PROVIDING A SAVINGS CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City of Bellmead is a home rule city acting under its charter adopted by the electorate pursuant to Article XI, Section 5 of the Texas Constitution and Chapter 9 of the Local Government Code; and,

WHEREAS, the *International Fire Code, 2018 Edition*, prescribes regulations governing conditions hazardous to life and property from fire and explosion; and,

WHEREAS, Chapter 214 of the Local Government Code authorizes a municipality to regulate substandard buildings and establishes procedures thereof; and,

WHEREAS, the City Council desires to update, revise and clarify the standards and regulations that apply to substandard buildings in conformance with legislative amendments and to provide for civil penalty as permitted by law; and,

WHEREAS, the City Council of the City of Bellmead deems it necessary to adopt this ordinance providing minimum standards to safeguard the health, property, and welfare of the citizens of Bellmead by regulating and controlling the use, occupancy, maintenance, repair, design, construction, and quality of materials for buildings and structures within the City.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BELLMEAD, TEXAS:

SECTION 1

Sec. 4-27. – Code Adopted.

There are hereby adopted by the city, for the purpose of establishing rules and regulations for the construction, alteration, removal, demolition, equipment, use and occupancy, location and maintenance of buildings and structures, including permits. The following codes which are adopted by reference as though they were fully copied herein:

(3) 2018 International Fire Code, including Appendices A, B, C, D, E, F, G, I, K, L, and M with North Central Texas Council of Governments (NCTCOG) Option B, including Amendments.

a) The ICC Electrical Code is no longer published as a separate document but the electrical provisions are included in Appendix K of the IBC, 2018 Edition.
b) The 2018 Edition, National Electrical Code (NEC), as published by the National Fire Protection Association (NFPA).

SECTION 2

Sec. 7-61. – Adoption.

2018 International Fire Code, including Appendices A, B, C, D, E, F, G, H, I, J, K, L, and M with North Central Texas Council of Governments (NCTCOG) Option B.

a) The ICC Electrical Code is no longer published as a separate document but the electrical provisions are included in Appendix K of the IBC, 2018 Edition.
b) The 2018 Edition, National Electrical Code (NEC), as published by the National Fire Protection Association (NFPA).

SECTION 3

Sec. 7-62. – Amendments.

Section 202: change and add definitions to read as follows:

ADDRESSABLE FIRE DETECTION SYSTEM. Any system capable of providing identification of each individual alarm-initiating device. The identification shall be in plain English and as descriptive as possible to specifically identify the location of the device in alarm. The system shall have the capability of alarm verification.

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

AMBULATORY CARE FACILITY. Buildings or portions thereof 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 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.)

ANALOG ADDRESSABLE FIRE DETECTION SYSTEM. Any system capable of calculating a change in value by directly measurable quantities (voltage, resistance, etc.) at the sensing point. The physical analog may be conducted at the sensing point or at the main control panel. The system shall be capable of compensating for long-term changes in sensor response while maintaining a constant sensitivity. The compensation shall have a preset point at which a detector maintenance

signal shall be transmitted to the control panel. The sensor shall remain capable of detecting and transmitting an alarm while in maintenance alert.

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

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)

ATRIUM. An opening connecting 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.)

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, 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.)

***HIGH-PILED COMBUSTIBLE STORAGE*: add a second paragraph to read as follows:** Any building classified as a group S Occupancy or Speculative Building 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.)

HIGH-RISE BUILDING. A building with an occupied floor located more than 55 feet (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 fire 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 fire 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.)

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.

(Reason: Decrease in separation distance allowed for outdoor firepits due to permanent nature of construction having substantial securement.)

308.1.4 Open-flame Cooking Devices. Open-flame cooking devices, charcoal grills and other similar devices used for cooking shall not be located or used on combustible balconies, decks, or within 10 feet (3,048 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 lbs. (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.)

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.)

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.

(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.)

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.)

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 24 feet (7.315 mm), exclusive of shoulders, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 14 feet (4.267 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 recognizes 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 apparatuses during a fire or EMS emergency.)

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 503.2.2 recognizes 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.)

503.2.3 Surface. All weather surfaces shall be asphalt or concrete. Fire lanes shall be designed to support a minimum 85.000 lbs. GVW load. Subgrade shall be stabilized per engineer's report. Concrete fire lanes shall be a minimum five (5) inches thick 3600 psi 5 ~ sack concrete reinforced with #4 rebar on 18-inch centers. Asphalt fire lane shall be a minimum six (6) inches thick. Drive approaches shall be a minimum six (6) inches thick 3600 psi 5 ~sack concrete reinforced with # 4 rebar on 18-inch centers both ways on chairs.

(Reason: Amendments to 503. 2. 3 recognizes that the equipment now used in firefighting is increasing in size, thus requiring a greater GVW requirement. This will address the current size of fire trucks in use - figure derived from DOT requirements for waiver of vehicle exceeding such weight.)

503.2.3.1 Private Access Easements Shall Be Built to City Street Standards.

(Reason: Amendments to 503.2.3.1 recognizes that the equipment now used in firefighting is increasing in size, thus requiring a greater GVW requirement. With the increase in fire apparatus size, this will allow for the passage of two fire apparatuses during a fire or EMS emergency. Addition of 503.2.3.1 to provide a standard for private access easements.)

503.3 Marking. 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. 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.)

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.)

503.6.1 Emergency Vehicle Access. All security gates shall be provided with a manual means of operating the security gate and an automatic means of operation. The automatic means of operation shall be accomplished with an opticom or a KS-2 switch.

(Reason: Provide access for emergency vehicles during normal operating conditions and in the event of a power failure to the security gate control equipment.)

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, road or fire lane 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 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 1/2 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 timelier manner.)

Exception: The aggregate capacity limit shall be permitted to be increased to 3,000 gallons (11,356 L) in accordance with all requirements of Chapter 57.... {Delete remainder of Exception}

(Reason: Change to Section 5704.2.9.5 is included in this amendment package.)

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 (2.498 L). The storage of fuel oil above ground in quantities exceeding 660 gallons (2,498 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 and/or 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 (2.498 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 (4,996 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.)

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 FOG connections are similarly tested/maintained to ensure operation in an emergency incident. Also, corresponds with /BC Section 905.1.1)

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".)

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)

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.)

903.2.11.3 Buildings 35 feet or more in height. An automatic sprinkler system shall be installed throughout buildings that have one or more stories other than penthouses in compliance with Section 1510 of the International Building Code, located 35 feet (10.668 mm) or more above the lowest level of fire department vehicle access, measured to the finished floor.

Exception:

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

903.2.11.7 High-Piled Combustible Storage. For any building with a clear height exceeding 12 feet (4.572 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 over 6,000 sq. ft.

For the purpose of this provision, fire walls shall not define separate buildings. For this section only, area measurement shall be based on outside dimensions of exterior walls, exclusive of vent shafts and courts, without deduction for corridors, stairways, closets, and the thickness of interior walls, columns or other features. The floor area of a building, or portion thereof, not provided with surrounding exterior walls shall be the usable area under the horizontal projection of the roof or floor above. For upper-level attic type rooms, areas where the ceiling height is less than five feet (5' 0') shall not be considered. Unfinished space framed to permit future expansion of floor area shall be considered as part of the area. Joists designed to support floor loads shall be assumed to be for future area.

Exceptions:

1. Open parking garages in compliance with IBC Section 406.5.
2. Building regulated under the International Residential Code as amended.

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

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 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. {Delete}
5. Elevator machine rooms, machinery spaces, and hoistways, other than pits where such sprinklers would not necessitate shunt trip requirements under any circumstances.
6. {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 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 that 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 non-combustible 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 non-combustible 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 unprotected 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.)

903.3.1.3 NFPA 130 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 130 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.)

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, pre-action, 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 waterfilled wet-pipe sprinkler systems in the future, most specifically in attic spaces.)

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.)

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.)

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.)

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.)

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 (60,960 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, 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.)

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

1. In every required 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 exit stairway hose connection by a {No change to rest.}
4. {No change.}
5. Where the roof has a slope less than 4 units vertical in 12 units horizontal (33.3-percent slope), each standpipe shall be provided with a two-way hose connection located to serve the roof or at the highest landing of an 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: Items 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.)

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 /BC 905.9.)

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)

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 having an occupant load 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 AN equipment that distracts from fire alarm notification devices or reduces ability of fire alarm system to notify occupants of the emergency condition.)

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.)

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.)

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

(Reason: Helps to reduce false alarms.)

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.)

907.6.3; delete all four Exceptions.

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

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.)

909.22 Stairway or Ramp Pressurization Alternative. Where the building is equipped throughout with 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.

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 system 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 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.)

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

2. Only manual smoke and heat removal shall 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 be required in areas of buildings equipped with control mode special application sprinklers with a response time index of 50(m*S) 112 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.)

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 m2) 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.)

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 910.3.4.1 through 910.3.4.2.

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: 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.)

910.4.3.1 Makeup Air. Makeup air openings shall be provided within 6 feet (1,829 mm) of the floor level. Operation of makeup air openings shall be 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.)

912.2.1.2 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 FOG is needed to achieve fire control, and improve ease of locating a fire hydrant in those situations. Also, consistent with NFPA 14 criteria.)

914.3.1.2 Water Supply to required Fire Pumps. In buildings that are more than 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.)

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.)

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.)

1010.1.9.5 Bolt Locks; change Exceptions 3 and 4 to read 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.)

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 shall activate self-annunciating alarms audible in all areas within the corridor. Smoke detectors shall be connected to an approved automatic fire alarm system where such system is provided.

(Reason: Revise the 2012 published NCTCOG amendment to this section to clarify intent is not to require automatic fire alarm system or notification throughout the tenant space, but rather, only in the corridor.)

1029.1.1.1; delete this section. Spaces under Grandstands and Bleachers:

(Reason: Unenforceable.)

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 emergencies. 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.)

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.)

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.)

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.)

1103.7; add Sections 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.)

1203.1.1 and 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 1203.2.26 or elsewhere identified in this code or other referenced code.

1203.2.1through1203.2.3 {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.

1. Covered and Open Malls, Section 907.2.19 and 914.2.3
2. Group A Occupancies, Sections 907.2.1 and 907.5.2.2.4

3. Special Amusement Buildings, Section 907.2.11
4. High-rise Buildings, 907.2.12
5. Atriums, Section 907 .2.13
6. 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:

1. Covered Mall Building, International Building Code, Section 402.7
2. Atriums. International Building Code, Section 404.7
3. Underground Buildings, International Building Code, Section 405.8
4. Group 1-3, International Building Code, Section 408.4.2
5. Stages, International Building Code, Section 410.2.5
6. Special Amusement Buildings (as applicable to Group A's), International Building Code, Section 411. 1
7. 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 multi-story 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 1-2, 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.)

2304.1 Supervision of Dispensing. The dispensing of fuel at motor fuel-dispensing facilities shall be in accordance with 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.)

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.)

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. 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.)

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.)

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 and Sec. 7-71 through Sec. 7-73 under Chapter 7 of the Bellmead Code of Ordinances.
2. The use of fireworks for approved fireworks displays as allowed in Section 5608.
3. Unless in conformance with State Law.

(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.)

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.)

5704.2.11.4 Leak Prevention. Leak prevention for underground tanks shall comply with Sections 5704.2.11.4.1 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.)

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.)

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.)

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.)

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.)

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 of 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.)

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 gallons above ground or 1,000 gallons 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.)

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 Section 312 of the International Fire Code.

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.

(Reason: NFPA 58 does not provide substantial physical protection [it allows raised sidewalks, fencing, ditches, parking bumpers as 'vehicle barrier protection1 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.)

Table 8105.2; change footnote a. to read as follows:

a. The reduced fire-flow shall be not less than 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.)

SECTION 3

This ordinance shall be cumulative of all provisions of ordinances of the City of Bellmead, Texas, except where the provisions of this ordinance are in direct conflict with the provisions of such ordinances, in which event the conflicting provisions of such ordinance are hereby repealed.

SECTION 4

It is hereby declared to be the intention of the City Council that the phrases, clauses, sentences, paragraphs, and sections of this ordinance are severable, and if any phrase, clause, sentence, paragraph or section of this ordinance shall be declared unconstitutional by the valid judgement or decree of any court of competent jurisdiction, such unconstitutional shall not affect any of the remaining phrases, clauses, sentences, paragraphs and sections of this ordinance, since the same would have been enacted by the City Council without the incorporation in this ordinance of and such unconstitutional phrase, clause, sentence, paragraph or section.

SECTION 5

This ordinance shall be in full force and effect May 1, 2021.

PASSED AND APPROVED ON FIRST READING MARCH 9, 2021.

PASSED AND APPROVED ON SECOND READING APRIL 13, 2021.

PASSED AND APPROVED ON THIRD READING APRIL 13, 2021.

CITY OF BELLMEAD, TEXAS SEAL CITY SECRETARY

James Cleveland, Mayor

ATTEST:

Holly Owens, City Secretary

APPROVED AS TO FORM & LEGALITY:

Charles Buenger, City Attorney

AGENDA ITEM 9C

CITY COUNCIL AGENDA MEMO

Prepared by: Holly Owens	April 13, 2021	City Manager Approval: Yousry Zakhary

ICC updates – International Fire Code 2018 Edition

DESCRIPTION:

Ordinance 2021-07; An Ordinance of the City of Bellmead, Texas, Amending Chapter 4 – Buildings and Building Regulations, Article II. – Building Code; Providing for the adoption of the *International Fire Code 2018 Edition*; Amending Chapter 7 – Fire Protection; Providing for the adoption of local amendments and appendices thereto; Providing for the recording of such code as a public record; Providing that this ordinance shall be cumulative of all ordinances; Providing a severability clause; Providing a savings clause; and Providing an effective date.

BACKGROUND:

Currently, the City of Bellmead operates under the 2012 International Code Council. All codes directly affect construction, inspections, and the ISO rating for the city. Each appendices and amendments are reflective of our community and the surrounding communities. They are also recommended for our region by the NCTCOG.

The ISO (Insurance Services Office) rating is a score that indicates how well-protected a community is by the fire department. This score is provided to insurance companies which effect the rates. The BCEGS (Building Code Effectiveness Grading Schedule) assesses the building code in effect in a particular community and how the community enforces its building codes, with special emphasis on mitigation of losses from natural hazards. Municipalities with well-enforced, up-to-date codes should demonstrate better loss experience, and insurance rates can reflect that. In the ISO rating scale, a lower number is better: 1 is the best possible rating, while a 10 means the fire department did not meet the ISO's minimum requirements. The City of Bellmead received a Class 9 for 1 & 2 family residential property and a Class 9 for commercial and industrial property in the February 2021 report. By adopting the 2018 codes and consecutively updating every two years, the City of Bellmead's rating will reflect our mission to better serve our community and keep them safe.

What's new in the 2018 IFC?

- **Section 304.1.3.1 Spaces Underneath Grandstands and Bleachers**
  Spaces underneath grandstands and bleachers shall not be occupied or utilized for purposes other than means of egress except where equipped with an automatic sprinkler system in accordance with Section 903.2.1.5.1, or separated with barriers and horizontal assemblies in accordance with Section 1029.1.1.1. *(This was added language to Section 34.1.3 Space Underneath seats.)*

- **Section 309.2 Use in Hazardous (classified) Locations**
  Powered industrial trucks used in areas designated as hazardous (classified) locations in accordance with NFPA 70 shall be listed and labeled for use in the environment intended in accordance with NFPA 505. *(This section was added under Powered Industrial Trucks*

and Equipment.)

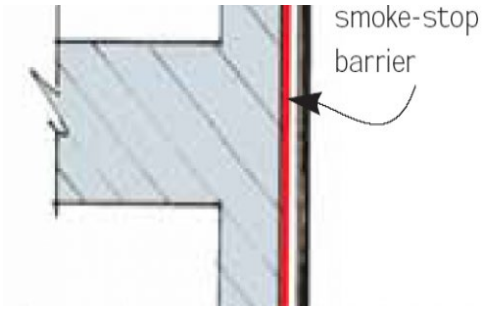
- **Section 403.6 Group F Occupancies**
  An approved fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for buildings containing a Group F occupancy where any of the following conditions apply:
  - The Group F occupancy has an occupant load of 500 or more persons.
  - The Group F occupancy has an occupant load of more than 100 persons above or below the lowest level of exit discharge.
  - Group F pallet manufacturing and recycling facilities as required by Section 2810.

  (This was added conditions to the Group F occupancy.)

- **Section 503.6 Security Gates**
  The installation of security gates across a fire apparatus access road shall be approved by the fire code official (Fire Marshall). Where security gates are installed, they shall have an approved means of emergency operation. The security gates and the emergency operation shall be maintained at all times. Electric gate operators, where provided, shall be listed in accordance with UL 325. Gates intended for automatic operation shall be designed, constructed and installed to comply withy the requirements of ASTM F2200. *(Language added to be more specific.)*

- **Section 510.1 Emergency Responder Radio Coverage in New Buildings**
  New buildings shall have approved radio coverage for emergency responders within the building based on the existing coverage levels of the public safety communication systems utilized by the jurisdiction, measured at the exterior of the building. *(Language changed and updated for emergency responder safety.)*

- **Section 704.1 Maintaining Protection**
  Where required when the building was originally constructed, materials and systems used to protect joints and voids in the following locations shall be maintained. The materials and systems shall be securely attached to or bonded to the adjacent construction, without openings visible through the construction.



  - Joints in or between fire-resistance-rated walls, floors or floor/ceiling assemblies and roof or roof/ceiling assemblies.
  - Joints in smoke barriers.
  - Voids at the intersection of a horizontal floor assembly and an exterior curtain wall.
  - Voids at the intersection of a horizontal smoke barrier and an exterior curtain wall.
  - Voids at the intersection of a non-fire-resistance-rated floor assembly and an exterior curtain wall.
  - Voids at the intersection of a vertical fire barrier and an exterior curtain wall.
  - Voids at the intersection of a vertical fire barrier and a non-fire-resistance-rated roof assembly.

  Unprotected joints and voids do not need to be protected where such joints and voids were not required to be protected when the building was originally constructed. *(This section was added for additional protection and to give responders more time.)*

- **Section 705.2.5 Smoke-and Heat-activated Doors**
  Smoke-activated doors shall be maintained to self-close or automatically close upon detection of smoke. Existing fusible-link type automatic door-closing devices are permitted if the fusible link rating does not exceed 135°F (57°C). *(Language added to contain fire and give responders more time.)*

- **Section 803.2 Stability**
  Interior finish materials regulated by this chapter shall be applied or otherwise fastened in such a manner that such materials will not readily become detached where subjected to room temperatures of 200°F (93°C) for not less than 30 minutes. *(Language added for safety of occupants and responders.)*

- **Section 901.6.2.2 Smoke Control Systems**
  Where a fire alarm system is integrated with a smoke control system as outlined in Section 909, integrated testing shall comply with NFPA 4, with an integrated test performed prior to issuance of the certificate of occupancy and at intervals not exceeding 10 years, unless otherwise specified by an integrated system test plan prepared in accordance with NFPA 4. If an equipment failure is detected during integrated testing, a repeat of the integrated test shall not be required, except as necessary to verify operation of fire protection of the protection or life safety functions that are initiated by equipment that was repaired or replaced.

These are just some of the changes.

This is the link for the IFC Codes.

2018 INTERNATIONAL FIRE CODE - ICC DIGITAL CODES (iccsafe.org)

This is the second and third final reading. The first reading was held on March 9, 2021 with a vote of 6-0-0. Any plans that come in for review between now and April 30th, will be reviewed under the current 2012 codes. After final approval, the ordinance caption will be published in the Waco Tribune-Herald and will take full effect May 1, 2021.

FISCAL IMPACT or FUNDING SOURCE:

N/A

STAFF RECOMMENDATION:

Motion to approve **Ordinance 2021-07;** An Ordinance of the City of Bellmead, Texas, Amending Chapter 4 – Buildings and Building Regulations, Article II. – Building Code; Providing for the adoption of the *International Fire Code 2018 Edition*; Amending Chapter 7 – Fire Protection; Providing for the adoption of local amendments and appendices thereto; Providing for the recording of such code as a public record; Providing that this ordinance shall be cumulative of all ordinances; Providing a severability clause; Providing a savings clause; and Providing an effective date.

ATTACHMENTS:

- Ordinance 2021-07 - IFC