



WATAUGA FIRE DEPARTMENT

5909 HIGHTOWER DRIVE
WATAUGA, TEXAS 76148

TEL: (817) 514-5700
WWW.WATAUGATX.ORG/FIRE



Amendments to the 2018 International Fire Code

The following sections, paragraphs, and sentences of the *2018 International Fire Code* (IFC) are hereby amended to read;

Section 101.1 of the 2018 International Fire Code is amended to read as follows:

101.1 Title. These regulations shall be known as the *Fire Code of the City of Watauga, Tarrant County Texas, hereinafter referred to as "this code"*.

Section 102.1 of the 2018 International Fire Code is amended to read as follows:

Section 102.1 – Construction and design provisions. The construction and design provisions of this code shall apply to:

1. Structures, facilities and conditions arising after the adoption of this code.
2. Existing structures, facilities and conditions not legally in existence at the time of the adoption of this code.
3. Existing structures, facilities and conditions when required in Chapter 11, or in a specific Section of this code.
4. Existing structures, facilities and conditions which, in the opinion of the fire code official, constitute a distinct hazard to life or property.

Section 102.3 of the 2018 International Fire Code is amended to read as follows:

Section 102.3 Changes of use or occupancy; Repairs, alterations or additions to existing buildings, structures, or tenant spaces.

No change shall be made in the use or occupancy of any building, structure or portion thereof that would place the structure in a different division of the same group or occupancy or in a different group of occupancies unless such structure is made to comply with the requirements of this code and the *International Building Code*.

Any repair or alteration to an existing building, structure, or tenant space greater than forty-nine percent (49%) of the current building, structure, or tenant space's size or assessed value shall require the entire building, structure, or tenant space to meet the requirements of this code and the *International Building Code*.

Any alteration or addition to an existing building, structure, or tenant space that will increase the current fire area shall require the entire space to meet the requirements of this code and the *International Building Code*.





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Section 102.7.2 of the 2018 International Fire Code is amended to read as follows:

Section 102.7.2 Provisions in referenced codes and standards.

Where the extent of the reference to a referenced code or standard includes subject matter that is within the scope of this code and any adopted amendments, the provisions of this code and any adopted amendments, as applicable, shall take precedence over the provisions in the reference code or standard.

Section 105.7 of the 2018 International Fire Code is amended by adding Section 105.7.26 of to read as follows:

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

Section 110.4 of the 2018 International Fire Code is amended to read as follows:

110.4 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 the previous code, shall be guilty of a Class C Misdemeanor, punishable by a fine of not more than \$ 1000.00. Each day that a violation continues after the notice has been served shall be deemed a separate offense.

Section 112.4 of the 2018 International Fire Code is amended to read as follows:

112.4 Failure to comply. Any person who shall continue any work after having been served with a stop work order, except such work that a person is directed to perform to remove a violation or unsafe condition, shall be liable to a fine of not less than \$1.00 dollar or more than \$1,000.00 dollars.

Section 202 of the 2018 International Fire Code is amended to read as follows:

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

- Dialysis centers





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

[B] ATRIUM. An opening connecting three or more stories other than enclosed *stairways*, elevators, hoistways, escalators, plumbing, electrical, air-conditioning or other equipment, which is closed at the top and not defined as a mall. Stories, as used in this definition, do not include balconies within assembly groups or mezzanines that comply with Section 505 of the *International Building Code*.

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

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.

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

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

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

REPAIR GARAGE. A building, structure or portion thereof used for servicing or repairing motor





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vehicles. This occupancy shall also include garages involved in minor repair, modification and servicing of motor vehicles for items such as lube changes, inspections, windshield repair or replacement, shocks, minor part replacement, and other such minor repairs.

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.

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.

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

Section 307.1.1; of the 2018 International Fire Code is amended to read as follows:

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

Exception: Prescribed burning for the purpose of reducing the impact of wildland fire when authorized by the *fire code official*.

Section 307.2; of the 2018 International Fire Code is amended 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.





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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.

Section 307.3; of the 2018 International Fire Code is amended 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; of the 2018 International Fire Code is amended to read as follows:

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

Exceptions:

- 1. Fire in approved containers that are not less than 15 feet (4572mm) from a structure.*
- 2. The minimum required distance from a structure shall be 25 feet(7620mm) where a pile size is 3 feet (914mm) or less in diameter and a 2 feet (610mm) or less in height.*

Section 307.4.3 of the 2018 International Fire Code is amended to read as follows:

307.4.3 Portable Outdoor Fireplaces. Portable outdoor fireplaces shall be used in accordance with the manufacturer's instructions and shall not be operated within 15 feet(3048mm) of a structure or combustible material.

Exception:

1. Portable outdoor fireplaces used at one and two-family dwellings.
2. Where buildings, balconies and decks are protected by an approved automatic sprinkler system.

Section 307.4.4 of the 2018 International Fire Code is amended to read as follows:

307.4.4 Permanent Outdoor Firepit.

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





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

Section 307.4.5 of the 2018 International Fire Code is amended to read as follows:

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

Section 307.5 of the 2018 International fire Code is amended 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 fire is extinguished. Not fewer than one portable fire extinguisher complying with Section 906 with a minimum 4-A rating or other approved on-site fire extinguishing equipment, such as dirt, sand, water barrel, garden hose or water truck, shall be available for immediate utilization.*

Section 308.1.4 of the 2018 International Fire Code is amended to read as follows:

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

Exceptions:

1. One- and two-family dwellings, except that LP-gas containers are limited to a water capacity not greater than 50 pounds (22.68 kg) [nominal 20 pound (9.08 kg) LP-gas capacity] with an aggregate LP-gas capacity not to exceed 100 pounds (5 containers).
2. Where buildings, balconies, and decks are protected by an approved automatic sprinkler system, except that LP-gas containers are limited to a water capacity not greater than 50 pounds (22.68 kg) [nominal 20 pound (9.08 kg) LP-gas capacity], with an aggregate LP-gas capacity not to exceed 40 lbs. (2 containers).
3. LP-gas cooking devices having LP-gas container with a water capacity not greater than 2 and ½ pounds [nominal 1 pound (0.454 kg) LP-gas capacity].

Section 308.1.6.2 of the 2018 International Fire Code is amended to read as follows:

308.1.6.2 Portable Fueled open-flame devices. Portable open-flame devices fueled by flammable or combustible gases or liquids shall be enclosed or installed in such a manner as to prevent the flame from contacting combustible material.





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Exceptions:

1. LP-gas-fueled devices used for sweating pipe or removing paint in accordance with Chapter 61.
2. Cutting and welding operations in accordance with Chapter 35.
3. Torches or flame-producing devices in accordance with Section 308.1.3.
4. Candles and open-flame decorative devices in accordance with Section 308.3

Section 308.1.6.3 of the 2018 International Fire Code is amended to read as follows:

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

Section 311.5 of the 2018 International Fire Code is amended 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.

Section 401 of the 2018 International Fire Code is amended to add Subsection 401.9 to read as follows:

401.9 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 matter.

Section 403.5 of the 2018 International Fire Code is amended 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 405.4 of the 2018 International Fire Code is amended 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.





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Section 503.1.1 of the 2018 International Fire Code is amended to read as follows:

503.1.1 Buildings and facilities. Approved fire apparatus access roads shall be provided for every facility, building or portion of a building hereafter constructed or moved into or within the jurisdiction. The fire apparatus access road shall comply with the requirements of this section and shall extend to within 150 feet (45,720mm) of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility.

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

Section 503.2.1 of the 2018 International Fire Code is amended to read as follows:

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

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

Section 503 of the International Fire Code is amended 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.

503.2.4 Turning Radius. The required turning radius of a fire apparatus access road shall have a minimum inside turning radius of 30 feet (9144 mm).

503.2.7 Grade. The grade of a fire apparatus access road shall be less than 10% (percent), and not exceeding 5% (percent) on the cross slope.

503.2.9 Construction Requirements. Minimum construction requirements for fire apparatus access roads shall be concrete, six inches (6" or 152.4mm) in depth, utilizing #3 reinforced steel located on eighteen inch (18" or 457.2mm) centers.

503.3 Marking. Striping, signs, or other markings, when approved by the fire code official, shall be provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof. Striping, signs and other markings shall be maintained in a clean and legible condition at all times and be replaced or repaired when necessary to provide adequate visibility.





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(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.

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.

Section 505.1 of the 2018 International Fire Code is amended 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 4 inches (101.6 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.





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Section 507.4 of the 2018 International Fire Code is amended 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.

Section 507.5.4 of the International Fire Code is amended 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.

Section 509.1.2 of the International Fire Code is amended 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 603.3.2 and 603.3.2.1 of the 2018 International Fire Code are amended to read as follows:

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

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





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

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

Section 604 of the 2018 International Fire Code is amended to read as follows:

604.1.2 Critical Operations Power Systems (COPS). For Critical Operation 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.

Section 807.5.2.2 and 807.5.2.3 of the 2018 International Fire Code is amended 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.





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Section 807.5.5.2 and 807.5.5.3 of the 2018 International Fire Code is amended 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.

Section 901.6.1; add Section 901.6.1.1 to the 2018 International Fire Code to read as follows:

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

1. The piping between the Fire Department Connection (FDC) and the standpipe shall be backflushed or inspected by approved camera when foreign material is present or when caps are missing, and also hydrostatically tested for all FDC's on any type of standpipe system. Hydrostatic testing shall also be conducted in accordance with NFPA 25 requirements for the different types of standpipe systems.
2. For any manual (dry or wet) standpipe system not having an automatic water supply capable of flowing water through the standpipe, the tester shall connect hose from a fire hydrant or portable pumping system (as approved by the fire code official) to each FDC, and flow water through the standpipe system to the roof outlet to verify that each inlet connection functions properly. Confirm that there are no open hose valves prior to introducing water into a dry standpipe. There is no required pressure criteria at the outlet. Verify that check valves function properly and that there are no closed control valves on the system.
3. Any pressure relief, reducing, or control valves shall be tested in accordance with the requirements of NFPA 25. All hose valves shall be exercised.
4. If the FDC is not already provided with approved caps, the contractor shall install such caps for all FDC's as required by the fire code official.





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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 nighttime 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 901.7 of the International Fire Code is amended to read as follows:

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

Section 903.1.1 of the 2018 International Fire Code is amended to read,

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*.

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Section 903.2 of the International Fire Code is amended to read as follows:

903.2 Where Required. *Approved automatic sprinkler systems in new buildings and structures shall be provided in the locations described in Sections 903.2.1 through 903.2.12*

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

Section 903.2.8.1 of the 2018 International Fire Code is amended to include as follows:

903.2.8.1 *An automatic fire sprinkler system is not required in any Group R-3 living facility which has been issued a certificate of occupancy within the City of Watauga prior to May 1st, 2015 and complies with all of the following:*

1. Has four or fewer total occupants all of whom are capable of self-evacuation from the facility in less than three minutes.
2. The facility maintains onsite staffing 24 hours a day.
3. The facility maintains a fully functioning commercial fire alarm system.
4. The facility maintains self-closing fire rated doors on all sleeping areas.
5. Meets all other requirements of the International Fire Code pertaining to Group R-3 living facilities.

Section 903.2.9 of the 2018 International Fire Code add Section 903.2.9.3 to read as follows:

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

Section 903.2.11; change 903.2.11.3 and add 903.2.11.7, 903.2.11.8, and 903.2.11.9 of the 2018 International Fire Code are amended to read as follows:

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





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Exceptions:

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

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

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

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

Exception: Open parking garages in compliance with Section 406.5 of the International Building Code.

Section 903.3.1.1.1 of the 2018 International Fire Code is amended to read as follows:

903.3.1.1.1 Exempt Locations. When approved by the *fire code official*, automatic sprinklers shall not be required in the following rooms or areas where such rooms or areas are protected with an approved automatic fire detection system in accordance with Section 907.2 that will respond to visible or invisible particles of combustion. Sprinklers shall not be omitted from a 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 code official.
3. Generator and transformer rooms, under the direct control of a public utility, separated from the remainder of the building by walls and floor/ceiling or roof/ceiling assemblies having a fire-resistance rating of not less than 2 hours.
4. Elevator machine rooms, machinery spaces, and hoistways, other than pits where such sprinklers would not necessitate shunt trip requirements under any circumstances.

Section 903.3.1.2.3 of the International Fire Code is amended to read as follows:

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





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1. Attics that are used or intended for living purposes or storage shall be protected by an automatic sprinkler system.
2. Where fuel-fired equipment is installed in an un-sprinklered attic, not fewer than one quick-response intermediate temperature sprinkler shall be installed above the equipment.
3. Attic spaces of buildings that are two or more stories in height above grade plane or above the lowest level of fire department vehicle access.
4. Group R-4, Condition 2 occupancy attics not required by Item 1 or 3 to have sprinklers shall comply with one of the following:
 - 4.1. Provide automatic sprinkler system protection.
 - 4.2. Provide a heat detection system throughout the attic that is arranged to activate the building fire alarm system.
 - 4.3. Construct the attic using noncombustible materials.
 - 4.4. Construct the attic using fire-retardant-treated wood complying with Section 2303.2 of the International Building Code.
 - 4.5. Fill the attic with noncombustible insulation.

Section 903.3.1.3 of the 2018 International Fire Code is amended to read,

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 is added to the 2018 International Fire Code to read as follows:

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

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

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

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





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that insulation is provided at the roof deck, rather than at the ceiling level.

Section 903.3.1.4.2 of the 2018 International Fire Code is amended to read as follows:

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 of the International Fire Code is amended to read as follows:

903.3.5 Water Supplies. Water supplies for automatic sprinkler systems shall comply with this Section and the standards referenced in Section 903.3.1. The potable water supply shall be protected against backflow in accordance with the requirements of this section and the *International Plumbing Code*. For connections to public waterworks systems, the water supply test used for the design of the fire protection systems shall be adjusted for seasonal and daily pressure fluctuations based on information from the water supply authority and as approved by the fire code official.

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 of the International Fire Code is amended to read as follows:

903.4 Sprinkler system supervision and alarms. Valves controlling the water supply for automatic sprinkler systems, pumps, tanks, water levels and temperatures, critical air pressure and water flow switches on all sprinkler systems shall be electrically supervised by a listed fire alarm control unit.

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.

All exemptions remain.

Section 903.4.2 in the 2018 International Fire Code is amended to read as follows:





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903.4.2 Alarms

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

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

Section 905.2 of the International Fire Code is amended to read as follows:

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

Section 905.3 of the International Fire Code is amended to read as follows:

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

Exceptions:

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

Section 905.4 of the 2018 International Fire Code is amended to read as follows:

905.4 Location of Class I standpipe hose connections. Class one standpipe hose connections shall be provided in all of the following locations.

1. In every required exit stairway, a hose connection shall be provided for each story above and below grade plane. Hose connections shall be located at an intermediate landing between stories, unless otherwise approved by the fire code official.
2. On each side of the wall adjacent to the exit opening of a horizontal exit.

Exception: Where floor areas adjacent to a horizontal exit are reachable from an interior exit stairway hose connection by a 30 foot (9144 mm) hose stream from a nozzle attached to 100 feet (30,480 mm) of hose, a hose connection shall not be required at the horizontal exit.

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





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- exit stairway hose connection by a 30 foot (9144 mm) hose stream from a nozzle attached to 100 feet (30,480 mm) of hose, a hose connection shall not be required at the entrance from the exit passageway to other areas of the building.
4. In covered mall buildings, adjacent to each exterior public entrance to the mall and adjacent to each entrance from an exit passageway or exit corridor to the mall. In open mall buildings, adjacent to each public entrance to the mall at the perimeter line and adjacent to each entrance from an exit passageway or exit corridor to the mall.
 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 hose connection located to serve the roof or at the highest landing of an exit stairway with stair access to the roof provided in accordance with Section 1011.12.
 6. Where the most remote portion of a non-sprinklered floor or story is more than 150 feet (45,720 mm) from a hose connection or the most remote portion of a sprinklered floor or story is more than 200 feet (60,960 mm) from a hose connection, the fire code official is authorized to require that additional hose connections be provided in approved locations.
 7. When required by this Chapter, standpipe connections shall be placed adjacent to all required exits to the structure and at two hundred feet (200') intervals along major corridors thereafter, or as otherwise approved by the fire code official.

(Reason: Item 1, 3, and 5 amendments to remove 'interior' will help to clarify that such connections are required for all 'exit' stairways, to ensure firefighter capabilities are not diminished in these tall buildings, simply because the stair is on the exterior of the building. Item 5 reduces the amount of pressure required to facilitate testing, and provides backup protection for firefighter safety. Item 7 allows for the rapid deployment of hose lines to the body of the fire.)

Section 905.9 of the International Fire Code is amended to read as follows:

905.9 Valve supervision. Valves controlling water supplies shall be supervised in the open position so that a change in the normal position of the valve will generate a supervisory signal at the supervising station required by Section 903.4. Where a fire alarm system is provided, a signal shall be transmitted to the control unit.

Exceptions:

1. Valves to underground key or hub valves in roadway boxes provided by the municipality or public utility do not require supervision.
2. Valves locked in the normal position and inspected as provided in this code in buildings not equipped with a fire alarm system.

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 907.1 of the International Fire Code is amended to add 907.1.4 to read as follows:

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

Exception: Existing systems need not comply unless being replaced.

Section 907.2.1 of the 2018 International Fire Code is amended 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 100 or more persons, or where the occupant load is more than 50 persons above or below the *lowest level of exit discharge*. Group A occupancies not separated from one another in accordance with Section 707.3.-10 of the *International Building Code* shall be considered as a single occupancy for the purposes of applying this section. Portions of Group E occupancies occupied for assembly purposes shall be provided with a fire alarm system as required for the Group E occupancy.

Exception: Manual fire alarm boxes are not required where the building is equipped with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

Activation of fire alarm notification appliances shall:

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

Section 907.2.3 of the 2018 International Fire Code is amended to read as follows:

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

Exceptions:

1. A manual fire alarm system is not required in Group E educational and daycare occupancies with an occupant load of less than 30 when provided with an approved automatic sprinkler system.
2. Manual fire alarm boxes are not required in Group E educational occupancies

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where all the following apply:

- 2.1. Interior corridors are protected by smoke detectors.
- 2.2. Auditoriums, cafeterias, gymnasiums and similar areas are protected by heat detectors or other approved detection devices.
- 2.3. Shops and laboratories involving dust or vapors are protected by heat detectors or other approved devices.
3. Manual fire alarm boxes shall not be required in Group E educational occupancies where the building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1. The emergency communication system will activate on sprinkler water flow and manual activation is provided from a normally occupied location.
4. Residential In-Home daycare 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.).

Section 907.2.12 of the International Fire Code Exception 3 is amended to read as follows:

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

Section 907.2.24 of the 2018 International Fire Code is added to read as follows:

907.2.24 Manual fire alarm system. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in all buildings or individual occupancies having an occupant load of 100 or more persons or more than 50 persons above or below the lowest level of exit discharge.

Each individual occupancy must have at minimum one automatic smoke detection device and one pull station installed on each level of the occupancy in addition to the one device required over the alarm panel or power supply, unless otherwise required by this code.

Section 907.2.25 of the International Fire Code is added to read as follows:

907.2.25 Occupancies requiring manual fire alarm systems. All occupancies equipped with any type of automatic fire extinguishing system as required by this code, or the *International Building Code* shall be required to have a commercial fire alarm system in accordance with Section 907.6. Activation of such system shall activate the occupant notification system in accordance with Section 907.6, and NFPA 72.

Section 907.4.2.7 of the 2018 International Fire Code is added to read,

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

Section 907.6.1 of the 2018 International Fire Code is amended 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 of the International Fire Code is amended to read as follows:

907.6.3 Initiating device identification. The fire alarm system shall identify the specific initiating device address, location, device type, floor level where applicable and status including indication of normal, alarm, trouble and supervisory status, as appropriate.

Section 909.21.1.2 of the International Fire Code is amended to read as follows:

909.21.1.2 Standby power. Mechanical vestibule and stairway and ramp shaft ventilation systems and automatic fire detection systems shall be provided with standby power in accordance with Section 2702 of the Building Code.

Section 909.22 of the International Fire Code is amended to read as follows:

909.22 Stairway or Ramp Pressurization Alternative. Where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and the stair pressurization alternative is chosen for compliance with Building Code requirements for a smokeproof enclosure, interior exit stairways or ramps shall be pressurized to a minimum of 0.10 inches of water (25 Pa) and a maximum of 0.35 inches of water (87 Pa) in the shaft relative to the building measured with all interior exit stairway and ramp doors closed under maximum anticipated conditions of stack effect and wind effect. Such systems shall comply with Section 909, including the installation of a separate fire-fighter's smoke control panel as per Section 909.16, and a Smoke Control Permit shall be required from the fire department as per Section 105.7.





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909.22.1 Ventilating equipment. The activation of ventilating equipment for the stair or ramp pressurization system shall be by smoke detectors installed at each floor level at an approved location at the entrance to the smokeproof enclosure. When the closing device for the stairway or ramp shaft and vestibule doors is activated by smoke detection or power failure, the mechanical equipment shall activate and operate at the required performance levels. Smoke detectors shall be installed in accordance with Section 907.3.

909.22.1.1 Ventilation Systems. Smokeproof enclosure ventilation systems shall be independent of other building ventilation systems. The equipment, control wiring, power wiring and ductwork shall comply with one of the following:

1. Equipment, control wiring, power wiring and ductwork shall be located exterior to the building and directly connected to the smokeproof enclosure or connected to the smokeproof enclosure by ductwork enclosed by not less than 2-hour fire barriers constructed in accordance with Section 707 of the Building Code or horizontal assemblies constructed in accordance with Section 711 of the Building Code, or both.
2. Equipment, control wiring, power wiring and ductwork shall be located within the smokeproof enclosure with intake or exhaust directly from and to the outside or through ductwork enclosed by not less than 2-hour barriers constructed in accordance with Section 707 of the Building Code or horizontal assemblies constructed in accordance with Section 711 of the Building Code, or both.
3. Equipment, control wiring, power wiring and ductwork shall be located within the building if separated from the remainder of the building, including other mechanical equipment, by not less than 2-hour fire barriers constructed in accordance with Section 707 of the Building Code or horizontal assemblies constructed in accordance with Section 711 of the Building Code, or both.

Exceptions:

1. Control wiring and power wiring utilizing a 2-hour rated cable or cable system.
2. Where encased with not less than 2 inches (51 mm) of concrete.
3. Control wiring and power wiring protected by a listed electrical circuit protective systems with a fire-resistance rating of not less than 2 hours.

909.22.1.3 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.





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Section 910.2 of the 2018 International Fire code is amended to read as follows:

910.2 Where required. Smoke and heat vents or a mechanical smoke removal system shall be installed as required by Sections 910.2.1 and 910.2.2

Exceptions:

1. Frozen food warehouses used solely for the storage of Class I and II commodities where protected by an approved automatic sprinkler system.
2. Only manual smoke and heat removal shall be required in areas of buildings equipped with early suppression fast-response (ESFR) sprinklers. Automatic smoke and heat removal is prohibited.
3. Only manual smoke and heat removal shall be required in areas of buildings equipped with control mode special application sprinklers with a response time index of $50(m^*S)^{1/2}$ 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 910.2.3 is added to the 2018 International Fire Code 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 m²) in single floor area.

Exception: Buildings of noncombustible construction containing only noncombustible materials.

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

Exception: Buildings of noncombustible construction containing only noncombustible materials.

Section 910.3 of the 2018 International Fire Code add section 910.3.4 to read as follows:

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

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





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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 of the 2018 International Fire Code is amended to read,

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 automatic. The minimum gross area of makeup air inlets shall be 8 square feet per 1,000 cubic feet per minute (0.74 m² per 0.4719 m³/s) of smoke exhaust.

Section 912.2 of the 2018 International Fire Code add Section 912.2.3 to read as follows:

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

Section 913.2.1 of the 2018 International Fire Code is amended to read as follows:

913.2.1 Protection of fire pump rooms. Rooms where fire pumps are located shall be separated from all other areas of the building in accordance with Section 913.2.1 of the *International Building Code*.

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 914.3.1.2 of the 2018 International Fire Code is amended to read as follows:

914.3.1.2 Water Supply to required Fire Pumps. In buildings that are more than 120 feet (37 m) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between





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the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided that the main is valved such that an interruption can be isolated without interruption through not fewer than one of the connections.

Section 1006.2.2.7 of the 2018 International Fire Code Add Section 1006.2.2.7 to read as follows:

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

Section 1009.8 of the 2018 International Fire Code add the following Exception 7 to read as follows:

Exceptions:

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

Section 1020.1 of the 2018 International Fire Code add exception 6 to read as follows:

Section 1020.1 Construction.

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

Section 1031.2 of the 2018 International Fire Code is amended 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 of the 2018 International Fire Code is amended to read as follows:

1103.3 Existing elevators. In other than Group R-3, existing elevators and moving walks shall comply with the requirements of Sections 1103.3.1 and 1103.3.2.

Provide emergency signage as required by Section 606.3.





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Section 1103.5.1 of the 2018 International Fire Code is amended to read as follows:

1103.5.1 Group A-2. Where alcoholic beverages are consumed in a Group A-2 occupancy having an occupant load of 300 or more, the fire area containing the Group A-2 occupancy shall be equipped with an automatic sprinkler system in accordance with Section 903.3.1.1. Fire sprinkler system installation shall be completed within 24 months from date of notification by the fire code official.

Section 1103.5 of the 2018 International Fire Code is amended to add Section 1103.5.5 to read as follows:

1103.5.5 Spray Booths and Rooms. Existing spray booths and spray rooms shall be protected by an approved automatic fire-extinguishing system in accordance with Section 2404.

Section 1103.7 of the 2018 International Fire Code is amended to add Section 1103.7.7 and 1103.7.7.1 to read as follows:

1103.7.7 Fire Alarm System Design Standards. Where an existing fire alarm system is upgraded or replaced, the devices shall be addressable. Fire alarm systems utilizing more than 20 smoke and/or heat detectors shall have analog initiating devices.

Exception: Existing systems need not comply unless the total building, or fire alarm system, remodel or expansion exceeds 30% of the building. When cumulative building, or fire alarm system, remodel or expansion initiated after the date of original fire alarm panel installation exceeds 50% of the building, or fire alarm system, the fire alarm system must comply within 18 months of permit application.

1103.7.7.1 Communication requirements. Refer to Section 907.6.6 for applicable requirements.

Section 1203 of the 2018 International Fire Code is amended to read as follows:

1203.1.3 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.

1203.1.10 Critical Operations Power Systems (COPS). For Critical Operations Power Systems necessary to maintain continuous power supply to facilities or parts of facilities that require continuous operation for the reasons of public safety, emergency management, national security, or business continuity, see NFPA 70.

1203.2 Where Required. Emergency and standby power systems shall be provided where required by Sections 1203.2.1 through 1203.2 or elsewhere identified in this code or any other referenced code.





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1203.2.4 Emergency Voice/alarm Communications Systems. Emergency power shall be provided for emergency voice/alarm communications systems in the following occupancies, or as specified elsewhere in this code, as required in Section 907.5.2.2.5. The system shall be capable of powering the required load for a duration of not less than 24 hours, as required in NFPA 72.

Covered and Open Malls, Section 907.2.19 and 914.2.3
Group A Occupancies, Sections 907.2.1 and 907.5.2.2.4.
Special Amusement Buildings, Section 907.2.11
High-rise Buildings, Section 907.2.12
Atriums, Section 907.2.13
Deep Underground Buildings, Section 907.2.18

1203.2.14 Means of Egress Illumination. Emergency power shall be provided for *means of egress* illumination in accordance with Sections 1008.3 and 1104.5.1. (90 minutes)

1203.2.15 Membrane Structures. Emergency power shall be provided for exit signs in temporary tents and membrane structures in accordance with Section 3103.12.6. (90 minutes) Standby power shall be provided for auxiliary inflation systems in permanent membrane structures in accordance with Section 2702 of the *International Building Code*. (4 hours) Auxiliary inflation systems shall be provided in temporary air-supported and air-inflated membrane structures in accordance with section 3103.10.4.

1203.2.17 Smoke Control Systems. Standby power shall be provided for smoke control systems in the following occupancies, or as specified elsewhere in this code, as required in Section 909.11:

Covered Mall Building, *International Building Code*, Section 402.7
Atriums, *International Building Code*, Section 404.7
Underground Buildings, *International Building Code*, Section 405.8
Group I-3, *International Building Code*, Section 408.4.2
Stages, *International Building Code*, Section 410.2.5
Special Amusement Buildings (as applicable to Group A's), *International Building Code*, Section 411.1
Smoke Protected Seating, Section 1029.6.2.

1203.2.19 Covered and Open Mall Buildings. Emergency power shall be provided in accordance with Section 907.2.19 and 914.2.3.

1203.2.20 Airport Traffic Control Towers. A standby power system shall be provided in airport traffic control towers more than 65 ft. in height. Power shall be provided to the following equipment:

1. Pressurization equipment, mechanical equipment and lighting.
2. Elevator operating equipment.
3. Fire alarm and smoke detection systems.





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1203.2.21 Smokeproof Enclosures and Stair Pressurization Alternative. Standby power shall be provided for smokeproof enclosures, stair pressurization alternative and associated automatic fire detection systems as required by the *International Building Code*, Section 909.20.6.2.

1203.2.22 Elevator Pressurization. Standby power shall be provided for elevator pressurization system as required by the *International Building Code*, Section 909.21.5.

1203.2.23 Elimination of Smoke Dampers in Shaft Penetrations. Standby power shall be provided when eliminating the smoke dampers in ducts penetrating shafts in accordance with the *International Building Code*, Section 717.5.3, exception 2.3.

1203.2.24 Common Exhaust Systems for Clothes Dryers. Standby power shall be provided for common exhaust systems for clothes dryers located in multistory structures in accordance with the *International Mechanical Code*, Section 504.10, Item 7.

1203.2.25 Hydrogen Cutoff Rooms. Standby power shall be provided for mechanical ventilation and gas detection systems of Hydrogen Cutoff Rooms in accordance with the *International Building Code*, Section 421.

1203.2.26 Means of Egress Illumination in Existing Buildings. Emergency power shall be provided for *means of egress* illumination in accordance with Section 1104.5 when required by the fire code official. (90 minutes in I-2, 60 minutes elsewhere.)

1203.7 Energy Time Duration. Unless a time limit is specified by the fire code official, in this chapter or elsewhere in this code, or in any other referenced code or standard, the emergency and standby power system shall be supplied with enough fuel or energy storage capacity for not less than 2-hour full-demand operation of the system.

Exception: Where the system is supplied with natural gas from a utility provider and is approved.

Section 2304.1 of the 2018 International Fire Code is amended to read as follows:

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

1. Conducted by a qualified attendant; and/or,
2. Shall be under the supervision of a qualified attendant; and/or
3. Shall be an unattended self-service facility in accordance with Section 2304.3.

At any time the qualified attendant of item Number 1 or 2 above is not present, such operations shall be considered as an unattended self-service facility and shall also comply with Section 2304.3.





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Section 2401.2 of the 2018 International Fire Code delete this section.

Section 3103.3.1 of the 2018 International Fire Code delete this section.

(Reason: This new section of the Fire Code requires a fire sprinkler system to be installed in temporary tents and membrane structures, which is not a reasonable or enforceable requirement for a temporary use. A fire watch or fire alarm system is a more advisable approach for such occupancies that are only temporary.)

Table 3206.2, footnote h of the 2018 International Fire Code is amended to read as follows:

- h.** Where storage areas are protected by either early suppression fast response (ESFR) sprinkler systems or control mode special application sprinklers with a response time index of $50 (m \cdot s)^{1/2}$ or less that are listed to control a fire in the stored commodities with 12 or fewer sprinklers, installed in accordance with NFPA 13, manual smoke and heat vents or manually activated engineered mechanical smoke exhaust systems shall be required within these areas.

Table 3206.2 of the 2018 International Fire Code add footnote j to row titled 'High Hazard' and 'Greater than 300,000' to read as follows:

- j.** High hazard high-piled storage areas shall not exceed 500,000 square feet. A 2-hour fire wall constructed in accordance with Section 706 of the International Building Code shall be used to divide high-piled storage exceeding 500,000 square feet in area.

Section 3310.1.1 is added to the 2018 International Fire Code to read as follows:

3310.1.1 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 5601.1.3 of the 2018 International Fire Code is amended to read as follows:

5601.1.3 Fireworks. The possession, manufacture, storage, sale, handling, and use of fireworks are prohibited.

Exceptions:

1. Only when approved for fireworks displays, storage, and handling of fireworks as allowed in Section 5604 and 5608.
2. The use of fireworks for approved fireworks displays as allowed in Section 5608.





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Section 5703.6 of the 2018 International Fire Code is amended 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 5704.2.9.6.1 of the 2018 International Fire Code is amended to read as follows:

5704.2.9.6.1 Locations where above-ground tanks prohibited. Storage of Class I and II liquids in above ground tanks outside of buildings is prohibited within the limits established by the law as the limits of districts such storage is prohibited. Flammable and combustible liquids are prohibited in above ground tanks within the entire limits of the City of Watauga Texas.

Section 5704.2.11.4 of the 2018 International Fire Code is amended 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 of the 2018 International Fire Code is amended to read,

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 5704.2.11.4.3 is added to the 2018 International Fire Code 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.





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Section 5706.2.4.4 of the 2018 International Fire Code is amended to read as follows:

5706.2.4.4 Locations where above ground tanks are prohibited. The storage of Class I and II liquids in above-ground tanks is prohibited within the limits established by law as the limits of districts in which such storage is prohibited

Exceptions:

1. Temporary storage of flammable liquids as needed for temporary use at construction or similar temporary locations when approved by the fire code official and when in compliance with Section 2304.5;
2. *Tanks that are within a planned development district when the code requirements are met.*
3. *Facilities owned or under the direct control of a governmental entity where fuel is necessary for the operation of emergency generators or other equipment critical to the infrastructure.*

Section 5707.4 of the 2018 International Fire Code is amended to read,

5707.4 Mobile fueling areas. Mobile fueling shall not occur on public streets, public ways or inside buildings. Fueling on the roof level of parking structures or other buildings is prohibited.

Mobile fueling sites shall be restricted to commercial, industrial, governmental, or manufacturing, where the parking area having such operations is primarily intended for employee vehicles. Mobile fueling shall be conducted for fleet fueling or employee vehicles only, not the general public. Commercial sites shall be restricted to office-type or similar occupancies that are not primarily intended for use by the public.

Section 5806.2 of the 2018 International Fire Code is amended to read as follows:

5806.2 Limitations. Storage of flammable cryogenic fluids in stationary containers outside of buildings is prohibited within the limits established by law as the limits of districts in which storage is prohibited in the City limits of Watauga Texas.

Exception:

Other combustible liquids are prohibited in aboveground tanks or in tanks contained within vaults in the entire City of Watauga except for that combustible liquid incidental to a commercial or manufacturing process may be allowed in outdoor aboveground tanks or approved indoor tanks or containers provided the construction, installation, and placement of the tank or container and the handling and use of the liquid conforms to the requirements of the International Fire Code, and other applicable standards, and further provided that such tanks are located in an area zoned as a I (industrial) district, or are within a planned development district which specifically authorizes such use.





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Section 6103.2.1.8 is added to the 2018 International Fire Code 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 of the 2018 International Fire Code is amended to read as follows:

6104.2 Maximum capacity within established limits. Within the limits established by law restricting the storage of liquefied petroleum gas for the protection of heavily populated or congested areas, the aggregate capacity of any one installation shall not exceed a water capacity of 1,000 gallons (3785.41 Liters)

Exceptions:

1. In particular installations, this capacity limit shall be determined by the fire code official, after consideration of special features such as topographical considerations, nature of occupancy, and proximity to buildings, capacity of proposed LP-gas containers, degree of fire protection to be provided and capabilities of the local fire department.
2. Except as permitted in Sections 308 and 6104.3.2, LP-gas containers are not permitted in residential areas.

Section 6104.3 of the 2018 International Fire Code is amended by adding Section 6104.3.3 to read as follows:

6104.3.3 Spas, Pool Heaters, and Other Listed Devices. Where natural gas service is not available, an LP-gas container is allowed to be used to supply spa and pool heaters or other listed devices. Such container shall not exceed 250-gallon water capacity per lot. See Table 6104.3 for location of containers.

Exception: Lots where LP-gas can be off-loaded wholly on the property where the tank is located may install up to 500 gallon above ground or 1,000 gallon underground approved containers.





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Section 6107.4 of the 2018 International Fire Code is amended 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 Section 312.

Section 6109.13 of the 2018 International Fire Code is amended to read as follows:

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.

