

**ORDINANCE NO. 2017-126**

**AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ROANOKE, TEXAS, AMENDING CHAPTER 3, ARTICLE 3.100, SECTION 3.103 OF THE CODE OF ORDINANCES, BY ADOPTING THE 2015 EDITION OF THE INTERNATIONAL FIRE CODE, AND LOCAL AMENDMENTS TO THE INTERNATIONAL FIRE CODE; PROVIDING A PENALTY CLAUSE; PROVIDING A SEVERABILITY CLAUSE; PROVIDING A REPEALER CLAUSE; AND PROVIDING FOR SAID ORDINANCE TO TAKE EFFECT FROM AND AFTER ITS DATE OF PUBLICATION.**

**WHEREAS**, the City Council of the City of Roanoke, Texas, is of the opinion that the 2015 Edition of the International Fire Code, along with local amendments hereto, should be adopted as the Fire Code for the City of Roanoke; and

**NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ROANOKE, TEXAS:**

**Section 1. FINDINGS INCORPORATED**

The findings set forth above are incorporated into the body of this Ordinance as if fully set forth herein.

**Section 2.** That Chapter 3, Article 3.100, Section 3.103, of the Code of Ordinances, City of Roanoke, Texas, is hereby amended to read as follows:

**Sec. 3.103. International Fire Code Adopted.**

- (a) *Adoption.* The International Fire Code, 2015 edition, is hereby adopted and designated as the Fire Code for the City of Roanoke, Texas. A copy of the 2015 Edition of the International Fire Code is on file in the office of the city secretary.
- (b) *Local Amendments.* The following provisions are local amendments to the 2015 International Fire Code. Each provision in this subsection is a substitute for the identically numbered provision contained in the 2015 International Fire Code or is an additional provision added to the 2015 International Fire Code.

**Sec. 3.103. International Fire Code Adopted.**

- (a) *Adoption.* The International Fire Code, 2015 edition, is hereby adopted and designated as the Fire Code for the City of Roanoke, Texas. A copy of the 2015 Edition of the International Fire Code is on file in the office of the city secretary.

- (b) *Local Amendments.* The following provisions are local amendments to the 2015 International Fire Code. Each provision in this subsection is a substitute for the identically numbered provision contained in the 2015 International Fire Code or is an additional provision added to the 2015 International Fire Code.

## **GENERAL DEFINITIONS**

**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.

## **AMBULATORY HEALTH CARE FACILITY**

**[B] AMBULATORY HEALTH 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. This group may include but not be limited to the following:

- Dialysis centers
- Procedures involving sedation
- Sedation dentistry
- Surgery centers
- Colonic centers
- Psychiatric centers

**ANALOG INTELLIGENT 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.

**[B] Atrium.** An opening connecting three or more stories... {remaining text unchanged}

**Authorized Representative.** Shall include, but not be limited to Fire Chief, Fire Marshal, Fire Inspector, Building Inspector, Code Enforcement Inspector and Police Officers.

**Fire Marshal's Office.** This office shall be under the direction of the Fire Code Official (Fire Chief) and also known in this code as the Fire Prevention Department as defined in Section 103.1 of this 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.

## **ADMINISTRATION**

**101.1 Title.** These regulations shall be known as the Fire Prevention Ordinance of the City of Roanoke, Texas, hereinafter referred to as “this code.”

### **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.

**102.4 Application of other codes.** The design and construction of new structures shall comply with this code, and other codes as applicable, and any alterations, additions, changes in use or changes in structures required by this code, which are within the scope of the International Building Code, shall be made in accordance therewith.

### **Section 102.7; change to read as follows:**

**102.7 Referenced codes and standards.** The codes and standards referenced in this code shall be those that are listed in Chapter 80 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 the 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.

### **Section 105.7; add Section 105.7.19 to read as follows:**

**105.7.19 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.

## **PERMITS**

**105.1.1 Permits required.** Permits required by this code shall be obtained from the fire code official. Permit fees shall be paid prior to issuance of a permit. Issued permits shall be kept on the premises designated therein at all times and shall be readily available for inspection by the fire code official. Double the usual permit fee will be charged for starting work prior to the issuance of a permit.

Section; **105.6.34** change to read as follows:

**105.6.34 Open flames and candles.** An operational permit is not required to use open flames or candles in connection with assembly areas, dining areas of restaurants or drinking establishments.

Section; **105.6.36** Change to read as follows:

**105.6.36 Places of assembly.** An operational permit is not required to operate a place of assembly.

## VIOLATIONS

Section **109.3.5** shall be added to read as follows:

**109.3.5 Citations.** It is the intent of this department to achieve compliance by the traditional means of inspection, notification, granting of reasonable time to comply and re-inspection. After all reasonable means to gain compliance have failed, or when a condition exists that causes an immediate and/or extreme threat to life, property or safety from fire or explosion, the Fire Chief or his designee who have the discretionary duty to enforce a code or ordinance may issue a notice to appear (citation) for the violation. Citations shall be issued only by qualified personnel as designated by the Fire Chief.

Notwithstanding any other provision of this code or of the International Fire Code a citation may be issued without prior notice and the opportunity to correct the condition or violation if the violation is determined to be an immediate threat to life safety.

**109.4 Violation penalties.** Persons who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter, repair or do work in violation of the approved construction documents or directive of the fire code official, or of a permit or certificate used under provisions of this code, shall be guilty of a misdemeanor, punishable by a fine of not more than \$2,000 dollars and or 180 days in jail. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

**109.4.2 Presumption.** When any vehicle is in violation of any provision of this code, such fact shall constituted prima facie proof that the person in whose name said vehicle is registered is guilty of a violation of this code.

## STOP WORK ORDER

**111.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to a fine of up to two-thousand (\$2,000) dollars.

## GENERAL DEFINITIONS

2015 International Fire Code Amendments  
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**Section 202; add new definition of ADDRESSABLE FIRE DETECTION SYSTEM 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.

**Section 202; change definition of ATRIUM as follows:**

**ATRIUM.** An opening connecting three or more stories... {remaining text unchanged}

**Section 202; add new definition of DEFEND IN PLACE to read as follows:**

**DEFEND IN PLACE.** A method of emergency response that engages in 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.

**Section 202; change definition of FIRE WATCH as follows:**

**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.

**Section 202; change definition of FIREWORKS as follows:**

**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 1.4G fireworks or 1.3G fireworks as set forth herein...{remainder of text unchanged}...

**Section 202; add new definition of HIGH-RISE BUILDING to read as follows:**

**HIGH-RISE BUILDING.** A building having any floors used for human occupancy located more than 55 feet (16 764 mm) above the lowest level of fire department vehicle access.

**Section 202; add new definition of HIGH-PILED COMBUSTIBLE STORAGE to read as follows:**

Any building classified as a group S occupancy or speculative building exceeding 5,000 square feet 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.

**Section 202; change definition of REPAIR GARAGE to read as follows:**

**REPAIR GARAGE.** ...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.

**Section 202; add new definition of SELF SERVICE STORAGE FACILITY to read as follows:**

**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.

**Section 202; add new definition of STANDBY PERSONNEL to read as follows:**

**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.

**Section 202; add new definition of UPGRADED OR REPLACED FIRE ALARM SYSTEM to read as follows:**

**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

**COMBUSTIBLE WASTE MATERIAL**

**304.3.2 Capacity exceeding 5.33 cubic feet** **Exception:** Containers used as trash receptacles outside of structures under construction

**OPEN BURNING AND RECREATIONAL FIRES**

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

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**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.

**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. 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.** 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.

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

**307.4 Location.** The location for open burning shall not be less than 300 feet (15 240 91 440 mm) from any structure, and provisions shall be made to prevent the fire from spreading to within 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 307.4.4 and 5; add section 307.4.4 and 307.4.5 to read as follows:**

**307.4.4 Permanent Outdoor Fire pit.** Permanently installed outdoor fire pits 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.

**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}

## **OPEN FLAMES**

**Section 308.1.4 change to read as follows**

**308.1.4 Open-flame cooking.** 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 (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 lbs (5 containers).
2. Exception No. 2 no change.
3. Exception No. 3 no change.

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

### **Exceptions:**

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

**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 unmanned free-floating devices containing an open flame or other heat source, such as but not limited to a sky lantern.

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



**311.5 Placards.** 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, as required by Section 311.5.1 through 311.5.5.

## **EMERGENCY PLANNING AND PREPAREDNESS**

### **FIRE SERVICE FEATURES**

**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.

**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.

**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.

**Section 503.1.1; add the following sentence to the first paragraph:**

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

## **FIRE APPARATUS ACCESS ROADS**

**503.1 Where required.** Approved fire apparatus access roads shall be provided and maintained in accordance with Sections 503.1.1 through 503.1.3 as amended, as well as the requirements of Appendix “D” of this code as amended.

**503.2.1 Dimensions.** Fire apparatus access roads shall have an unobstructed width of not less than 24 feet (7315 mm), except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 14 feet (4267 mm).

**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.

**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.

**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

## **PREMISES IDENTIFICATION**

**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 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.

## KEY BOXES

**506.1 Where required.** All buildings, built, moved into or where a new certificate of occupancy is required, must purchase and install a “Knox Box”™ key vault and install in a location approved by the fire code official. All required keys necessary to obtain access into the building and secured areas inside, access cards or codes must be placed inside the Knox Box™ prior to a Certificate of Occupancy being issued. Office buildings and other common use areas of multi-family facilities will be required to be equipped with a Knox Box™.

**Exception:**

1. One and two family residential units.

**506.1.1 Locks.** Where manual gates or lockable barriers are installed “Knox Locks”™ shall be purchased and installed by the property owner when required by the fire code official.

**506.2 Key box maintenance.** The operator of the building shall immediately notify the fire code official and provide the new keys, codes or access cards when the locks or codes are changed. The keys codes or access cards shall be secured in the key box.

## FIRE PROTECTION WATER SUPPLIES

**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. 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 water flow 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.)

**507.5 Fire hydrant systems.** Fire hydrant systems shall comply with Section 507.5.1 through 507.5.6 of this code as amended.

**Section 507.5.1; change to read as follows:**

**507.5.1 Where required.** Where a portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than 300 feet (91 m) from a hydrant on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains shall be provided where required by the fire code official.

1. Fire hydrants located across any street or public roadway whereby that roadway exceeds 40-feet from curb face to curb face shall not be counted as a usable fire hydrant for that premises.
2. A fire hydrant shall be installed no more than one hundred feet (100') from the fire department connections for a standpipe or automatic sprinkler system. High-rise buildings shall have the fire department connection within twenty-five feet (25') of an approved fire lane or public street.
3. A fire hydrant shall be placed at all intersecting streets of cul-de-sacs.
4. All fire hydrants installed or replaced within the city shall have a Hydra-Shield 4 ½" X 5" Storz adaptor installed on the steamer connection.

**Exceptions:**

For Group R-1 through R-3 and Group U occupancies, the distance requirement shall be a maximum of 500 feet separation as measured by an approved hose lay route. (152 m). For all other occupancy groups, the distance requirement shall be a

maximum of 300 feet separation as measured by an approved hose lay route. as approved. (91.4 m).

1. For buildings equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the distance requirement shall be 300 feet separation. (91m).

**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.

**507.5.5 Non-functioning hydrants.** It shall be unlawful for any person to cause, suffer, allow or maintain a nonfunctioning fire hydrant within thirty-five feet (35') of the back of a street curb or edge of a roadway. For purposes of this section, "nonfunctioning" fire hydrant shall be defined as a fire hydrant or object reasonably intended to resemble a fire hydrant, whether for purposes of ornamentation or otherwise, which is incapable of supplying water from the distribution system for fire protection.

**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.

**SECTION 510**

**EMERGENCY RESPONDER RADIO COVERAGE**

Require buildings meeting or exceeding 50,000 square feet to comply with section 510 of 2015 IFC.

**Section 603.3.2.2; change to read as follows:**

**603.3.2.2 Restricted use and connection.** Tanks installed in accordance with Section 603.3.2 shall be used only to supply fuel oil to fuel-burning equipment installed in accordance with Section 603.3.2.4. Connections between tanks and equipment supplied by such tanks shall be made using closed piping systems.

**Section 604; change and add to read as follows:**

**604.1.2 Installation.** 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.

**604.1.3 through 604.1.8** {No changes to these sections.}

**604.1.9 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.

**604.2 Where Required.** Emergency and standby power systems shall be provided where required by Sections 604.2.1 through 604.2.16 604.2.24 or elsewhere identified in this code or any other referenced code.

**604.2.1 through 604.2.3** {No change.}

**604.2.4 Group A occupancies. 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 907.2.20 and 914.2.3

Group A Occupancies, Sections 907.2.1 and 907.5.2.2.4.

Special Amusement Buildings, Section 907.2.12.3

High-rise Buildings, Section 907.2.13

Atriums, Section 907.2.14

Deep Underground Buildings, Section 907.2.19

**604.2.5 through 604.2.11** {No change.}

**604.2.12 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)

**604.2.13 Membrane Structures.** Emergency power shall be provided for exit signs in temporary tents and membrane structures in accordance with Section 3103.12.6.1. (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.

**604.2.14** {No change.}

**604.2.15 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 410.3.7.2

Special Amusement Buildings (as applicable to Group A's), International Building Code, Section 411.1

Smoke Protected Seating, Section 1029.6.2.1

**604.2.17 Covered and Open Mall Buildings.** Emergency power shall be provided in accordance with Section 907.2.20 and 914.2.3.

**604.2.19 Smoke proof Enclosures and Stair Pressurization Alternative.** Standby power shall be provided for smoke proof enclosures, stair pressurization alternative and associated automatic fire detection systems as required by the International Building Code, Section 909.20.6.2.

**604.2.20 Elevator Pressurization.** Standby power shall be provided for elevator pressurization system as required by the International Building Code, Section 909.21.5.

**604.2.21 Elimination of Smoke Dampers in Shaft Penetrations.** If standby power is available, it shall be connected when eliminating the smoke dampers in ducts penetrating shafts in accordance with the International Building Code, Section 717.5.3, exception 2.3.

**604.2.22 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.

**604.2.23 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 421.8.

**604.3 through 604.7** {No change.}

**604.8 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.

**Section 609.2; change to read as follows:**

**609.2 Where Required.** A Type I hood shall be installed at or above all commercial cooking appliances and domestic cooking appliances used for commercial purposes that produce grease vapors, including but not limited to cooking equipment used in fixed, mobile, or temporary concessions, such as trucks, buses, trailers, pavilions, or any form of roofed enclosure, as required by the fire code official.

**Exceptions:**

1. Tents, as provided for in Chapter 31.
2. {No change to existing Exception.}

Additionally, fuel gas and power provided for such cooking appliances shall be interlocked with the extinguishing system, as required by Section 904.12.2. Fuel gas containers and piping/hose shall be properly maintained in good working order and in accordance with all applicable regulations.

**FIRE RESISTIVE-RATED CONSTRUCTION**

**Section 704.1; change to read as follows:**

**704.1 Enclosure.** Interior vertical shafts including, but not limited to, *stairways*, elevator hoist ways, service and utility shafts, that connect two or more stories of a building shall be enclosed or protected in accordance with the codes in effect at the time of construction but, regardless of when constructed, not less than as required in Chapter 11. New floor openings in existing buildings shall comply with the *International Building Code*.

**INTERIOR FINISH, DECORATIVE MATERIALS AND FURNISHINGS**

**Section 807.3; change to read as follows:**

**807.3 Combustible Decorative Materials.** In occupancies in Groups A, E, I, and R-1, and dormitories in Group R-2, curtains, draperies, fabric hangings and other similar combustible decorative materials suspended from walls or ceilings shall comply with Section 807.4 and shall not exceed 10 percent of the specific wall or ceiling area to which they are attached.

**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.

**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.

## **FIRE PROTECTION SYSTEMS**

**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 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 Knox® FDC plugs 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.

**Section 901.6.3; add Section 901.6.3 to read as follows:**

**901.6.3 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.

**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 code official shall be notified immediately and, where required by the 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}

## **AUTOMATIC SPRINKLER SYSTEMS**

### **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 in addition to automatic sprinkler protection where recognized by the applicable standard or as approved by the fire code official.

**903.2 Where required.** Approved automatic sprinkler systems shall be provided in all new buildings and structures, including residential, where the total fire area under roof is 5,000 square feet or greater and further provided in the locations described in this section. Reference in this code to fire sprinklers being required at 12,000 sq. ft. is changed to 5,000 sq. ft. All automatic sprinkler systems required by this code shall be electronically monitored by an automatic fire alarm system. The alarm system shall be connected to a direct dialer with alarm signals transmitted to a central station or proprietary monitoring station.

**EXCEPTION:** Single family residential is not required to have system monitoring.

Automatic Sprinklers shall not be installed in elevator machine rooms, elevator machine spaces, and elevator hoistways. 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.”

Additions to existing structures that result in the building exceeding 5000 square feet under roof shall require the new and existing structure to have a fire sprinkler system installed.

### **Section 903.2; exception deleted**

1. Group “R” occupancies see section 903.3 of this code.

**903.2.1.1 Group A-1.** An automatic sprinkler system shall be provided for Group A-1 occupancies where one of the following conditions exists:

1. The fire area meets or exceeds 5,000 square feet (464.5 m<sup>2</sup>)
2. The fire area has an occupant load of 300 or more;
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies; or
4. The fire area contains a multitheater complex.

**903.2.1.3 Group A-3.** An automatic sprinkler system shall be provided for Group A-3 occupancies where one of the following conditions exists:

1. The fire area meets or exceeds 5,000 square feet
2. The fire area has an occupant load of 300 or more; or
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies;

**903.2.1.4 Group A-4.** An automatic sprinkler system shall be provided for Group A-4 occupancies where one of the following conditions exists:

1. The fire area meets or exceeds 5,000 square feet (464.5 m<sup>2</sup>)
2. The fire area has an occupant load of 300 or more; or
- a. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

**903.2.3 Group E.** An automatic sprinkler system shall be provided for Group E occupancies as follows:

1. Throughout all Group E fire areas that meets or exceeds 5,000 square feet (464.5 m<sup>2</sup>)
2. Throughout every portion of educational buildings below the level of exit discharge.

**903.2.3 Group F-1.** An automatic sprinkler system shall be provided throughout all buildings containing Group F-1 occupancy where one of the following conditions exists:

1. Where a Group F-1 fire area meets or exceeds 5,000 square feet (464.5 m<sup>2</sup>)
2. Where a Group F-1 fire area is three or more stories above grade; or
3. Where the combined area of all Group F-1 fire areas on all floors, including any mezzanines, meets or exceeds 5,000 square feet (464.5 m<sup>2</sup>)
4. A group F-1 occupancy used for the manufacture of upholstered furniture or mattresses exceeds 2,500 square feet.

**903.2.7 Group M.** An automatic sprinkler system shall be provided throughout buildings containing Group M occupancy where one of the following conditions exists:

1. Where a Group M fire area meets or exceeds 5,000 square feet (464.5 m<sup>2</sup>)
2. Where a Group M fire area is located 3 or more three stories above grade; or
3. Where the combined area of all Group M fire areas on all floors, including any mezzanines, exceeds 5,000 square feet (464.5 m<sup>2</sup>)

**903.2.9 Group S-1.** An automatic sprinkler system shall be provided throughout all buildings containing Group S-1 occupancy where one of the following conditions exists:

1. Where a Group S-1 fire area that meets or exceeds 5,000 square feet (464.5 m<sup>2</sup>)
2. Where a Group S-1 fire area is located 3 or more three stories above grade; or
3. Where the combined area of all Group S-1 fire areas on all floors, including any mezzanines that meets or exceeds 5,000 square feet (464.5 m<sup>2</sup>)
4. A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet.

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

1. Buildings two or more stories in height, including basements, with a fire area containing a repair garage that meets or exceeds 5,000 square feet (464.5 m<sup>2</sup>)
2. One-story buildings with a fire area containing a repair garage that meets or exceeds 5,000 square feet (464.5 m<sup>2</sup>).
3. Buildings with a repair garage servicing vehicles parked in the basement.

**903.2.9.2 Bulk storage of tires.** Buildings and structures where the indoor area for the storage of tires that meets or exceeds 5,000 square feet (464.5 m<sup>2</sup>) shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

**Section 903.2.9.3; change 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.

**903.2.9.1 Remainder unchanged**

**903.2.10 Amend to read as follows;**

**Group S-2 parking garages.** An automatic sprinkler system shall be provided throughout buildings classified as parking garages in accordance with Section 406.6 of the *International Building Code* where either of the following exists:

1. Where the fire area of parking garage exceeds 5,000 square feet.

...Remainder unchanged

**903.2.11.3; change to read as follows**

**903.2.11.3 Buildings of three or more stories in height or 30 feet in height, whichever is less.**

An automatic sprinkler system shall be installed throughout buildings with a floor level that is located 30 feet or more above the lowest level of fire department vehicle access.

**903.2.11.3 Exceptions deleted**

**903.2.11.7; add to read as follows**

**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; add to read as follows**

**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 5,000 sq. ft.; add to read as follows**

**903.2.11.9 Buildings Over 5,000 sq.ft.** An automatic sprinkler system shall be installed throughout all buildings with a building area that meets or exceeds 5,000 sq. For the purpose of this provision, fire walls shall not define separate buildings

**903.2.13 Other required suppression systems.** In addition to the requirements of Section 903.2, the provisions indicated in Table 903.2.13 may also require the installation of a suppression system for certain buildings and areas.

**903.3 Installation requirements.** Automatic sprinkler systems shall be designed and installed in accordance with Sections 903.3.1 through 903.3.7.

1. **Group R, Division 1 Occupancies.** Any group R, Division 1 Multi-family occupancy with five (5) or more units within one building or 3 or more stories shall have an approved automatic fire sprinkler system.
2. **Group R, Division 3 Occupancies.** Any group R, one and two-family dwellings with a total floor area of 5,000 square feet or greater under roof shall have an approved automatic fire sprinkler system.

**903.3.1.1.1 Exempt locations.** Automatic sprinklers may not be required in the following rooms or areas. If the use of a double interlock, pre-action type automatic sprinkler system will not provide adequate protection and safety, only then may the fire code official waive the requirement for sprinkler protection in a given area. The fire code official may still require other types of fire protection or fire rated construction in these areas. Sprinklers shall not be omitted from any room merely 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, 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. Room are areas that are of noncombustible construction with wholly non combustible contents.
5. Elevator machine rooms, and machinery spaces, and hoist ways, other than pits where such sprinklers would not necessitate shunt trip requirements under any circumstances.
6. {Delete}.

**903.3.1.2 NFPA 13R sprinkler systems.** Buildings in Group R, with three or more stories in height or having five or more units in a building, shall have an automatic sprinkler systems installed

throughout in accordance with NFPA 13R.

**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.

**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.

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

**[F]** 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.

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

Commercial 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.

### **Section 903.4.2; ALARMS**

#### **Add second paragraph to read as follows:**

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

#### **Exceptions:**

1. Automatic sprinkler systems protecting one and two-family dwellings.
2. Limited area systems serving fewer than 20 sprinklers.

### **Section 903.4.2; ALARMS, remainder unchanged**

## **STANDPIPE SYSTEMS**

**905.3.1 Building height.** Class I standpipe systems shall be installed throughout buildings where the floor level of the highest story is located more than 30 feet (9144 mm) above the lowest level of the fire department vehicle access, or where the floor level of the lowest story is located more than 30 feet (9144mm) below the highest level of fire department vehicle access.

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

**905.2 Installation standards.** 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.

#### **Add Section 905.3.8 and exception to read as follows:**

**905.3.9 Building Area.** In buildings exceeding 10,000 square feet in area per story, Class I automatic wet or manual wet standpipes shall be provided 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.

**Exception:** Automatic dry and semi-automatic dry standpipes are allowed as provided for in NFPA 14.

**905.4. Location of Class I standpipe hose connections.** Class I standpipes shall also be required in all Group A, B, E, I, M occupancies in which the distance from accessible points of fire department ingress to any point in the structure exceeds 200-feet along the route that a fire hose is laid as measured from the fire lane. When required by this article, standpipe connections shall be placed adjacent to all required exits to the structure and at 150-foot intervals along major corridors thereafter. Class I standpipe hose connections shall be provided in all of the following



locations:

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 {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.

**905.9 Add a second paragraph after the exception to read as follows:**

Sprinkler and standpipe systems 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.

## **FIRE ALARM AND DETECTION SYSTEMS**

### **Add 907.13.1 thru 907.1.5**

**907.1.3.1 Prohibited Equipment.** Smoke generating devices activated by a burglar alarm, motion detector, tamper alarm or other type intruder alarms are prohibited in all buildings in the City of Roanoke.

**907.1.4 Design standards.** All alarm systems new or replacement shall be addressable. Alarm systems more than 20 smoke detectors shall be analog addressable.

**Exception:** Existing systems need not comply unless the total building remodel or expansion initiated after the effective date of this code, as adopted, exceeds 30% of the building's size. When cumulative building remodel or expansion exceeds 50% of the building's size must comply within 18 months of permit application.

**907.1.4.1 Manual fire alarm boxes.** When a manual fire alarm system is required, manual pull stations shall be of an approved double action type. Manual fire alarm boxes shall be distributed throughout so that they are readily accessible, unobstructed, and are located in the normal path of exit travel from the area and at all designated exits from every level.

**907.1.5 Control units, annunciator panels and access keys.** Fire alarm control panel functions such as silence and reset must be operable without the use of a key or secret code. The panel cover may be locked, but the function keys cannot require a key or code.

**907.2 Where required—new buildings and structures.** An approved manual, automatic, or manual and automatic fire alarm system shall be provided in new buildings and structures in accordance with Sections 907.2.1 through 907.2.3. Fire sprinkler protection systems shall be connected to the monitored building fire alarm system for occupant notification. The automatic fire detectors shall be smoke detectors, except that an approved alternative type of detector shall be installed in spaces such as boiler rooms where, during normal operation, products of combustion are present in sufficient quantity to actuate a smoke detector, as approved by the Fire Code Official.

#### **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 having an occupant load of 300 or more persons or more than 100 persons above or below the lowest level of exit discharge. Portions of Group E occupancies occupied for assembly purposes shall be provided with a fire alarm system as required for the Group E occupancy. 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. 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  
Stop any conflicting or confusing sounds and visual distractions.

#### **907.2.2.1 Ambulatory care facilities**

The exception listed in 907.2.2.1 is deleted.

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

**907.2.3 Group E.** A manual and automatic fire alarm system that activates the occupant notification system in accordance with new 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.

### **Section 907.2.3; change exception 1 and add exception 1.1 to read as follows:**

#### **Exceptions:**

1. A manual fire alarm system is not required Group E educational and day care occupancies with an occupant load of less than 50 when provided with an approved automatic sprinkler system.
  - 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.)
- 4.3 Exception is deleted.

### **Section 907.2.3; Remainder unchanged**

**Section 907.2.8.1 Manual fire alarm system.** A monitored manual fire alarm system shall be installed in Group R-1 occupancies.

#### **Exceptions;**

1. Deleted
2. Manual fire alarm boxes are required throughout the building.
3. The notification appliances shall activate upon sprinkler water flow.

**907.2.9 Group R-2.** A manual fire alarm system shall be installed in Group R-2 occupancies where:

- 1.1 Any dwelling unit or sleeping unit is located two or more stories above the lowest level of exit discharge.
- 1.2 Any dwelling unit or sleeping unit is located more than one story below the highest level of exit discharge of exits serving the dwelling unit or sleeping unit; or
- 1.3 The building contains 5 or more dwelling units or sleeping units.

### **907.2.9 Group R-2. Remainder unchanged**

**907.2.9.1 Manual fire alarm system.** A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group R-2 occupancies where any of the following conditions apply:

1. Any dwelling unit or sleeping unit is located two or more stories above the lowest level of exit discharge.
2. Unchanged
3. The building contains more than four dwelling units or sleeping units.

**907.2.13 High-rise buildings.** Buildings having any floors used for human occupancy located more than 55 feet (16.764m) above the lowest level of fire department vehicle access shall be provided with an automatic fire alarm system and an emergency voice/alarm communication system in accordance with Section 907.2.12.2.

**Change exception 3 to read;**

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

**907.3.2 Delayed egress locks.** Where delayed egress locks are installed on means of egress doors in accordance with Section 1010.1.9.7, an automatic smoke detection system and an approved automatic fire sprinkler system shall be installed as required by that respective section.

**907.2.19 Underground buildings.** Where the lowest level of a structure is below the lowest level of exit discharge, the structure shall be equipped throughout with a manual and automatic fire alarm system, including an emergency voice/alarm communication system installed in accordance with Section 907.6.2.2.

**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.

**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.

**Section 907.6.3; delete exceptions 1 and 2.**

**Section 909.22; add to read as follows:**

**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.

**Section 910.1; Amend exception 2 to read as follows:**

2. Where areas of buildings are equipped with early suppression fast-response (ESFR) sprinklers, only manual smoke and heat vents shall be required within these areas. Automatic smoke and heat vents are prohibited.

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

**[F] 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  $50(m \cdot S)^{1/2}$  or less that are listed to control a fire in stored commodities with 12 or fewer sprinklers. Automatic smoke and heat removal is prohibited.

**\*\*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<sup>2</sup>) 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.

**Table 910.3; Change the title of the first row of the table from “Group F-1 and S-1” to include “Group H” and to read as follows:**

Group H, F-1 and S-1

**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.

**[F] 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.

**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 m<sup>2</sup> per 0.4719 m<sup>3</sup>/s) of smoke exhaust.

**Section 910.4.4; change to read as follows:**

**910.4.4 Activation.** The mechanical smoke removal system shall be activated by manual controls only automatically by the automatic sprinkler system or by an approved fire detection system. Individual manual controls shall also be provided.

**Exception:** Manual only systems per Section 910.2.

**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.

**\*\*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.

**Section 1006.2.2.6; add a new Section 1006.2.2.6 as follows:**

**1006.2.2.6 Electrical Rooms.** For electrical rooms, special exiting requirements may apply. Reference the Electrical Code as adopted.

**Section 1009.1; add the following Exception 4:**

**Exceptions:**

{Previous exceptions unchanged}

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

**Section 1010.1.9.4 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}

**Section 1015.8 Window Openings; change number 1 to read as follows:**

1. Operable windows where the top of the sill of the 55 feet (16 764 mm) above the finished grade or other surface below and that are provided with window fall prevention devices that comply with ASTM F 2006.

**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 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.

**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. An exit or exit passageway shall not be used for any purpose that interferes with a means of egress.

**Section 1103.3; add sentence to end of paragraph as follows:**

Provide emergency signage as required by Section 607.3.

**Section 1103.5; add Section 1103.5.1 to read as follows:**

**1103.5.1 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.

**Section 1103.7; add Section 1103.7.8 and 1103.7.8.1 to read as follows:**

**1103.7.8 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

**1103.7.8.1 Communication requirements.** Refer to Section 907.6.6 for applicable requirements.

**Section 2304.1; change to read as follows:**

**2304.1 Supervision of Dispensing.** The dispensing of fuel at motor fuel-dispensing facilities 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.

**Section 2401.2; delete this section.**

## **SOLID-PILED AND SHELF STORAGE**

**Table 3206.2, footnote j; change text to read as follows:**

j. 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) <sup>1</sup>/<sub>2</sub> 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.

**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.

**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.

**Section 5704.2.9.5; change Section 5704.2.9.5 and add Section 5704.2.9.5.3 to read as follows:**

**5704.2.9.5 Above-ground Tanks Inside of Buildings.** Above-ground tanks inside of buildings shall comply with Section 5704.2.9.5.1 and 5704.2.9.5.2 through 5704.2.9.5.3.

**5704.2.9.5.1** {No change.}

**5704.2.9.5.2** {No change.}

**5704.2.9.5.3 Combustible Liquid Storage Tanks Inside of Buildings.** The maximum aggregate allowable quantity limit shall be 3,000 gallons (11 356 L) of Class II or III combustible liquid for storage in protected aboveground tanks complying with Section 5704.2.9.7 when all of the following conditions are met:

1. The entire 3,000 gallon (11 356 L) quantity shall be stored in protected above-ground tanks;
2. The 3,000 gallon (11 356 L) capacity shall be permitted to be stored in a single tank or multiple smaller tanks;
3. The tanks shall be located in a room protected by an automatic sprinkler system complying with Section 903.3.1.1; and
4. Tanks shall be connected to fuel-burning equipment, including generators, utilizing an approved closed piping system. The quantity of combustible liquid stored in tanks complying with this section shall not be counted towards the maximum allowable quantity set forth in Table 5003.1.1(1), and such tanks shall not be required to be located in a control area. Such tanks shall not be located more than two stories below grade.

**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 through 5704.2.11.4.3. An approved method of secondary containment shall be provided for underground tank and piping systems.

**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.

**Section 5704.2.11.4; 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.

**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.

**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.

**Section 6104.3; add Section 6104.3.2 to read as follows:**

**6104.3.2 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.

**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.

**Table B105.2; change footnote a. to read as follows:**

- a. The reduced fire-flow shall be not less than 1,500 gallons per minute.

**REFERENCED STANDARDS**

This chapter lists the standards that are referenced in various sections of this document. The standards are listed herein by the promulgating agency of the standard, the standard identification,

the effective date and title, and the section or sections of this document that reference the standard. The application of the referenced standards shall be as specified in Section 102.6.

National Fire Protection Association  
1 Batterymarch Park  
Quincy, MA 02269

## **NFPA**

NFPA 10	Standard for Portable Fire Extinguishers 2013 Edition
NFPA 11	Standard for Low-, Medium-, and High-Expansion Foam 2016 Edition
NFPA 12	Standard on Carbon Dioxide Extinguishing Systems 2016 Edition
NFPA 12A	Standard on Halon 1301 Fire Extinguishing Systems 2015 Edition
NFPA 13	Standard for the Installation of Sprinkler Systems 2016 Edition
NFPA 13D	Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes 2016 Edition
NFPA 13R	Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height 2016 Edition
NFPA 14	Standard for the Installation of Standpipe and Hose Systems 2016 Edition
NFPA 15	Standard for Water Spray Fixed Systems for Fire Protection 2017 Edition
NFPA 16	Standard for the Installation of Foam-Water Sprinkler and Foam-Water Spray Systems 2015 Edition
NFPA 17	Standard for Dry Chemical Extinguishing Systems 2013 Edition
NFPA 17A	Standard for Wet Chemical Extinguishing Systems 2013 Edition
NFPA 18	Standard on Wetting Agents 2011 Edition
NFPA 18A	Standard on Water Additives for Fire Control and Vapor Mitigation 2011 Edition
NFPA 20	Standard for the Installation of Stationary Pumps for Fire Protection 2016 Edition
NFPA 22	Standard for Water Tanks for Private Fire Protection 2013 Edition
NFPA 24	Standard for the Installation of Private Fire Service Mains and Their Appurtenances 2016 Edition
NFPA 25	Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems 2014 Edition
NFPA 30	Flammable and Combustible Liquids Code 2015 Edition
NFPA 30A	Code for Motor Fuel Dispensing Facilities and Repair Garages 2015 Edition
NFPA 30B	Code for the Manufacture and Storage of Aerosol Products 2015 Edition
NFPA 31	Standard for the Installation of Oil-Burning Equipment 2016 Edition
NFPA 32	Standard for Dry cleaning Plants 2016 Edition

NFPA 33	Standard for Spray Application Using Flammable or Combustible Materials 2016 Edition
NFPA 34	Standard for Dipping and Coating Processes Using Flammable or Combustible Liquids 2015 Edition
NFPA 35	Standard for the Manufacture of Organic Coatings 2016 Edition
NFPA 36	Standard for Solvent Extraction Plants 2013 Edition
NFPA 37	Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines 2015 Edition
NFPA 40	Standard for the Storage and Handling of Cellulose Nitrate Film 2016 Edition
NFPA 45	Standard on Fire Protection for Laboratories Using Chemicals 2015 Edition
NFPA 51	Standard for the Design and Installation of Oxygen–Fuel Gas Systems for Welding, Cutting, and Allied Processes 2013 Edition
NFPA 51A	Standard for Acetylene Cylinder Charging Plants 2012 Edition
NFPA 51B	Standard for Fire Prevention during Welding, Cutting, and Other Hot Work 2014 Edition
NFPA 52	Vehicular Fuel Systems Code 2016 Edition
NFPA 53	Recommended Practice on Materials, Equipment, and Systems Used in Oxygen-Enriched Atmospheres 2016 Edition
NFPA 54	National Fuel Gas Code 2015 Edition
NFPA 55	Compressed Gases and Cryogenic Fluids Code 2016 Edition
NFPA 56:	Standard for Fire and Explosion Prevention during Cleaning and Purging of Flammable Gas Piping Systems 2014 Edition
NFPA 57:	Liquefied Natural Gas (LNG) Vehicular Fuel Systems Code 2002 Edition
NFPA 58	Liquefied Petroleum Gas Code 2014 Edition
NFPA 59	Utility LP-Gas Plant Code 2015 Edition
NFPA 59A	Standard for the Production, Storage, and Handling of Liquefied Natural Gas (LNG) 2016 Edition
NFPA 61	Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities 2017 Edition
NFPA 67:	Guide on Explosion Protection for Gaseous Mixtures in Pipe Systems
NFPA 68	Standard on Explosion Protection by Deflagration Venting 2013 Edition
NFPA 69	Standard on Explosion Prevention Systems 2014 Edition
NFPA 70	National Electrical Code® 2014 Edition
NFPA 70B	Recommended Practice for Electrical Equipment Maintenance 2016 Edition
NFPA 70E	Standard for Electrical Safety in the Workplace 2015 Edition
NFPA 72	National Fire Alarm Code® 2016 Edition
NFPA 73	Electrical Inspection Code for Existing Dwellings 2016 Edition
NFPA 75	Standard for the Protection of Information Technology Equipment 2013 Edition

NFPA 76	Standard for the Fire Protection of Telecommunications Facilities 2016 Edition
NFPA 77	Recommended Practice on Static Electricity 2014 Edition
NFPA 79	Electrical Standard for Industrial Machinery 2015 Edition
NFPA 80	Standard for Fire Doors and Other Opening Protectives 2016 Edition
NFPA 80A:	Recommended Practice for Protection of Buildings from Exterior Fire Exposures 2017 Edition
NFPA 82	Standard on Incinerators and Waste and Linen Handling Systems and Equipment 2014 Edition
NFPA 85	Boiler and Combustion Systems Hazards Code 2015 Edition
NFPA 86	Standard for Ovens and Furnaces 2015 Edition
NFPA 86C:	Standard for Industrial Furnaces Using a Special Processing Atmosphere 1999 Edition
NFPA 88A	Standard for Parking Structures 2015 Edition
NFPA 90A	Standard for the Installation of Air-Conditioning and Ventilating Systems 2015 Edition
NFPA 90B	Standard for the Installation of Warm Air Heating and Air- Conditioning Systems 2015 Edition
NFPA 91:	Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Particulate Solids 2015 Edition
NFPA 92	Standard for Smoke Control Systems 2015 Edition
NFPA 92A:	Standard for Smoke-Control Systems Utilizing Barriers and Pressure Differences 2009 Edition
NFPA 92B:	Standard for Smoke Management Systems in Malls, Atria, and Large Spaces 2009 Edition
NFPA 96	Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations 2014 Edition
NFPA 99	Standard for Health Care Facilities 2015 Edition
NFPA 99B	Standard for Hypobaric Facilities 2015 Edition
NFPA 102	Standard for Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures 2011 Edition
NFPA 105	Standard for the Installation of Smoke Door Assemblies and Other Opening Protectives 2016 Edition
NFPA 110	Standard for Emergency and Standby Power Systems 2013 Edition
NFPA 111	Standard on Stored Electrical Energy Emergency and Standby Power Systems 2016 Edition
NFPA 115	Standard for Laser Fire Protection 2016 Edition
NFPA 130	Standard for Fixed Guideway Transit and Passenger Rail Systems 2017 Edition
NFPA 140	Standard on Motion Picture and Television Production Studio Soundstages, Approved Production Facilities, and Production Locations 2013 Edition

NFPA 150	Standard on Fire and Life Safety in Animal Housing Facilities 2016 Edition
NFPA 160	Standard for the Use of Flame Effects Before an Audience 2016 Edition
NFPA 170	Standard for Fire Safety and Emergency Symbols 2015 Edition
NFPA 204	Standard for Smoke and Heat Venting 2015 Edition
NFPA 211	Standard for Chimneys, Fireplaces, Vents, and Solid Fuel–Burning Appliances 2016 Edition
NFPA 214	Standard on Water-Cooling Towers 2016 Edition
NFPA 220	Standard on Types of Building Construction 2015 Edition
NFPA 221	Standard for High Challenge Fire Walls, Fire Walls, and Fire Barrier Walls 2015 Edition
NFPA 225	Model Manufactured Home Installation Standard 2013 Edition
NFPA 232	Standard for the Protection of Records 2012 Edition
NFPA 241	Standard for Safeguarding Construction, Alteration, and Demolition Operations 2013 Edition
NFPA 291	Recommended Practices for Fire Flow Testing and Marking of Hydrants 2016 Edition
NFPA 297:	Guide on Principles and Practices for Communications Systems 1995 Edition
NFPA 318	Standard for the Protection of Semiconductor Fabrication Facilities 2015 Edition
NFPA 326	Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair 2015 Edition
NFPA 329	Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases 2015 Edition
NFPA 350:	Best Practices Guide for Safe Confined Space Entry and Work 2016 Edition
NFPA 385	Standard for Tank Vehicles for Flammable and Combustible Liquids 2012 Edition
NFPA 400	Hazardous Materials Code 2016 Edition
NFPA 418	Standard for Heliports 2016 Edition
NFPA 423	Standard for Construction and Protection of Aircraft Engine Test Facilities 2016 Edition
NFPA 430:	Code for the Storage of Liquid and Solid Oxidizers 2004 Edition
NFPA 432:	Code for the Storage of Organic Peroxide Formulations
NFPA 434:	Code for the Storage of Pesticides 2002 Edition2013 Edition
NFPA 471:	Recommended Practice for Responding to Hazardous Materials Incidents 2002 Edition
NFPA 472:	Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents 2013 Edition
NFPA 473:	Standard for Competencies for EMS Personnel Responding to Hazardous Materials/Weapons of Mass Destruction Incidents 2013 Edition
NFPA 480:	Standard for the Storage, Handling, and Processing of Magnesium Solids and Powders 1998 Edition

NFPA 481:	Standard for the Production, Processing, Handling, and Storage of Titanium 2000 Edition
NFPA 482:	Standard for the Production, Processing, Handling, and Storage of Zirconium 1996 Edition
NFPA 484:	Standard for Combustible Metals 2015 Edition
NFPA 485:	Standard for the Storage, Handling, Processing, and Use of Lithium Metal 1999 Edition
NFPA 490:	Code for the Storage of Ammonium Nitrate 2002 Edition
NFPA 495	Explosive Materials Code 2013 Edition
NFPA 496	Standard for Purged and Pressurized Enclosures for Electrical Equipment 2017 Edition
NFPA 497	Recommended Practice for the Classification of Flammable Liquids, Gases, or Vapors and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas 2017 Edition
NFPA 498	Standard for Safe Havens and Interchange Lots for Vehicles Transporting Explosives 2013 Edition
NFPA 499	Recommended Practice for the Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas 2017 Edition
NFPA 501	Standard on Manufactured Housing 2013 Edition
NFPA 501A	Standard for Fire Safety Criteria for Manufactured Home Installations, Sites, and Communities 2013 Edition
NFPA 502	Standard for Road Tunnels, Bridges, and Other Limited Access Highways 2017 Edition
NFPA 505	Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance, and Operations 2013 Edition
NFPA 513	Standard for Motor Freight Terminals 1998 Edition
NFPA 520	Standard on Subterranean Spaces 2016 Edition
NFPA 560	Standard for the Storage, Handling, and Use of Ethylene Oxide for Sterilization and Fumigation 2007 Edition
NFPA 600	Standard on Facility Fire Brigades 2015 Edition
NFPA 610	Guide for Emergency and Safety Operations at Motorsports Venues 2014 Edition
NFPA 650	Standard for Pneumatic Conveying Systems for Handling Combustible Particulate Solids 1998 Edition
NFPA 654	Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids 2017 Edition
NFPA 655	Standard for Prevention of Sulfur Fires and Explosions 2012 Edition
NFPA 664	Standard for the Prevention of Fires and Explosions in Wood Processing and Woodworking Facilities 2017 Edition



NFPA 701	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 2015 Edition
NFPA 703	Standard for Fire Retardant–Treated Wood and Fire-Retardant Coatings for Building Materials 2015 Edition
NFPA 704	Standard System for the Identification of the Hazards of Materials for Emergency Response 2017 Edition
NFPA 720	Standard for the Installation of Carbon Monoxide (CO) Warning Equipment in Dwelling Units 2015 Edition
NFPA 730	Guide for Premises Security 2014 Edition
NFPA 731	Standard for the Installation of Electronic Premises Security Systems 2015 Edition
NFPA 750	Standard on Water Mist Fire Protection Systems 2015 Edition
NFPA 780	Standard for the Installation of Lightning Protection Systems 2017 Edition
NFPA 801	Standard for Fire Protection for Facilities Handling Radioactive Materials 2014 Edition
NFPA 820	Standard for Fire Protection in Wastewater Treatment and Collection Facilities 2016 Edition
NFPA 850	Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations 2015 Edition
NFPA 853	Standard for the Installation of Stationary Fuel Cell Power Systems 2015 Edition
NFPA 909	Code for the Protection of Cultural Resource Properties — Museums, Libraries, and Places of Worship 2013 Edition
NFPA 914	Code for Fire Protection of Historic Structures 2015 Edition
NFPA 921	Guide for Fire and Explosion Investigations 2014 Edition
NFPA 1122	Code for Model Rocketry 2013 Edition
NFPA 1123	Code for Fireworks Display 2014 Edition
NFPA 1124	Code for the Manufacture, Transportation, Storage, and Retail Sales of Fireworks and Pyrotechnic Articles 2017 Edition
NFPA 1125	Code for the Manufacture of Model Rocket and High Power Rocket Motors 2017 Edition
NFPA 1126	Standard for the Use of Pyrotechnics before a Proximate Audience 2016 Edition
NFPA 1127	Code for High Power Rocketry 2013 Edition
NFPA 1141	Standard for Fire Protection Infrastructure for Land Development in Suburban and Rural Areas 2017 Edition
NFPA 1143	Standard for Wildland Fire Management 2014 Edition
NFPA 1144	Standard for Reducing Structure Ignition Hazards from Wildland Fire 2013 Edition
NFPA 1145	Guide for the Use of Class A Foams in Manual Structural Fire Fighting 2017 Edition
NFPA 1192	Standard on Recreational Vehicles 2015 Edition

NFPA 1194	Standard for Recreational Vehicle Parks and Campgrounds 2014 Edition
NFPA 1221	Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems 2016 Edition
NFPA 1403	Standard on Live Fire Training Evolutions 2012 Edition
NFPA 1620	Recommended Practice for Pre-Incident Planning 2015 Edition
NFPA 1801	Standard on Thermal Imagers for the Fire Service
NFPA 1901	Standard for Automotive Fire Apparatus 2009 Edition
NFPA 1906	Standard for Wildland Fire Apparatus 2012 Edition
NFPA 1911	Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus 2012 Edition
NFPA 1912	Standard for Fire Apparatus Refurbishing 2016 Edition
NFPA 1925	Standard on Marine Fire-Fighting Vessels 2013 Edition
NFPA 1931	Standard for Manufacturer's Design of Fire Department Ground Ladders 2015 Edition
NFPA 1932	Standard on Use, Maintenance, and Service Testing of In-Service Fire Department Ground Ladders 2015 Edition
NFPA 1936	Standard on Powered Rescue Tools 2015 Edition
NFPA 1961	Standard on Fire Hose 2013 Edition
NFPA 1962	Standard for the Inspection, Care, and Use of Fire Hose, Couplings, and Nozzles and the Service Testing of Fire Hose 2013 Edition
NFPA 1963	Standard for Fire Hose Connections 2014 Edition
NFPA 1964	Standard for Spray Nozzles 2013 Edition
NFPA 1965	Standard for Fire Hose Appliances 2014 Edition
NFPA 1971	Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting 2013 Edition
NFPA 1981	Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services 2013 Edition
NFPA 1982	Standard on Personal Alert Safety Systems (PASS) 2013 Edition
NFPA 1983	Standard on Life Safety Rope and Equipment for Emergency Services 2012 Edition
NFPA 2010	Standard for Fixed Aerosol Fire-Extinguishing Systems 2015 Edition

## **APPENDIX D**

### **FIRE APPARATUS ACCESS ROADS**

#### **SECTION D103 MINIMUM SPECIFICATIONS**

##### **D103.1 Change to read as follows:**

**D103.1 Access road width with a hydrant.** All fire lanes or fire apparatus access roads, shall have a minimum road width shall of 24 feet (7.3m). exclusive of shoulders (see Figure D103.1).

**D103.1.1 Access road vertical clearance.** Fire apparatus access roads shall have a minimum vertical clearance of 14 feet (4.2m)

**D103.1.2 Cul-De-Sacs.** Cul-De-Sacs shall have a 100' diameter turn-around.

**D103.3 Turning radius.** The minimum turning radius shall be determined by the fire code official.

**D103.4 Dead ends.** Dead-end fire apparatus access roads in excess of 150 feet (45.7 m) shall be provided with width and turnaround provisions approved by the Fire Code Official.

**D103.5 Fire apparatus access road gates. Change 4, 5, 6, 7 and 8 to read as follows:**

4. Gate components shall be maintained in an operative condition at all times and replaced or repaired when defective. Inoperative gates may be ordered locked open by the Fire Code Official so as to facilitate emergency vehicle access at all times.
5. Electric gates shall be equipped and operated by an "Opticom"™ optical receiver, and a Knox KS-2 Switch.
6. Manual opening gates shall not be locked with a padlock or chain and padlock unless they are equipped with a "Knox Lock"™ padlock giving rapid entry to the fire department.
7. Locking device specifications shall be submitted for approval by the fire code official.
8. Electrically operated gates equipped with the Opticom™ initiated opening system shall be equipped with a manual override system secured with a Knox™ padlock.

**D103.7 Road marking.** Fire Access/Fire Lanes shall be identified by red painted lines 6 inches in width on both edges of the width of the lane, and shall have the words "NO PARKING FIRE LANE" in 4 inch white painted letters every 20 feet, on center, over the red striping. Fire lanes striping that abuts a curb shall be painted on the upright face of the curb. The words "NO PARKING FIRE LANE" is to be kept together on all signage.

## **SECTION D105 AERIAL FIRE APPARATUS ACCESS ROADS**

**D105.2 Change to read as follows:**

**D105.2 Width.** Fire apparatus access roads shall have a minimum unobstructed width of 24 feet (7315 mm) in the immediate vicinity of any building or portion of building more than 30 feet (9.1m) in height.

**D106.1 Change to read as follows:**

## **SECTION D106 MULTIPLE-FAMILY RESIDENTIAL DEVELOPMENTS**

**D106.1 All multiple-family residential developments.** Multiple family residential projects shall be equipped throughout with two separate and approved fire apparatus access roads.”

**D106.2 and D106.3 are deleted**

## **SECTION D107 ONE- OR TWO-FAMILY RESIDENTIAL DEVELOPMENTS**

**D107.1** exceptions are deleted

### **Section 3. PENALTY CLAUSE**

Any person, firm, or corporation violating any of the provisions or terms of this Ordinance shall be guilty of a misdemeanor and upon conviction, shall be fined a sum not to exceed \$2000.00 for each offense, and each and every violation or day such violation shall continue or exist, shall be deemed a separate offense.

### **Section 4. SEVERABILITY CLAUSE**

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 judgment or decree of any court of competent jurisdiction, such unconstitutionality 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 of this Ordinance of any such unconstitutional phrase, clause, sentence, paragraph or section.

### **Section 5. REPEALER CLAUSE**

Any provision of any prior ordinance of the City whether codified or uncoded, which are in conflict with any provision of the Ordinance, are hereby repealed to the extent of the conflict, but all other provisions of the ordinances of the City whether codified or uncoded, which are not in conflict with the provisions of this Ordinance, shall remain in full force and effect.

### **Section 6. EFFECTIVE DATE**

This Ordinance shall become effective immediately upon its passage and publication as required by law.

**PASSED, APPROVED AND ADOPTED** by the City Council of the City of Roanoke, Texas, on this the 8th day of August, 2017.

APPROVED:

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Carl E. Gierisch, Jr., Mayor

ATTEST:

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April Hill, City Secretary

APPROVED AS TO FORM:

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Jeff Moore, City Attorney