

## AMENDMENT TO INTERNATIONAL FIRE CODE 2018 EDITION

Effective November 27, 2019, the International Fire Code 2018 Edition including appendix chapters B, C, D, E, F, G, H, I, and L as adopted by the Mayor and Council of the City of Goodyear is hereby amended as follows:

(1) CHAPTER 1 “SCOPE AND ADMINISTRATION,” is hereby amended as follows:

Section 101.1 “Title,” is hereby amended as follows:

Insert the words “City of Goodyear” as the name of the jurisdiction.

Section 101.2.1 “Appendices,” is deleted in its entirety and replaced with the following:

**101.2.1 Appendices.** Appendices B, C, D, E, F, G, H, I, and L are hereby adopted by reference as if set forth herein.

Section 102.5 “Application of residential code,” is hereby deleted in its entirety and replaced with the following:

**102.5 Application of residential code.** Where structures are designed and constructed in accordance with the *International Residential Code for One and Two-Family Dwellings* as adopted and amended by the governing authority, the provisions of this code shall apply as follows:

1. Construction and design provisions of this code pertaining to the structure shall apply including, but not limited to, premises identification, fire apparatus access, water supplies, fire suppression systems and fire alarm systems. Where interior or exterior systems or devices are installed, construction permits required by Section 105.7 and all subsections therein shall also apply.
2. Administrative, operational and maintenance provision of this code shall apply.

Section 102.7 “Referenced codes and standards,” is hereby deleted in its entirety and replaced with the following:

**102.7 Referenced codes and standards.** The codes and standards referenced in this code shall be those that are listed in Chapter 80, the City of Goodyear Engineering Design Standards and Policies Manual as adopted and amended by the governing authority, the City of Goodyear Zoning Code, as adopted and amended by the governing authority, the 2010 ADA Standards of Accessible Design as adopted and amended by the governing authority; and all other applicable local, state, and federal laws and regulations. Such codes and standards shall be considered part of the requirements of this code to the extent of each such reference or as otherwise applicable and as further regulated in Sections 102.7.1.

**Section 102.7.1 “Conflicts,” is hereby deleted in its entirety and replaced with the following:**

**102.7.1 Conflicts.** Where conflicts occur between provisions of this code and standards referenced in this code or between the provision of this code and any state, local and/or federal laws, rules, and regulations, including by way of example, the City of Goodyear Engineering Design Standards and Policies as adopted and amended by the governing authority and technical codes as adopted and amended by the governing authority, the most restrictive requirements shall apply.

**Exceptions:**

1. Where enforcement of a code provision would violate the conditions of the listing of equipment or appliances as approved by the City of Goodyear, the conditions of the listing and manufacturer’s instructions shall apply.
2. Where there is a provision contained in another technical code as adopted and amended by the governing authority that is not addressed in this code then the provision of the technical code shall apply.

**Section 102.7.2 “Provisions in referenced codes and standards,” is hereby deleted in its entirety.**

**Section 104.6 “Official Records,” is hereby amended as follows:**

**104.6 Official Records.** The fire code official shall keep official records as required by Sections 104.6.1 through 104.6.4 and all other records required to be retained by law. Such official records shall be retained in the official records for the period required for retention of public records.

**Section 105.1.1 “Permits required,” is hereby amended as follows:**

The following sentence is added to the end of this section: Permits are non-transferable and any change in occupancy, operation, tenancy or ownership shall require a new permit.

**Section 105.2 “Application,” is hereby deleted in its entirety and replaced with the following:**

**105.2 Application.** To obtain a *permit*, the applicant shall submit a written application, all required supporting documentation and all applicable fees in accordance with the applicable requirements set forth in the City of Goodyear Administrative Process Manual as adopted and amended by the governing authority and as supplemented herein. If the applicable permit application requires the disclosure of occupancy classifications, the application shall indicate the proposed occupancy classifications for all parts of the building and of that portion of the site or lot, if any not covered by the building or structure.

**Section 105.2.1 “Refusal to issue permit,” is hereby amended by modifying the last sentence to read as follows:**

Such refusal shall be in writing and shall contain the reasons for refusal.

**Section 105.2.3 “Time limitation of application,” is hereby deleted in its entirety and replaced with the following:**

**105.2.3 Time limitation of application.** In the event a permit has not been issued or an application for a permit has not been denied, an application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, except that the fire code official is authorized to grant one or more extensions of time for additional periods not exceed 90 days each. The extension shall be requested in writing and justifiable cause demonstrated to the fire code official before any extension is granted.

**Section 105.2.4 “Action on application,” is hereby deleted in its entirety and replaced with the following:**

**105.2.4 Action on application.** The fire code official shall examine or cause to be examined applications for permits and amendments thereto in accordance with the requirements set forth in the City of Goodyear Administrative Process Manual as adopted and amended by the governing authority as supplemented herein. If the application and/or supporting documentation does not conform to the requirements of applicable laws, the fire code official shall reject such application in writing stating the reasons therefor. If the fire code official is satisfied that the proposed work conforms to the requirements of this code and laws and ordinances applicable thereto and all applicable fees have been paid, the fire code official shall issue a permit therefor as soon as practicable.

**Section 105.3.1 “Expiration,” is hereby deleted in its entirety and replaced with the following:**

**105.3.1 Expiration.** Every permit issued shall expire by limitation and become null and void if the work authorized by such permit is not commenced within 180 days after its issuance or if the work authorized by such permit is suspended or abandoned for a period of 180 days after the work is commenced. Notwithstanding the foregoing, a permittee holding an unexpired permit shall have the right to apply in writing to extend the expiration deadlines set forth herein. The fire code official is authorized to grant, in writing, one extension of time for a period of not more than 180 days provided that the permittee has demonstrated in writing that no changes have been made or will be made in the original construction documents for the permitted work and that justifiable cause exists for the failure to commence the work within 180 days or for the suspension or abandonment of the work after it was commenced. The fee for the extension shall be the cost of reviewing the application at a rate of \$100.00 per hour with a minimum charge of one hour. In order to renew action on a permit after expiration, a new permit fee, as determined by the fire code official, shall be paid based on the current fee schedule adopted by the City.

**Section 105.3.7 “Information on permit,” is hereby deleted in its entirety.**

**Section 105.4.1 “Submittals,” is hereby deleted in its entirety and replaced with the following:**

**105.4.1 Submittals.** Construction documents and supporting data shall be submitted in accordance with the applicable requirements set forth in the City of Goodyear Administrative Process Manual as adopted and amended by the governing authority and in accordance with the requirements set forth in Sections 105.4.2 through 105.4.3 and all subsections therein, and in Section 107.3.4 and all subsections therein of the International Building Code as adopted and amended by the governing authority, as applicable and as otherwise supplemented herein. In the event of a conflict, the most restrictive provisions shall apply. All construction documents and supporting data shall be prepared by a professional registrant with the Arizona Board of Technical registration, or in lieu of being designed by a professional registrant with the Arizona Board of Technical registration, fire sprinkler installation drawings shall bear a review certification of a minimum Level III National Institute for the Certification of Engineering Technologies (NICET) in Fire Sprinkler Systems, and fire alarm installation drawings shall bear a review certification of a minimum Level III National Institute for the Certification of Engineering Technologies (NICET) in Fire Alarm Systems.

**Exception:** The fire code official shall have the authority to waive the submission of construction documents, calculations or other data if the nature of the work applied for is such that the reviewing of construction documents is not necessary to determine compliance with this code and the authority to waive the requirement that construction documents, calculations and or other data be prepared and designed by a professional registrant if compliance with the requirements of this code can be determined by the fire code official.

**Section 105.4.1.1 “Examination of documents,” is hereby deleted in its entirety.**

**Section 105.6 “Required Operational Permits,” is deleted in its entirety and replaced with the following:**

**105.6 Required Operational Permits.** Operational permits are required for the operations set forth in section 105.6.1 through 105.6. 50. Operational permits are in addition to required construction permits. The Fire Chief is authorized to issue the operational permits required herein.

**Section 105.6.15 “Fire hydrants and valves,” is hereby deleted in its entirety and replaced with the following:**

**105.6.15 Fire hydrants and valves.** Except for authorized employees of the City of Goodyear Fire Department or any fire department that is subject to an automatic aid or mutual aid agreement with the City of Goodyear for the assistance in responding to fires and

other types of emergency incidents, an operational permit is required to use or operate fire hydrants or valves intended for fire suppression purposes that are installed on the City of Goodyear's water system and accessible to a fire apparatus access road that is open to or generally used by the public. Approval to use or operate fire hydrants or valves that are part of private water company's water system is regulated by the private water company.

**Section 105.6.27 "LP-gas," is hereby amended as follows:**

Item 2 requiring an operation permit for the operation of cargo tankers that transport LP-gas is hereby deleted.

**Section 105.7. 26 "Gate access automatic control device," is hereby added as follows:**

**105.7. 26 Gate access automatic control device.** A construction permit is required for the installation of automatic gates across fire department access roads.

**Section 106 "Fees," is hereby deleted in its entirety and replaced with the following:**

**106.1 Fees.** Fees are established per section 109 of the international Building Code and the City of Goodyear fee schedule as adopted by City Council.

**Section 109 "Board of Appeals," is deleted in its entirety and replaced with the following:**

**SECTION 109  
BOARD OF APPEALS**

**109.1 Appeal.** Any person shall have the right to appeal a decision of the fire code official to the Board of Appeals as provided in Section 113 Board of Appeals, Sections 113.1 through 113.8 and all subsections therein of the International Building Code as adopted and amended by the governing authority.

**Section 110.1 "Unlawful acts," is hereby deleted in its entirety and replaced with the following:**

**110.1 Unlawful acts.** It shall be unlawful for:

1. Any person to erect, construct, install, alter, extend, repair, move, remove, or demolish any building, structure, premises, system or equipment regulated by this code in violation of any of the provision of this code; or to cause or allow same to be done;
2. Any person to erect, construct, install, alter, extend, repair, move, remove, or demolish any building, structure, premises, system or equipment in violation of approved construction plans or any direction of the fire code official or of a permit or certificate issued under the provisions of this code or to cause or allow same to be done;

3. Any person to occupy or use any building, structure, premises, system, or equipment regulated by this code in violation of any provisions of this code or any direction of the fire code official or of a permit or certificate issued under the provisions of this code, or to cause or allow same to be done;
4. Any Owner to fail to take actions necessary to correct conditions in any building, structure, or equipment regulated by this code that is in violation of any provisions to bring such building, structure or equipment in compliance with the provisions of this code;
5. Any person to violate or fail to comply with notices and orders issued pursuant to the enforcement of this code, including by way of example, but not limitation, provisions of notices of violations, notices of unsafe conditions, and stop work orders.

**Section 110.3 “Notice of violation,” is hereby deleted in its entirety and replaced with the following:**

**110.3 Notice of violation.** Whenever the fire code official determines that there has been a violation of this code or has grounds to believe that a violation has occurred, the fire code official may provide a written warning by attaching the warning in a conspicuous place in or about the structure affected by such notice. Such warnings shall include at least the following, a description of the real estate sufficient for identification, description of the violation(s) and why the notice is being issued and the corrective actions that need to be taken. Whenever the fire code official determines that there has been a violation of this code or has grounds to believe that a violation has occurred and the fire code official wants to prosecute such violation, a notice of the violation shall be given to the person(s) responsible for the violation as prescribed in section 110.3.1 below and the notice of violation shall be in accordance with all of the following:

1. Be in writing.
2. Include a description of the real estate sufficient for identification.
3. Include a statement of the violation or violations and why the notice is being issued.
4. Correction orders shall be included in the notice which shall provide a reasonable time to make the repairs and improvements required or to take other such actions needed for compliance with the provisions of this code.
5. Include information on the right to appeal the notice of violation.
6. Include a statement of the right to file a lien in accordance with the provisions of Section 109.3.3 Prosecution of violation.

**Section 110.3.1 “Service,” is hereby added as follows:**

**110.3.1 Service.** A notice of violation or order prescribed in Section 110.3 shall be deemed to be served if a copy of the notice or order is:

1. Delivered personally; or
2. Mail by certified mail with return receipt requested to the last known address.

3. If the notice or order is returned showing that the notice or order was not delivered, a copy thereof shall be posted in a conspicuous place in or about the structure affected by such notice or order.

If more than one person owns a building or structure that is the subject of a notice or order, service to just one of the owners satisfies the requirement of providing the owner notice.

Service of a notice or order in the foregoing manner upon an owner's agent, or upon the person responsible for the structure, shall constitute service of notice upon the owner.

**Section 110.3.3 "Prosecution of violations," is hereby deleted in its entirety and replaced with the following:**

**110.3.3 Prosecution of violations.** Any person failing to comply with a notice of violation or order prepared and served in accordance with Sections 110.3 and 110.3.1 shall be deemed guilty of a misdemeanor and shall be subject to the penalties as prescribed by law. Such violations shall be deemed a strict liability offense. If the notice of violation is not complied with the fire code official is authorized to request legal counsel of the jurisdiction to institute the appropriate proceeding at law or in equity (or both) to restrain, correct or abate such violation, or to require the removal or termination of the unlawful occupancy of the structure in violation of the provision of this code or of the order or direction made pursuant thereto. Any action taken by the authority having jurisdiction on such premises shall be charged against the real estate upon which the structure is located and shall be a lien upon such real estate.

**Section 110.3.5 "Transfer of ownership," is hereby added as follows:**

**110.3.5 Transfer of ownership.** It shall be unlawful for the owner of any building or structure who has received a notice of violation or order or upon whom a notice of violation or order has been served to sell, transfer, mortgage, lease or otherwise dispose of such building or structure to another until the provisions of the notice of violation or order have been complied with or until such owner shall first furnish the grantee, transferee, mortgagee or lessee a true copy of any notice of violation or order issued by the building official and shall furnish to the building official a signed and notarized statement that the grantee, transferee, mortgagee or lessee, acknowledging the receipt of such notice of violation or order and fully accepting responsibility without condition for making the correction of repairs required by such notice of violation or order.

**Section 110.4 "Violation penalties," is hereby deleted in its entirety and replaced with the following:**

**110.4 Violation penalties.** Any person who violates a provision of this code or fails to comply with any of the requirements thereof; erects, constructs, alters, or repairs a building or structure in violation of the approved construction documents or directive of the fire code official or of a permit or certificate issued under the provisions of this code; or who fails to comply with a notice of violation or order prepared and served in accordance with Sections

109.3 and 109.3.1 shall be deemed guilty of a misdemeanor and shall be subject to the penalties as prescribed by law. Violations shall be deemed a strict liability offense. Each day that a violation continues after due notice has been served shall be deemed a separate offense

**Section 112.2.2 “Imminent danger,” is hereby added as follows:**

**112.2.2 Imminent danger.** Where an imminent danger exists, the fire code official shall not be required to give a written notice prior to stopping work.

**Section 112.4 “Failure to comply,” is hereby deleted in its entirety and replaced with the following:**

**112.4 Unlawful continuances.** Upon issuance of a stop work order, the cited work shall immediately cease. 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 subject to the penalties as prescribed by law.

**(2) CHAPTER 2 “DEFINITIONS,” is hereby amended as follows:**

**Section 201.1 “Scope,” is hereby deleted in its entirety and replaced with the following:**

**201.1 Scope.** Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code, have the meaning shown in this chapter regardless of whether the words are italicized, capitalized, or otherwise designated in the text as being a defined term.

**Section 201.3 “Terms defined in other codes,” is hereby deleted in its entirety and replaced with the following:**

**201.3 Terms defined in other codes.** Where terms are not defined in this code and are defined in the International Energy Conservation Code, International Fuel Gas Code, International Fire Code, International Mechanical Code, International Plumbing Code, International Residential Code for One and Two Family Dwellings, International Property Maintenance Code as adopted and amended by the governing authority, such terms shall have the meanings ascribed to them in those codes.

**Section 202 “General Definitions,” is hereby amended as follows:**

**Section 202 is amended to add the following definitions:**

**CONFLICT.** A situation in which it is impossible to comply with provisions applicable to the same subject; a conflict does not exist when different provisions address the same subject and can be complied with without violating either provision.

**EASEMENT.** That portion of land or property reserved for present or future use by a person or agency other than the legal fee owner(s) of the property. The easement shall be permitted to be for use under, on or above said lots.



**GOVERNING AUTHORITY.** The Mayor and Council of the City of Goodyear.

**IMMINENT DANGER.** A condition which could cause serious or life-threatening injury or death at any time.

**OPERATOR.** Any person who has charge, care or control of a structure or premises which is let or offered for occupancy.

**PREMISES.** A lot, plot or parcel of land, easement or public way including any structures thereon.

**STRICT LIABILITY OFFENSE.** An offense in which the prosecution in a legal proceeding is not required to prove criminal intent as a part of its case. It is enough to prove that the defendant either did an act which was prohibited or failed to do an act which the defendant was legally required to do.

**TEMPORARY.** For a period not to exceed 180 days.

**Section 202 is amended to replace the following definitions with new language to read as follows:**

**FIRE CODE OFFICIAL.** The person(s) charged with the administration and enforcement of this code or their duly authorized representatives. For purposes of administering and enforcing the provisions of this code related to the erection, installation, alteration, extension, repair, removal or demolition of any building, structure, premises, system or equipment regulated by this code, the fire code official is the Building Official as defined in the International Building Code as adopted and amended by the governing authority or such other official as expressly designated in writing by the chief appointing authority for the jurisdiction and filed with the City Clerk. For purposes of administering and enforcing the provisions of this code related to all other matters, including fire investigations, existing structures, maintenance and operational permits, the fire code official is the Fire Chief.

**FIRE ALARM CONTROL UNIT.** A system component that receives inputs from automatic and manual fire alarm devices and may be capable of supplying power to detection devices and transponder(s) or off-premises transmitter(s). The control unit may be capable of providing a transfer of power to the notification appliances and transfer of condition to relays or devices. The fire alarm control unit shall be of the addressable type.

**FIRE ALARM SYSTEM.** A system or portion of a combination system consisting of components and circuits arranged to monitor and annunciate the status of fire alarm or supervisory signal-initiating devices and to initiate the appropriate response to those signals. The fire alarm system shall be of the addressable type.

**OWNER.** Any person, agent, operator, firm or corporation having a legal or equitable interest in the property; or recorded in the official records of the state, county or municipality

as holding title to the property; or otherwise having control of the property, including the guardian of the estate of any such person and the executor or administrator of the estate of such person if ordered to take possession of real property by a court.

**PERSON.** An individual, corporation, partnership or any other legal entity.

**The following sub sections of “Occupancy Classification,” are amended to read as follows:**

**Institutional Group I-1.** This occupancy shall include buildings, structures or parts thereof for more than 16 persons who reside on a 24-hour basis in a supervised environment and receive custodial care. The persons receiving care are capable of self-preservation. This group shall include, but not be limited to, the following:

Alcohol and drug centers

Assisted living facilities

Congregate care facilities

Convalescent facilities

Group homes

Half-way houses

Residential board and custodial care facilities

Social rehabilitation

**Exceptions:**

**Five or fewer persons receiving care.** A facility such as above with five or fewer persons receiving such care shall be classified as Group R-3 or shall comply with the *International Residential Code* provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 as amended or Section P2904 of the *International Residential Code*. Automatic sprinkler systems are not required in one- and two-family (Group R-3) structures complying with the exceptions noted under Section 903.2.8 of this code as amended by this ordinance.

**Six to sixteen persons receiving care.** A facility such as above, housing at least six and not more than 16 persons receiving such care shall be classified as Group R-4.

**Arizona State Department of Health Facilities.** All facilities as licensed by the State of Arizona Department of Health, further known, but not limited to, as direct care, personal care, supervisory care and behavioral residential agency, housing at least six and not more than 10 persons shall be considered a Group R-4.

**Residential Group R-3.** Residential occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:

Boarding houses (nontransient) with 16 or fewer occupants

Boarding houses (transient) with 10 or fewer occupants

Buildings that do not contain more than two *dwelling units*

Care facilities that provide accommodations for five or fewer persons receiving care

Congregate living facilities (nontransient) with 16 or fewer occupants

Congregate living facilities (transient) with 10 or fewer occupants

**Care facilities within a dwelling.** Care facilities for five or fewer persons receiving care that are within a single-family dwelling are permitted to comply with the *International Residential Code* provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 with amendments or Section P2904 of the *International Residential Code*. Automatic sprinkler systems are not required in one- and two- family (Group R-3) structures complying with the exceptions noted under Section 903.2.8 of this code as amended by this ordinance.

**Residential Group R-4.** This occupancy shall include buildings, structures or portions thereof for more than five but not more than 16 persons, excluding staff, who reside on a 24-hour basis in a supervised residential environment and receive custodial care. The persons receiving care are capable of self-preservation. This group shall include, but not be limited to, the following:

Alcohol and drug centers

Assisted living facilities

Congregate care facilities

Convalescent facilities

Group homes

Halfway houses

Residential board and custodial care facilities

Social rehabilitation facilities

Arizona State Department of Health Facilities, which includes all facilities as licensed by the State of Arizona Department of Health, further known, but not limited to, as direct care, personal care, supervisory care and behavioral residential agency, housing at least six and not more than 10 persons shall be considered a Group R-4 occupancy.

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in the International Building Code as adopted and amended by the governing authority.

**(3) CHAPTER 3 “GENERAL REQUIREMENTS,” is amended as follows:**

**Section 316.6 “Structures and outdoor storage underneath high-voltage transmission lines,” is hereby deleted in its entirety and replaced with the following:**

**316.6 Structures and outdoor storage underneath or abutting high voltage transmission lines.** Structures and outdoor storage underneath or abutting high-voltage transmission lines shall comply with Sections 316.6.1 through 316.6.3, respectively.

**316.6.1 Structures.** Structures shall not be constructed within the utility easement beneath high-voltage transmission lines.

**Exception:** Restrooms and unoccupied telecommunication structures of noncombustible construction less than 15 feet (4572 mm) in height.

**316.6.2 Outdoor storage.** Outdoor storage within the utility easement underneath high-voltage transmission lines shall be limited to noncombustible material. Storage of hazardous materials including, but not limited to, flammable and *combustible liquids* is prohibited.

**316.6.3 Required fire lanes and open yard space.** There shall be fire lanes and/or open yard spaces (“open space”) of not less than 60 feet (18, 288 mm) in width between structures and transmission lines, which shall be measured from the easement provided for the transmission lines abutting the proposed structure to the structure. No reduction in the amount of open space required herein shall be permitted regardless of whether the structure would be eligible for a reduction pursuant to section 507.5 of the International Building Code as adopted and amended by the governing authority.

**(4) CHAPTER 5 “FIRE SERVICE FEATURES,” is amended as follows:**

**Section 503.1.1 “Buildings and Facilities,” is hereby amended 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 (45 720 mm) 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.

**Exception:** The *fire code official* is authorized to increase the dimension of 150 feet (45 720 mm) when there are not more than two Group R-3 or Group U occupancies.

**Section 503.3 “Marking,” is hereby deleted in its entirety and replaced with the following:**

**503.3 Marking.** Where required by the *fire code official*, *approved* signs or other *approved* notices or markings that include the words “NO PARKING – FIRE LANE” shall be provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof. Signage shall be in accordance with the City of Goodyear Engineering Design Standards and Policies Manual as adopted and amended from time to time. Signs shall be installed perpendicular and double sided when placed on one side of a fire apparatus access roads. The means by which fire lanes are designated shall be maintained in a clean and legible condition at all times and replaced or repaired when necessary to provide adequate visibility. Signs shall not be greater than 100’0” (30.48m) apart and shall be posted at the beginning and end of the fire lane.

In addition to or in lieu of the required fire lane signage the Fire Code Official may approve curb, street or driveway painted red to indicate fire lane and labeled “FIRE LANE NO PARKING” in white block letters 3 inches (76.2mm) in height, ¾ inch (19.5mm) stroke, on the vertical face of the curb to indicate fire lane. Lettering shall not be greater than 50’0” (15.24m) apart and shall be posted at the beginning and end of the fire lane.

**Section 503.7 “Key switch and sensor preemption location and type,” is hereby added as follows:**

**503.7 Key switch and sensor preemption location and type.** A key switch and preemption sensor shall be required on all electric entry control gates. Key switch shall be installed in a location on the gate control panel that is readily visible and accessible. In the event that there is a power failure, the gate shall default to the open position.

**Section 505.1 “Address Identification,” is hereby deleted in its entirety and replaced with the following:**

**505.1 Address Identification.** New and existing buildings shall have *approved* address numbers, building numbers or *approved* building identification placed in a position that is plainly legible and visible from the street or road fronting the property. Landscaping or structures cannot obscure addresses or required signage. These numbers shall contrast with their background and shall be weather resistant. Where required by the *fire code official*, address numbers shall be provided in additional *approved* locations to facilitate emergency response. Address numbers shall be Arabic numbers or alphabetical letters. Unless otherwise provided herein, numbers shall be a minimum of 4 inches (101.6 mm) high with a minimum stroke width of 0.5 inch (12.7 mm). Where access is by means of a private road and the building cannot be viewed from the *public way*, a monument, pole or other sign or

means shall be used to identify the structure. Address numbers shall be maintained and sized in accordance with the following:

1. One and two-family dwellings and commercial businesses being conducted in a one or two-family dwelling shall require minimum 4" high numbers or letters with a minimum 5/8 inch stroke width.
2. Triplexes, multifamily dwellings and commercial buildings located less than 75 feet from a public right-of-way (the street on which the property is addressed) shall post minimum 12 inch numbers or letters having a minimum 2 inch stroke width.
3. Triplexes, multifamily dwellings and commercial buildings located 75 feet to 200 feet from a public right-of-way (the street on which the property is addressed) shall post minimum 16 inch numbers or letters having a minimum 3 inch stroke width.
4. Triplexes, multifamily dwellings and commercial buildings located more than 200 feet from a public right-of-way (the street on which the property is addressed) shall post 24 inch numbers or letters having a 4 inch stroke width.
5. Unit or suite numerals and/or letters shall be required on or adjacent to the front door and on the rear door of multi-tenant buildings to be immediately visible. Letters or numerals shall be a minimum 4 inch in height with a minimum 5/8 inch stroke width in a color contrasting to the door and shall be weather-resistant.
6. An approved address directory shall be installed at properties with more than one principal building, buildings with unit identification numbers, or when, in the opinion of the fire code official, emergency response may be delayed due to the physical layout of the complex. (Example: multi-family buildings, business office condos)
7. Large Office and Warehouse Buildings - Minimum 24" high numbers with a 4" stroke with contrasting background. Address must be visible from all access directions. Buildings over 500' long will have two address locations if more than one access point is visible.
8. In large or complex buildings or structures with 4 or more doors in any one building plane, all doors shall be numbered sequentially around the building or structure. Minimum 12 inch numbers or letters having a minimum 2 inch stroke width or as required by the fire code official.
9. Exceptions to these requirements shall be approved by the Fire Code Official.

**Section 506.3 "Multi-tenant buildings," is hereby added to read as follows:**

**506.3 Multi-tenant buildings.** In multi-tenant buildings there shall be 1 key box installed for every 4 tenant suites or fraction thereof. Location of key boxes and signage shall be as required by the fire code official.

**Section 506.4 "Additional Key Boxes," is hereby added to read as follows:**

**506.4 Additional key boxes.** Additional key boxes may be required to be installed due to the size, configuration or nature of the business as required by the fire code official.

**Section 506.5 "Key Type," is hereby added to read as follows:**

**506.5 Key type.** Keys shall be of the manual type. Other types of access, such as electronic cards, shall be as approved by the fire code official.

**Section 507.5 “Fire hydrant systems,” is hereby deleted in its entirety and replaced with the following:**

**507.5 Fire hydrant systems.** Fire hydrant systems shall comply with Sections 507.5.1 through 507.5.6, and on-site fire hydrants spacing and mains shall be provided where required by the City of Goodyear Engineering Design Standards and Policies Manual and the *fire code official*.

**Section 507.5.1 “Where required,” is hereby amended as follows:**

Exceptions #1 and #2 are deleted in their entirety.

**(5) CHAPTER 9 “FIRE PROTECTION AND LIFE SAFETY SYSTEMS,” is amended as follows:**

**Section 903.2 “Where required,” is hereby deleted in its entirety and replaced with the following:**

**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 as amended herein, except for telecommunication buildings, existing structures, special amusement buildings and exempt locations as follows:

**Exceptions:**

**Telecommunications building:** Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided those spaces or areas are equipped throughout with an automatic smoke detection system in accordance with Section 907.2 and are separated from the remainder of the building by not less than 1-hour *fire barriers* constructed in accordance with Section 707 of the International Building Code or not less than 2-hour *horizontal assemblies* constructed in accordance with Section 711 of the International Building Code, or both.

**Existing Structures:** An automatic sprinkler system shall not be required to be retrofitted in existing buildings where the occupancy is changed provided the new or proposed use is no more hazardous, based on life safety and fire risk, than the existing use and the existing structure is not increased more than an aggregate total of all additions of 500 square feet. The determination of whether the new or proposed use is less hazardous shall be made by the fire code official in his/her discretion.

**Special Amusement Buildings:** Automatic sprinkler systems shall not be required for temporary special amusement buildings pursuant to the Exception in Section 411.4 of the International Building Code.

**Section 903.2.1.1 “Group A-1,” is hereby deleted in its entirety and replaced with the following:**

**903.2.1.1 Group A-1.** An *automatic sprinkler system* shall be provided for Group A-1 occupancies.

**Section 903.2.1.2 “Group A-2,” is hereby deleted in its entirety and replaced with the following:**

**903.2.1.2 Group A-2.** An *automatic sprinkler system* shall be provided for Group A-2 occupancies.

**Section 903.2.1.3 “Group A-3,” is hereby deleted in its entirety and replaced with the following:**

**903.2.1.3 Group A-3.** An *automatic sprinkler system* shall be provided for Group A-3 occupancies.

**Section 903.2.1.4 “Group A-4,” is hereby deleted in its entirety and replaced with the following:**

**903.2.1.4 Group A-4.** An *automatic sprinkler system* shall be provided for Group A-4 occupancies.

**Section 903.2.1.5 “Group A-5,” is hereby deleted in its entirety and replaced with the following:**

**903.2.1.5 Group A-5.** An *automatic sprinkler system* shall be provided for Group A-5 occupancies, including all accessory use areas, which includes, but is not limited to: concession stands, retail areas, and press boxes.

**Section 903.2.2 “Ambulatory care facilities,” is hereby deleted in its entirety and replaced with the following:**

**903.2.2 Ambulatory care facilities.** An *automatic sprinkler system* shall be provided for in ambulatory care facilities.

**Section 903.2.3 “Group E,” is hereby deleted in its entirety and replaced with the following:**

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



**Section 903.2.4 “Group F-1,” is hereby deleted in its entirety and replaced with the following:**

**903.2.4 Groups B, F-1, F-2 and U.** An *automatic sprinkler system* shall be provided for Groups B, F-1, F-2 and U occupancies.

**Section 903.2.4.1 “Woodworking operations,” is hereby deleted in its entirety.**

**Section 903.2.7 “Group M,” is hereby deleted in its entirety and replaced with the following:**

**903.2.7 Group M.** An *automatic sprinkler system* shall be provided throughout buildings containing a Group M occupancy.

**Section 903.2.7.1 “High-piled storage,” is hereby deleted in its entirety.**

**Section 903.2.8 “Group R,” is hereby deleted in its entirety and replaced with the following:**

**903.2.8 Group R.** An *automatic sprinkler system* installed in accordance with Section 903.3 shall be provided throughout all buildings with a Group R fire area except as follows:

**Exception:**

Automatic sprinkler systems shall not be required in one- and two-family dwellings and R-3 occupancies that are less than 5,000 square feet when there is adequate water supply and an approved fire apparatus access road. When there is inadequate water supply or limited fire department access, automatic sprinkler systems shall not be required in one- and two-family dwellings and R-3 occupancies that are less than 3,600 square feet. The square footage shall be determined based on the total floor area, which includes the living area, attached garages and areas under roof or horizontal projections, including but not limited to, porches, sunrooms, courts, etc. Detached structures not satisfying the required fire separation distance shall be considered as part of the total square footage of the main structure. (This exception does not apply to care facilities located in one- or two-family dwellings where the occupants are incapable of self-preservation.)

**Section 903.2.8.5 “Special Requirements for Arizona State Department of Health Facilities,” is hereby added as follows:**

**903.2.8.5 Special Requirements for Arizona State Department of Health Facilities.** All facilities as licensed by the State of Arizona Department of Health, further known, but not limited to, as direct care, personal care and supervisory care, housing at least six and not more than 10 persons shall be considered a Group R-4.

**Section 903.2.8.6 “Special Requirements for Group R Occupancies,” is hereby added as follows:**

**903.2.8.6 Special Requirements for Group R-4 Occupancies.** Fire sprinklers shall be installed in all attached garages.

**Section 903.2.9 “Group S-1,” is hereby deleted in its entirety and replaced with the following:**

**903.2.9 Group S-1.** An *automatic sprinkler system* shall be provided throughout all buildings containing a Group S-1 occupancy.

**Section 903.2.9.1 “Repair garages,” is hereby deleted in its entirety.**

**Section 903.2.10 “Group S-2,” is hereby deleted in its entirety and replaced with the following:**

**903.2.10 Group S-2.** An *automatic sprinkler system* shall be provided for Group S-2 occupancies.

**Section 903.2.10.1 “Commercial parking garages,” is hereby deleted in its entirety.**

**Section 903.2.11 “Specific buildings areas and hazards,” is amended as follows:**

**903.2.11 Specific buildings areas and hazards.** In all occupancies requiring automatic sprinkler systems, an *automatic sprinkler system* shall be installed for building design or hazards in locations set forth in Sections 903.2.11.1 through 903.2.11.6 as amended herein:

**Section 903.2.11.1 “Stories without openings,” is hereby deleted in its entirety and replaced with the following:**

**903.2.11.1 Stories without openings.** An *automatic sprinkler system* shall be provided throughout all stories, including basements.

**Section 903.2.11.3 “Buildings 55 feet or more in height,” is hereby deleted in its entirety and replaced with the following:**

**903.2.11.3, Buildings height.** An *automatic sprinkler system* shall be installed throughout all buildings regardless of the occupant load and the use.

**Section 903.3.1.1.2 “Bathrooms,” is hereby deleted in its entirety and replaced with the following:**

**903.3.1.1.2 Accessory exempt locations.** An *automatic sprinkler system* shall not be required in the following buildings, rooms or areas:

1. Detached storage sheds, detached private garages, detached gazebos and ramadas for private, residential and non-commercial uses not exceeding 1,500 square feet.
2. Detached restroom buildings at parks, golf courses and similar locations not exceeding 1,500 square feet with storage areas not exceeding 100 square feet.
3. Non-combustible detached gazebos, ramadas and greenhouses for public use not exceeding 1,500 square feet.
4. Non-combustible detached wash racks and canopies with flame retardant sunscreen.
5. Agricultural buildings, animal shelters, greenhouses, grain silos and barn accessories to a residential occupancy not exceeding 1,500 square feet with no habitable space.
6. Detached hay barns with no accessory storage or uses and no habitation areas.
7. Open shade horse stalls of non-combustible construction for private, residential non-commercial use not exceeding 5,000 square feet with no storage of combustible products, vehicles, or agricultural equipment.
8. Detached non-combustible carports for residential and commercial developments with covered parking. Each non-combustible carport shall not exceed 2,000 square feet and shall be separated a minimum of ten (10) feet from the main building. Where there are a group of carports and each one does not exceed 2,000 square feet, the minimum separation required between carports shall be ten (10) feet.
9. Temporary tents and membrane structures for approved special events.
10. Detached temporary modular sales offices.
11. Special use structures as approved by the *fire code official*.

**Section 912.6 “Backflow protection,” is hereby deleted in its entirety and replaced with the following:**

**912.6 Backflow protection.** The potable water supply to automatic sprinkler and standpipe systems shall be protected against backflow as required by the International Plumbing Code and the City of Goodyear Engineering Design Standards and Policies Manual.

**(6) Section 1206 “ELECTRICAL ENERGY STORAGE SYSTEMS” is amended as follows:**

**Section 1206.1 “Scope,” is hereby amended as follows:**

**1206.1 Scope.** The provisions in this section are applicable to energy storage systems designed to provide electrical power to a building or facility. These systems are used to provide standby or emergency power, an uninterruptable power supply, load shedding, load sharing or similar capabilities. Energy storage system in Group R-3 and R-4 occupancies in accordance with 1206.2.1 and 1206.4.

**Section 1206.1.1 “Permits,” is hereby amended as follows:**

**1206.1.1 Permits.** Permits shall be obtained for the construction and operation of stationary storage battery systems with a capacity of more than 3 kWh in accordance with Section 105.7.2.

**Exception:** Operating permits are not required for Group R-3 and R-4 occupancies.

**Section 1206.2 “Stationary storage battery systems,” is hereby amended as follows:**

**1206.2 Stationary storage battery systems.** Stationary storage battery systems having capacities exceeding the values shown in Table 1206.2 shall comply with Section 1206.2.1 through 1206.2.12.6, as applicable. Approved signage is required for all installations.

**Section 1206.2.1 “Permits,” is hereby amended as follows:**

**1206.2.1 Permits.** Permits shall be obtained for the construction and operation of stationary storage battery systems with a capacity of more than 3 kWh in accordance with Section 105.7.2.

**Section 1206.2.3.1 “Fault condition,” is amended as follows:**

**1206.2.3.1 Fault condition.** The hazard mitigation analysis shall evaluate the consequences of the following failure modes, and others deemed necessary by the *fire code official*. Only single-failure modes shall be considered.

1. Thermal runaway condition in a single-battery storage rack, module or array.
2. Failure of any energy management system.
3. Failure of any required ventilation system.
4. Voltage surges on the primary electric supply.
5. Short circuits on the load side of the stationary battery storage system.
6. Failure of the smoke detection, fire-extinguishing or gas detection system.
7. Spill neutralization not being provided or failure of the secondary containment system.
8. Failure of temperature control.

**Section 1206.2.3.4 “Large scale fire testing,” is hereby added as follows:**

**1206.2.3.4 Large scale fire testing.** Where required in section 1206, large scale fire testing shall be conducted on a representative stationary storage battery system in accordance with UL 9540A. The testing shall be conducted or witnessed and reported by an approved testing laboratory. The test report shall be provided to the *fire code official* for review and approval in accordance with Section 104.7.2.

**Section 1206.2.3.5 “Fire remediation,” is hereby added as follows:**

**1206.2.3.5 Fire remediation.** Where a fire or other event has damaged a stationary storage battery system and ignition or re-ignition of the stationary storage battery system is possible, the *fire code official* may require the system owner, agent, or lessee, take actions, at their expense, to mitigate the hazard or remove the damaged equipment from the premise to a safe location.

**Section 1206.2.8.1 “Location,” is hereby amended as follows:**

**1206.2.8.1 Location.** Stationary storage battery systems shall not be located in the following areas:

1. Where the floor is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access,
2. Where the floor level is located below the lowest level of exit discharge.

**Exceptions:**

1. Lead acid and nickel cadmium stationary storage battery systems less than 50 VAC and 60 VDC installed in facilities under the exclusive control of communications utilities in accordance with NFPA 76.
2. Where approved, installations shall be permitted in underground vaults complying with NFPA 70, Article 450, Part III.
3. Where approved by the *fire code official*, installations shall be permitted on higher and lower floors.
4. Installations on noncombustible rooftops of buildings exceeding 75 feet (22 860 mm) in height that do not obstruct fire department rooftop operations, where *approved* by the *fire code official*.

**Section 1206.2.8.6 “Signage,” is hereby amended as follows:**

**1206.2.8.6 Signage.** Approved signs shall be provided on or adjacent to all entry doors for battery storage rooms or areas and on enclosures of battery storage cabinets and walk-in units located outdoors, on rooftops or in open parking garages. Signs designed to meet both the requirements of this section and NFPA 70 shall be permitted. The signage shall include the following or equivalent:

1. "Energy Storage System", "Battery Storage System", "Capacitor Energy Storage System", or the equivalent.
2. The identification of the electrochemical battery energy storage system technology present. "Energized Electrical Circuits"
3. If water reactive electrochemical battery energy storage system are present the signage shall include "APPLY NO WATER"
4. Current contact information, including phone number, for personnel authorized to service the equipment and fire mitigation personnel.

**Exception:** Existing stationary storage battery systems shall be permitted to include the signage required at the time it was installed.

**Section 1206.2.8.7 “Outdoor installations,” is hereby amended as follows:**

**1206.2.8.7 Outdoor installations.** Stationary storage battery systems located outdoors shall comply with Sections 1206.2.8.7 through 1206.2.8.7.4, in addition to all applicable

requirements of Section 1206.2. Installations in outdoor enclosures or containers that can be occupied for servicing, testing, maintenance and other functions shall be treated as battery storage rooms. Remote outdoor installations include stationary battery systems located more than 100 feet from buildings, property lines, public ways, stored combustible storage, hazardous materials, high piled stock and other exposure hazards. Installations near exposures include all outdoor stationary battery systems that are not more than 100 feet from buildings, property lines, public ways, stored combustible storage, hazardous materials, high piled stock and other exposure hazards.

**Exception:** Stationary battery arrays in noncombustible containers shall not be required to be spaced 3 feet (914 mm) from the container walls.

**TABLE 1206.2.8.7 OUTDOOR INSTALLATIONS**

Compliance Required	Remote Installations	Installations Near Exposures
General Installation Requirements	Yes	Yes
Size and separation	No	Yes <sup>a</sup>
Smoke and automatic fire detection	Yes	Yes
Fire suppression systems	Yes <sup>b</sup>	Yes
Maximum enclosure size	Yes	Yes
Vegetation control	Yes	Yes
Means of egress separation	Yes	Yes
Clearance to exposures	Yes	Yes
Technology specific protection	Yes	Yes

a. In outdoor walk-in units, spacing is not required between energy storage systems units and the walls of the enclosure.

b. Where approved by the *fire code official*, fire suppression systems are permitted to be omitted.

**Section 1206.2.10 “Storage batteries and equipment,” is hereby amended as follows:**

**1206.2.10 Storage batteries and equipment.** The design and installation of storage batteries and related equipment shall comply with Sections 1206.2.10.1 through 1206.2.10.8. Battery storage systems installations shall comply with the requirements of this Section in accordance with the applicable requirements of Table 1206.2.10

**Table 1206.2.10 “Battery technology specific,” is hereby added as follows:**

**TABLE 1206.2.10 BATTERY TECHNOLOGY SPECIFIC**

Compliance Required <sup>b</sup>	Battery Technology				Other Battery Storage Systems and Battery Technologies <sup>b</sup>
	Lead-acid	Ni-Cad & Ni-MH	Lithium-ion	Flow	
Exhaust ventilation	Yes	Yes	Yes	Yes	Yes
Spill control and neutralization	Yes <sup>c</sup>	Yes <sup>c</sup>	No	Yes	Yes
Explosion control	Yes <sup>a</sup>	Yes <sup>a</sup>	Yes	Yes	Yes
Safety Caps	Yes	Yes	No	Yes	Yes
Thermal runaway	Yes <sup>d</sup>	Yes	Yes <sup>e</sup>	Yes	Yes <sup>e</sup>

- a. Not required for lead-acid and nickel cadmium batteries at facilities under the exclusive control of communications utilities that comply with NFPA 76 and operate at less than 50 VAC and 60 VDC.
- b. Protection shall be provided unless documentation acceptable to the *fire code official* is provided in accordance with 2021 *International Fire Code* Section 104.7.2 that provides justification why the protection is not necessary based on the technology used.
- c. Applicable to vented (i.e. flooded) type nickel cadmium and lead acid batteries.
- d. Not required for vented (i.e. flooded) type lead acid batteries.
- e. The thermal runaway protection is permitted to be part of a battery management system that has been evaluated with the battery as part of the evaluation to UL 1973.

**Section 1206.2.10.3 “Energy management system,” is hereby amended as follows:**

**1206.2.10.3 Energy management system.** An approved energy management system shall be provided for battery technologies other than lead-acid and nickel cadmium for monitoring and balancing cell voltages, currents and temperatures within the manufacturer’s specifications. The system shall transmit an alarm signal to an approved location and to an *approved* annunciator panel if potentially hazardous temperatures or other conditions such as short circuits, over voltage or under voltage are detected.

**1206.2.10.3.1 Annunciator panel.** The *approved* annunciator panel shall visibly indicate any hazardous temperature or other conditions. The location of the annunciator panel shall be approved by the *fire code official*.

**Section 1206.2.10.7 “Thermal runaway,” is hereby amended as follows:**

**1206.2.10.7 Thermal runaway.** Where required by Table 1206.2.10 storage batteries shall be provided with a listed device or other approved method to prevent, detect and control thermal runaway.

**Section 1206.2.11 “Fire extinguishing and detection systems,” is hereby deleted in its entirety and replaced with the following:**

**1206.2.11 Fire protection and life safety systems.** Fire protection and life safety systems shall be provided in accordance with Sections 1206.2.11.1 through 1206.2.11.7. All alarm, and supervisory signals from the fire protection and life safety systems shall be transmitted to a central station, proprietary or remote station service in accordance with NFPA 72, and to an approved annunciator panel.

**1206.2.11.1 Fire-extinguishing systems.** Rooms and areas within buildings and walk-in units containing electrochemical battery energy storage systems shall be equipped with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1. Commodity classifications for specific technologies of storage batteries shall be in accordance with Chapter 5 of NFPA 13. If the storage battery types are not addressed in Chapter 5 of NFPA 13, the *fire code official* is authorized to approve the fire-extinguishing system based on full scale fire and fault condition testing conducted or witnessed and reported by an *approved* laboratory.

**Exception:** Spaces or areas containing stationary storage battery systems used exclusively for telecommunications equipment in accordance with Section 903.2.

**1206.2.11.1.1 Fire-extinguishing systems.** Rooms and areas within buildings and walk-in units containing electrochemical battery energy storage systems shall be protected by an automatic fire suppression system designed and installed in accordance with the most stringent of the following:

1. An *automatic sprinkler system* designed and installed in accordance with Section 903.3.1.1 with a minimum density of 0.6 gpm/ft.<sup>2</sup> based on the fire area or 2,500 ft.<sup>2</sup> (232 m<sup>2</sup>) design area, whichever is smaller.
2. Where *approved*, an automatic sprinkler system designed and installed in accordance with Section 903.3.1.1 with a sprinkler hazard classification based on large scale fire testing.
3. The following alternate automatic fire extinguishing systems designed and installed in accordance with Section 904, provided the installation is approved by the *fire code official* based on large scale fire testing

**Exception:** Fire suppression systems for lead acid and nickel cadmium battery systems at facilities under the exclusive control of communications utilities that operate at less than 50 VAC and 60 VDC shall be provided where required by NFPA 76.

**1206.2.11.1.2 Fire department connections.** Fire Department connections shall be installed in an *approved* location.

**1206.2.11.1.3 Hydrants.** Fire hydrants shall be installed and maintained in accordance with Chapter 5 and Chapter 9.

**1206.2.11.1.4 Alternative fire-extinguishing systems.** Battery systems that utilize water-reactive materials shall be protected by an *approved* alternative automatic fire extinguishing system in accordance with Section 904. The system shall be listed for protecting the type, arrangement and quantities of storage batteries in the room. The *fire code official* shall be permitted to approve the alternative fire extinguishing system based on full-scale fire and fault condition testing conducted or witnessed and reported by an *approved* laboratory.

**1206.2.11.1.5 Smoke detection system.** An *approved automatic smoke detection system* shall be installed in rooms containing *stationary storage battery systems* in accordance with Section 907.2.

**1206.2.11.3 Ventilation.** Where required by Table 1206.2.10, ventilation of rooms containing stationary storage battery systems shall be provided in accordance with the *International Mechanical Code* and one of the following:

1. The ventilation system shall be designed to limit the maximum concentration of flammable gas to 25 percent of the lower flammability limit, or for hydrogen, 1.0 percent of the total volume of the room.



2. Continuous ventilation shall be provided at a rate of not less than 1 cubic foot per minute (cfm) per square foot [0.00508 m<sup>3</sup>/(s • m<sup>2</sup>)] of floor area, but not less than 150 cfm (4 m<sup>3</sup>/min). The exhaust system shall be designed to provide air movement across all parts of the floor for gases having a vapor density greater than air and across all parts of the vault ceiling for gases having a vapor density less than air.

**1206.2.11.3.1 Cabinet ventilation.** Where cabinets located in occupied spaces contain storage batteries that are required by Table 1206.2.10 to be provided with ventilation, the cabinet shall be provided with ventilation in accordance with Section 1206.2.11.3.

**1206.2.11.3.2 Supervision.** Required mechanical ventilation systems for rooms and cabinets containing storage batteries shall be supervised by an *approved* central station, proprietary or remote station service or shall initiate an audible and visual signal at an *approved* constantly attended on-site location.

**1206.2.11.3.3 Standby power.** Mechanical exhaust ventilation shall be provided with a minimum of 6 hours of standby power in accordance with *International Building Code*.

Separation shall be in accordance with NFPA 70.

Where the building, or a portion of the building, served by the mechanical exhaust ventilation is intended to remain operational / occupied during a utility power outage, through the use of an electrical standby power system, whether required or optional; the mechanical exhaust ventilation shall be connected to both the normal electrical service and emergency or standby power system for equivalent time periods.

**1206.2.11.3.4 Mechanical exhaust ventilation controls.** Clearly identified separate switches shall be provided to both to activate the mechanical exhaust ventilation system and to shutoff the ventilation system.

**1206.2.11.4 Gas detection system.** Where required by Section 1206.2.3 or 1206.2.10.8 rooms containing stationary storage battery systems shall be protected by a gas detection system complying with Section 916. The gas detection system shall be designed to activate where the level of flammable gas exceeds 25 percent of the lower flammable limit (LFL), or where the level of toxic or highly toxic gas exceeds one half of the IDLH.

**1206.2.11.4.1 System activation.** Activation of the gas detection system shall result in all the following:

1. Initiation of distinct audible and visible alarms in the battery storage room.
2. Transmission of an alarm to an approved location.
3. De-energizing of the battery charger.
4. Activation of the mechanical ventilation system, where the system is interlocked with the gas detection system.

**Exception:** Lead-acid and nickel-cadmium stationary storage battery systems shall not be required to comply with Items 1, 2 and 3.

**1206.2.11.5 Spill control and neutralization.** Where required by ~~Section 1206.2.12~~ Table 1206.2.10, approved methods and materials shall be provided for the control and neutralization of spills of electrolyte or other hazardous materials in areas containing stationary storage batteries as follows:

1. For batteries with free-flowing electrolyte, the method and materials shall be capable of neutralizing a spill of the total capacity from the largest cell or block to a pH between 5.0 and 9.0.
2. For batteries with immobilized electrolyte, the method and material shall be capable of neutralizing a spill of 3.0 percent of the capacity of the largest cell or block in the room to a pH between 5.0 and 9.0.

**1206.2.11.5.1 Spill control barrier.** Each rack of batteries, or group of racks shall be provided with a liquid-tight 4-inch (102 mm) spill control barrier which extends at least 1-inch (25 mm) beyond the battery rack in all directions.

**1206.2.11.6 Explosion Control.** Where required by Table 1206.2.10, explosion control, complying with Section 911, NFPA 68 and NFPA 69, shall be provided for rooms, areas or walk-in units containing electrochemical battery energy storage system technologies.

**Exceptions:**

1. Where approved, explosion control is permitted to be waived by the *fire code official* based on large scale fire testing which demonstrates that flammable gases are not liberated from electrochemical battery energy storage system cells or modules.
2. Where approved, explosion control is permitted to be waived by the *fire code official* based on documentation provided in accordance with Section 104.7 that demonstrates that the electrochemical battery energy storage system technology to be used does not have the potential to release flammable gas concentrations in excess of 25 percent of the lower flammable limit (LFL) anywhere in the room, area, walk-in unit or structure under thermal runaway or other fault conditions.

**1206.2.11.7 Emergency energy release.** An approved means must be provided to safely release stored energy from the batteries in an emergency situation.

**Section 1206.2.12 “Specific battery-type requirements,” is hereby deleted in its entirety and replaced with the following:**

**1206.2.12 Specific battery-type requirements.** This section includes requirements applicable to specific types of storage batteries. Stationary storage battery systems with more than one type of storage battery shall comply with requirements applicable to each battery

type. Ventilation, spill control and neutralization, explosion control, safety caps and thermal runaway shall be required in accordance with Table 1206.2.10

**1206.2.12.1 Lead-acid storage batteries.** Stationary storage battery systems utilizing lead-acid storage batteries shall comply with the following:

1. The signage in Section 1206.2.8.6 shall indicate the room contains lead-acid batteries.

**1206.2.12.2 Nickel-cadmium (Ni-Cd) storage batteries.** *Stationary storage battery systems* utilizing nickel cadmium (Ni-Cd) storage batteries shall comply with the following:

1. The signage in Section 1206.2.8.6 shall indicate the room contains lead-acid batteries.

**1206.2.12.3 Lithium-ion storage batteries.** The signage in Section 1206.2.8.6 shall indicate the type of lithium batteries contained in the room.

**1206.2.12.4 Sodium-beta storage batteries.** *Stationary storage battery systems* utilizing sodium-beta storage batteries shall comply with the following:

1. The signage in Section 1206.2.8.6 shall indicate the type of sodium batteries in the room and include the instructions, “APPLY NO WATER.”

**1206.2.12.5 Flow storage batteries.** Stationary storage battery systems utilizing flow storage batteries shall comply with the following:

1. The signage required in Section 1206.2.8.6 shall indicate the type of flow batteries in the room.

**1206.2.12.6 Other battery technologies.** *Stationary storage battery systems* utilizing battery technologies other than those described in Sections 1206.2.12.1 through 1206.2.12.5 shall comply with the following:

1. Gas detection systems complying with Section 916 shall be provided in accordance with Section 1206.2.11.4 where the batteries have the potential to produce toxic or highly toxic gas in the storage room or cabinet in excess of the permissible exposure limits (PEL) during charging, discharging and normal system operation.
2. In addition to the signage required in Section 1206.2.8.6, the marking shall identify the type of batteries present, describe the potential hazards associated with the battery type, and indicate that the room contains energized electrical circuits.

**Section 1206.2.13 “Special installations,” is hereby added as follows:**

**1206.2.13 Special Installations.** Rooftop and open parking garage battery energy storage system installations shall comply with Sections 1206.2.13 through 1206.2.13.6. Signage shall comply with section 1206.2.8.6.

**1206.2.13.1 Rooftop installations.** For the purpose of Table 1206.2.12.7, rooftop installations are those located on the roofs of buildings.

**1206.2.13.2 Open parking garage installations.** For the purpose of Table 1206.2.13, open parking garage installations are those located in a structure or portion of a structure that complies with Section 406.5 of the *International Building Code*.

**TABLE 1206.2.13 SPECIAL INSTALLATIONS**

Compliance Required	Rooftops	Open Parking Garages
General Installation Requirements	Yes	Yes
Size and separation	Yes	Yes
Smoke and automatic fire detection	Yes	Yes
Maximum enclosure size	Yes	Yes
Means of egress separation	Yes	Yes
Clearance to exposures	Yes	Yes
Fire suppression systems	Yes	Yes
Technology specific protection	Yes	Yes

**1206.2.13.3 Clearance to exposures.** Battery storage systems located on rooftops and in open parking garages shall be separated by a minimum 10 feet (3048 mm) from the following exposures:

1. Buildings, except the building on which rooftop battery energy storage system is mounted
2. Any portion of the building on which a rooftop system is mounted that is elevated above the rooftop on which the system is installed
3. Lot lines
4. Public ways
5. Stored combustible materials
6. Locations where motor vehicles can be parked
7. Hazardous materials
8. Other exposure hazards

**Exceptions:**

1. Clearances are permitted to be reduced to 3 feet (914 mm) where a 1-hour free standing fire barrier, suitable for exterior use, and extending 5 feet (1524 mm) above and extending 5 feet (1524 mm) beyond the physical boundary of the battery energy storage system installation is provided to protect the exposure. Clearances are permitted to be reduced to 3 feet (914 mm) where a weatherproof

enclosure constructed of noncombustible materials is provided over the battery energy storage system and it has been demonstrated that a fire within the enclosure will not ignite combustible materials outside the enclosure based on large scale fire testing.

**1206.2.13.4 Fire suppression systems.** Battery storage systems located in walk-in units on rooftops or in walk-in units in open parking garages shall be provided with automatic fire suppression systems within the battery energy storage system enclosure in accordance with Section 1206.2.11.1. Areas containing battery energy storage system other than walk-in units in open parking structures on levels not open above to the sky shall be provided with an automatic fire suppression system complying with Section 1206.2.11.1.

**1206.2.13.5 Rooftop installations.** Battery storage systems and associated equipment that are located on rooftops and not enclosed by building construction shall comply with the following:

1. Stairway access to the roof for emergency response and fire department personnel shall be provided either through a bulkhead from the interior of the building or a stairway on the exterior of the building.
2. Service walkways at least 5 feet (1524 mm) in width shall be provided for service and emergency personnel from the point of access to the roof to the system.
3. Battery storage systems and associated equipment shall be located from the edge of the roof a distance equal to at least the height of the system, equipment, or component but not less than 5 feet (1524 mm).
4. The roofing materials under and within 5 feet (1524 mm) horizontally from a battery storage systems or associated equipment shall be noncombustible or shall have a Class A rating when tested in accordance with ASTM E108 or UL 790.
5. A Class I standpipe outlet shall be installed at an approved location on the roof level of the building or in the stairway bulkhead at the top level.
6. The battery storage systems shall be the minimum of 10 feet (3048 mm) from the fire service access point on the roof top.

**1206.2.13.6 Open parking garages.** Battery storage systems and associated equipment that are located in open parking garages shall comply with all of the following:

1. Battery storage systems shall not be located within 50 feet (15 240 mm) of air inlets for building HVAC systems.

**Exception:** This distance shall be permitted to be reduced to 25 feet (7620 mm) if the automatic fire alarm system monitoring the radiant-energy sensing detectors de-energizes the ventilation system connected to the air intakes upon detection of fire.

1. Battery storage systems shall not be located within 25 feet (7620 mm) of exits leading from the attached building where located on a covered level of the parking structure not directly open to the sky above.
2. An approved fence with a locked gate or other approved barrier shall be provided to keep the general public at least 5 feet (1024 mm) from the outer enclosure of the battery energy storage system.

**Section 1206.4 “Energy storage systems in Group R-3 and R-4 occupancies,” is hereby added in its entirety:**

**1206.4 Energy storage system in Group R-3 and R-4 occupancies.** Energy storage systems in Group R-3 and R-4 occupancies shall be installed and maintained in accordance with this section. The temporary use of an owner or occupant's electric powered vehicle as an energy storage system shall be in accordance with Section 1206.4.

**1206.4.1 Equipment listings.** Energy storage system shall be listed and labeled for residential use in accordance with UL 9540.

**Exceptions:**

1. Where *approved*, repurposed unlisted battery systems from electric vehicles may be installed outdoors or in detached dedicated cabinets located not less than 5 feet (1524 mm) from exterior walls, property lines and public ways.
2. Energy storage system less than 1 kWh.

**1206.4.2 Installation.** Energy storage system shall be installed in accordance with the manufacturer's instructions and their listing.

**1206.4.2.1 Spacing.** Individual units shall be separated from each other by at least 3 feet (914 mm) of spacing unless smaller separation distances are documented and approved by the *fire code official* to be adequate based on large scale fire testing.

**1206.4.3 Location.** Energy storage system shall only be installed in the following locations:

1. Detached garages and detached accessory structures.
2. Attached garages separated from the dwelling unit living space and sleeping units in accordance with Section 406.3.2 of the *International Building Code*.
3. Outdoors on exterior walls in accordance with 1206.4.3.1
4. Utility closets and storage or utility spaces within dwelling units and sleeping units.

**1206.4.3.1 Exterior wall installations.** Energy storage system shall be permitted to be installed outdoors on exterior walls of buildings when all of the following conditions are met:

1. The maximum energy capacity of individual energy storage system units shall not exceed 20 kWh.

2. The energy storage system shall comply with applicable requirements in Sections 1206.
3. The energy storage system shall be installed in accordance with the manufacturer's instructions and their listing.
4. Individual energy storage system units shall be separated from each other by not less than 3 feet (914 mm).
5. The energy storage system shall be separated from doors, windows, operable openings into buildings, or HVAC inlets by at least 5 feet (1524 mm).

**Exception:** Where approved by the *fire code official*, smaller separation distances in items 4 and 5 may be permitted based on large scale fire testing.

**1206.4.4 Energy ratings.** Individual energy storage system units shall have a maximum rating of 20 kwh. The aggregate rating structure shall not exceed:

1. 40 kWh within utility closets and storage or utility spaces.
2. 80 kWh in attached or detached garages and detached accessory structures.
3. 80 kWh on exterior walls.
4. 80 kWh outdoors on the ground.

**1206.4.5 Electrical installation.** Energy storage systems shall be installed in accordance with NFPA 70. Inverters shall be listed and labeled in accordance with UL 1741 or provided as part of the UL 9540 listing. Systems connected to the utility grid shall use inverters listed for utility interaction.

**1206.4.6 Fire detection.** Rooms and areas within dwelling units, sleeping units and attached garages in which energy storage systems are installed shall be protected by smoke alarms in accordance with Section 907.2.10. A heat detector listed and interconnected to the smoke alarms shall be installed in locations within dwelling units, sleeping units and attached garages where smoke alarms cannot be installed based on their listing.

**1206.4.7 Protection from impact.** Stationary storage battery systems installed in a location subject to vehicle damage shall be protected by approved barriers. Appliances in garages shall also be installed in accordance with Section 304.3 of the *International Mechanical Code*.

**1206.4.8 Ventilation.** Indoor installations of energy storage systems that include batteries that produce hydrogen or other flammable gases during charging shall be provided with ventilation in accordance with Section 1206.2.11.3.

**1206.4.9 Toxic and highly toxic gas.** Energy storage systems that have the potential to release toxic or highly toxic gas during charging, discharging and normal use conditions shall not be installed within Group R-3 or R-4 occupancies.

**(7) Chapter 23 “MOTOR FUEL-DISPENSING FACILITIES AND REPAIR GARAGES,” is amended as follows:**

**Section 2308.3.2 “Vehicle impact protection,” is hereby added as follows:**

**2308.3.2 Vehicle impact protection.** Vehicle impact protection for CNG gas storage containers, pumps and dispensers shall be provided in accordance with section 312 of the *International Fire Code*.

**(8) Appendix C: “FIRE HYDRANT LOCATIONS AND DISTRIBUTION,” is hereby deleted in its entirety and replaced with the following:**

**Section C101 GENERAL**

**C101.1 Scope.** In addition to the requirements of section 507.5.1, fire hydrants shall be provided in accordance with the City of Goodyear Engineering Design Standards and Policies Manual and this appendix for the protection of buildings, or portions of buildings, hereafter constructed or moved into the jurisdiction.

**Section C102 NUMBER OF HYDRANTS**

**C102.1 Minimum number of fire hydrants for a building.** The number of fire hydrants available for a building shall be not less than the minimum specified in Table C102.1

**TABLE C102.1  
REQUIRED NUMBER OF FIRE HYDRANTS<sup>b</sup>**

<b>FIRE-FLOW REQUIREMENT (gpm)</b>	<b>MINIMUM NUMBER OF HYDRANTS</b>
1,750 or less	1
1,751–2,250	2
2,251–2,750	3
2,751–3,250	3
3,251–4,000	4
4,001–5,000	5



5,001–5,500	6
5,501–6,000	6
6,001–7,000	7
7,001 or more	8 or more <sup>a</sup>

For SI: 1 foot = 304.8 mm, 1 gallon per minute = 3.785 L/m.

a. One hydrant for each 1,000 gallons per minute or fraction thereof.

b. The fire code official is authorized to modify the location, number and distribution of fire hydrants based on site-specific constraints and hazards.

### Section C103 FIRE HYDRANT SPACING

**C103.1 Hydrant spacing.** Fire apparatus access roads and public streets providing required access to buildings in accordance with Section 503 shall be provided with one or more fire hydrants, as determined by the City of Goodyear Engineering Design Standards and Policy Manual, and Table C102.1.

(9) **Appendix D: “FIRE APPARATUS ACCESS ROAD,” is hereby amended as follows:**

**Section D101.1 “Scope,” is hereby deleted in its entirety and replaced with the following:**

**D101.1 Scope.** Fire apparatus access roads shall be in accordance with this appendix, all other applicable requirements of the *International Fire Code*, and the City of Goodyear Engineering Design Standards and Policies Manual.

**Section D103.1 “Access road width with a hydrant,” is hereby deleted in its entirety and replaced with the following:**

**D103.1 Access road width with a hydrant.** Where a fire hydrant is located on a fire apparatus access road, the minimum width shall be as required by the City of Goodyear Engineering Design Standards and Policies Manual.

**Figure D103.1 “Dead-end Fire Apparatus Access Road Turnaround,” is deleted in its entirety and replaced with the following:**

#### **Figure D103.1 Dead End Fire Apparatus Access Road Turnaround**

Dead ends and fire apparatus access road turnarounds shall comply with the requirements for dead ends and fire apparatus access road turnarounds in the City of Goodyear Engineering Design Standards and Policies Manual.

**Section D103.2 “Grade,” is hereby deleted in its entirety and replaced with the following:**

**D103.2 Grade.** Fire apparatus access road shall not exceed the grade of 8% as required in the City of Goodyear Engineering Design Standards and Policies Manual.

**Exception:** Grades steeper than 8% as *approved* by the fire chief.

**Section D103.3 “Turning radius,” is hereby deleted in its entirety and replaced with the following:**

**D103.3 Turning radius.** The minimum turning radius shall be in accordance with the requirements in the City of Goodyear Engineering Design Standards and Policies Manual.

**Section D103.4 “Dead ends and Table D103.4,” are hereby deleted in its entirety and replaced with the following:**

**D103.4 Dead ends.** Dead-end fire apparatus access roads in excess of 150 feet (45720 mm) shall be provided with width and turnaround provisions in accordance with the requirements of the City of Goodyear Engineering Design Standards and Policies Manual.

**Section D103.6 “Signs,” is hereby deleted in its entirety and replaced with the following:**

**D103.6 Signs.** Where required by the *fire code official*, fire apparatus access roads shall be marked with permanent signs complying with the City of Goodyear Engineering Design Standards and Policies Manual and/or provide curb markings in accordance with Section 503.3 of the *International Fire Code* as amended herein.

**Section D104.2 “Buildings exceeding 62,000 square feet in area,” is hereby amended as follows:**

Delete the exception.

**Section D106.1 “Projects having more than 100 dwelling units,” is hereby amended as follows:**

Delete the exception.

**Section D106.2 “Projects having more than 200 dwelling units,” is hereby deleted in its entirety.**

## **APPENDIX L REQUIREMENTS FOR FIREFIGHTER AIR REPLENISHMENT SYSTEMS**

**Section L101.1 “Scope,” is hereby deleted in its entirety and replaced with the following:**

**L101.1 Scope.** Firefighter air replenishment systems (FARS) shall be provided in accordance with this appendix.

**Section L101.2 “When required,” is hereby added:**

**L101.2 When required.** A Fire Fighter Air Replenishment System (FARS) shall be required in all new buildings or structures that meet any of the following:

1. The building or structure has five (5) or more floors above grade; or
2. The building or structure is a high rise building as defined by the International Building Code as adopted and amended by the governing authority; or
3. The building, structure or components thereof are underground and the square footage of the underground building, structure, or component thereof is ten thousand (10,000) feet or more and is located either more than two (2) floors below grade or more than thirty (30) feet below grade.