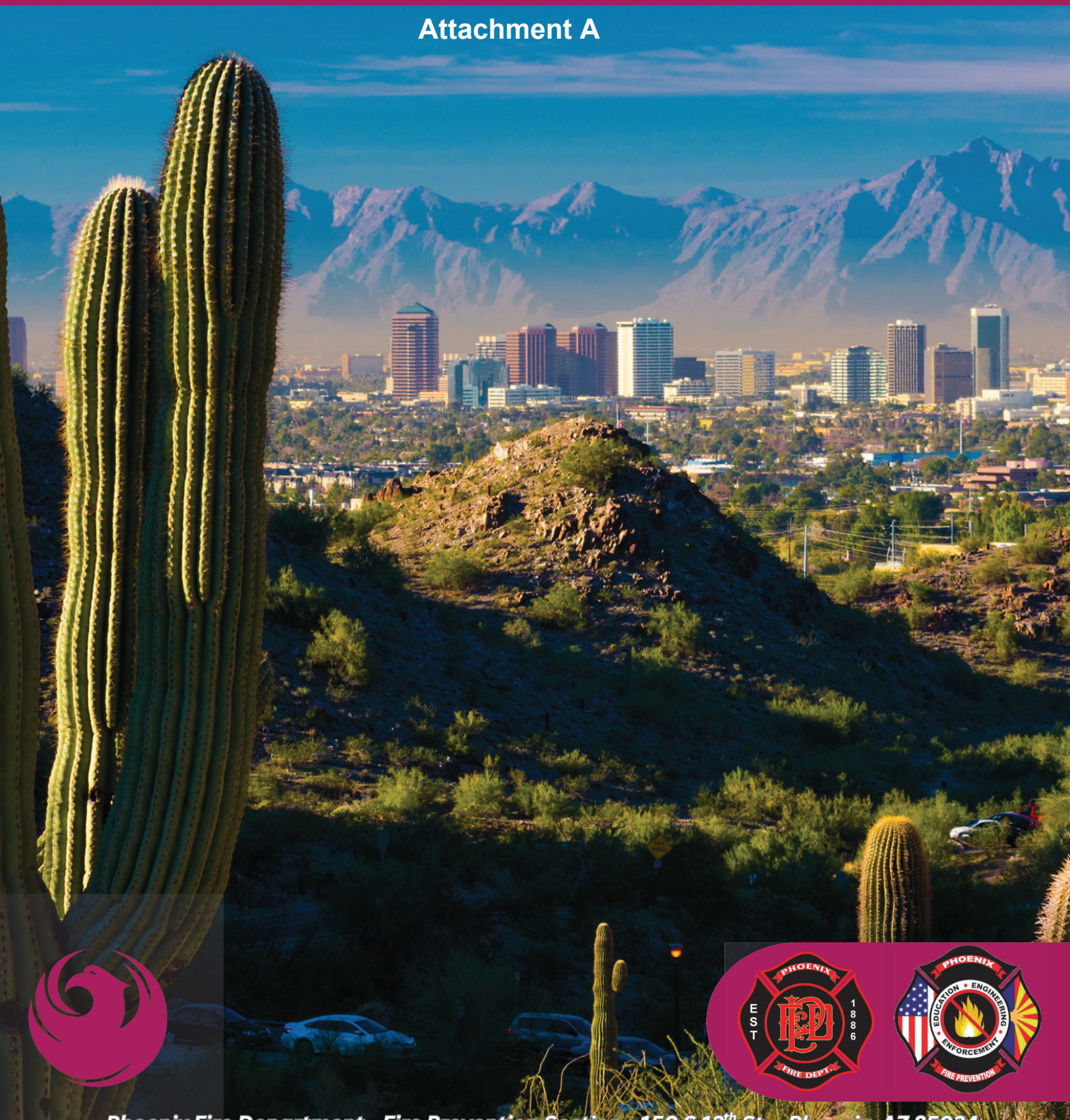
# 2024 Phoenix Fire Code Proposed Adoption Packet

**Attachment A**



*Phoenix Fire Department - Fire Prevention Section - 150 S 12th St. - Phoenix, AZ 85034*

# 2024 Phoenix Fire Code
# Proposed Adoption Packet

## Section 1
## Summary of Changes

*Phoenix Fire Department - Fire Prevention Section - 150 S 12th St. - Phoenix, AZ 85034*

City of Phoenix
FIRE DEPARTMENT

# 2024 International Fire Code with Phoenix Amendments Proposed Adoption

The Phoenix Fire Department's Fire Prevention Section conducts more than 30,000 inspections and engagements annually. The success of these efforts depends on maintaining a modern, technology-relevant Phoenix Fire Code that safeguards lives, property, and first responders in a rapidly evolving and changing environment.

The Phoenix Fire Code is codified as Chapter 15 of the Phoenix City Code. Beginning in the early 2000s, Phoenix began adopting the International Fire Code (IFC), developed by the International Code Council (ICC), as its foundational model fire code. Although the ICC releases updated codes on a three-year cycle, the City of Phoenix has historically adopted new base codes on a six-year cycle to reduce the financial and operational impacts of implementation.

The current Phoenix Fire Code is based on the 2018 International Fire Code. While continuous incremental updates have been adopted, the past seven years have brought significant advances in technology, development trends, and community risk reduction practices. Adopting the 2024 International Fire Code with Phoenix amendments will strengthen our ability to protect the community and first responders while supporting continued development and industry growth.

The 2024 IFC includes updates that reflect current technology, evolving building practices, modern materials, and enhanced fire and life safety strategies. These changes are the result of an open and consensus-driven process involving fire service professionals, building officials, engineers, architects, legal input, and industry stakeholders from across the country. By adopting the updated IFC, Phoenix maintains alignment with nationally recognized standards that support safety, innovation, and economic development. Importantly, the IFC serves as a companion code to other critical model codes, such as the International Building, Mechanical, Plumbing, and Electrical Codes, used by the City's Planning and Development Department. Maintaining consistency across these interrelated codes ensures clarity for applicants, improves coordination between departments, and enhances enforcement effectiveness.

This document provides a per chapter summary of the proposed Phoenix Fire Code amendments, along with detailing the proposed change, its rationale, and anticipated impact on the city and our community.

If approved, these amendments would be incorporated into the 2024 International Fire Code and adopted as the Fire Prevention Code, Chapter 15 of the City Code (commonly referred to as the Phoenix Fire Code).

# 2024 Phoenix Fire Code
# Proposed Adoption Packet

## Section 2
## Amendment Details

*Phoenix Fire Department - Fire Prevention Section - 150 S 12th St. - Phoenix, AZ 85034*

| Chapter 1 Scope and Administration | |
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| 1. | 101.1 Title. These regulations shall be known as the 2024 *International Fire Code with Phoenix Amendments*, hereinafter referred to as "the Phoenix Fire Code". |
| | **Reason:** Provides proper title. |
| 2. | 101.2 Scope. The provisions of this code shall supplement all laws relating to fire safety and shall apply to all persons without restriction, unless specifically exempted. This code establishes regulations affecting or relating to structures, facilities, processes, premises and safeguards regarding all of the following:<br>1. The hazard of fire and explosion arising from the storage, handling or use of structures, materials or devices.<br>2. Conditions hazardous to life, property or public welfare in the occupancy of structures or premises.<br>3. Fire hazards in the structure or on the premises from occupancy or operation.<br>4. Matters related to the construction, extension, repair, alteration or removal of fire suppression or alarm systems.<br>5. Conditions affecting the safety of fire fighters and emergency responders during emergency operations. |
| | **Reason:** Increases scope of the fire code. |
| 3. | 101.2.1 Appendices. Provisions in the appendices shall not apply unless specifically adopted. Appendices A, B, D, E, F, G, H, I, L, M, and N are adopted and are considered to be part of this code. |
| | **Reason:** Adopts applicable appendices. New to 2024 the addition of adopted appendix include **E** - This appendix provides information, explanations and examples to illustrate and clarify the hazard categories contained in Chapter 50 of the International Fire Code., **F** - is intended to be a companion to the specific requirements of Chapters 51 through 67, which regulate the storage, handling and use of all hazardous materials classified as either physical or health hazards., **G** - gives the fire code official and registered design professional a ready reference tool for the conversion of the liquid weight and volume of cryogenic fluid to their corresponding volume of gas and vice versa and is a companion to the provisions of Chapter 55 of this code., **H** - is intended to assist businesses in establishing a Hazardous Materials Management Plan (HMMP) and Hazardous Materials Inventory Statement (HMIS) based on the classification and quantities of materials that would be found on-site in storage or use., **I** - is intended to provide the fire code official with a list of conditions that are readily identifiable by the inspector during the course of an inspection utilizing this code., **L** - provides for the design, installation and maintenance of permanently installed fire fighter breathing air systems in buildings designated by the jurisdiction. Breathing air is critical for fire-fighting operations., **M** - the intent to provide an option for adoption by jurisdictions that choose to require existing high-rise buildings to be retrofitted with automatic sprinklers. |
| 4. | 101.2.2 Explanatory materials. A diamond (◆) in the margin indicates that a City of Phoenix explanatory material document has been created to clarify the application of this code, in accordance with Section 104.1. |
| | **Reason:** Consistent with amendments in prior codes. Provides users with a marker that identifies where an explanatory policy exists. |

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| 5. | 102.3 Change of use or occupancy. A change of occupancy shall not be made unless the use or occupancy is made to comply with the requirements of this code, the *Phoenix Building Code* or the *International Existing Building Code*.<br>Exception: Where approved by the *fire code official*, a change of occupancy shall be permitted without complying with the requirements of this code, the *Phoenix Building Code* and the *International Existing Building Code*, provided the new occupancy or proposed use is less hazardous, based on life and fire risk, than the existing occupancy in accordance with the Tarver Ordinance and Table 903.1.5. |
| | **Reason:** Occupancy classifications are determined by the Phoenix Building Code and must be in accordance with the Tarver Ordinance. |
| 6. | ◆102.7.3 Fire protection system conflicts. Where there is a conflict between a general requirement and a specific requirement for all fire protection systems, the most restrictive requirement shall be applicable. |
| | **Reason:** Provides specific direction for resolving conflicts within this code regarding fire protection systems. Grammar issue was resolved. |
| 7. | 104.2.1.1 Exempt buildings. A federal, state, county agency or municipal corporation may declare itself exempt from the requirements of this code. |
| | **Reason:** Authorizes the Fire Prevention Division to require payment for services. |
| 8. | 104.2.1.2 Annexation. A building or facility under construction on the effective date of annexation shall be required to secure City building permits and pay fees. From the effective date of annexation, all construction shall conform to the pertinent City construction codes and ordinances.<br>When approved by the *fire code official* a building may be allowed to complete the project under the previous authority having jurisdiction and obtain green tags/approvals from that jurisdiction.<br>Circumstances that would prohibit obtaining City building or fire permits require an appeal. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). [105.2.4]<br>**Reason:** Allows for business continuity of installation to approved plans by other Authorities Having Jurisdiction. |
| 9. | 104.2.1.3 State fire code. Pursuant to the provisions of Arizona Revised Statute Section 41-2163(A)(2), the City of Phoenix assumes jurisdiction for prescribing and enforcing minimum fire prevention standards within the City of Phoenix, except for state- or county-owned buildings. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Prescribes enforcement authority between State Fire Marshal and City of Phoenix jurisdiction for State or County owned building within City limits. |
| 10. | 104.2.5 Special inspection. The *fire code official* is authorized to require special inspections. The owner, engineer or architect of record acting as the owner's agent shall employ one or more special inspectors who shall provide inspections. The special inspector shall be a qualified person who shall demonstrate competence, to the satisfaction of the *fire code official*, for inspection of the system installation or modification requiring special inspections. |

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| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC). [106.10]<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). [106.6.2]<br>**Reason:** Authorizes the Fire Prevention Division to require special inspections as needed to address issues that require outside expertise**.** |
| 11. | 104.2.5.1 Duties and responsibilities of the special inspector. The special inspector shall observe the work assigned for conformity to the approved design drawings and specifications.<br>The special inspector shall furnish inspection reports to the *fire code official*, the engineer or architect of record, and other designated persons. All discrepancies shall be brought to the immediate attention of the contractor for correction, then, if uncorrected, to the proper design authority and to the *fire code official*.<br>The special inspector shall submit a final signed report stating whether the work requiring special inspection is, to the best of the inspector's knowledge, in conformance to the approved plans and specifications. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC). [106.10]<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). [106.6.2]<br>**Reason:** Identifies the duties of the special inspector. |
| 12. | 104.6 Notices and orders. The *fire code official* is authorized to issue such notices or orders as are required to affect compliance with this code in accordance with Section 113. Notices or orders that are given verbally shall be confirmed by service in writing. Signs, tags or seals posted or affixed by the fire code official shall not be mutilated, destroyed or tampered with or removed without authorization from the *fire code official*. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). [105.2.4]<br>**Reason:** Ensures verbal orders are documented. |
| 13. | 104.10.2 Forensic analysis. The *fire code official* may require a forensic analysis of the cause of failure by an independent laboratory approved by the *fire code official*. |
| | **Reason:** Allows for more extensive investigation after an incident. |
| 14. | 104.12 False and misleading reports.<br>No person shall willfully submit to the Fire Department and any of its members, any false, fraudulent, misleading, or unfounded reports or statements to misrepresent any fact for the purpose of interfering with the fire department or with the in*tent*ion of misleading any fire department personnel. |
| | **Reason:** Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). Language brought in from 1997 UFC.<br>Adds specific additional provisions to this codes authority. |
| 15. | 105.1 General. Permits shall be in accordance with Sections 105.1.1 through 105.6.26.13 |
| | **Reason:** Includes City of Phoenix permit section. |
| 16. | 105.1.1 Permits required. A property owner or owner's authorized agent who intends to conduct an operation or business, or install, modify or remove fire protection systems and equipment that are regulated by this code, or to cause any such work to be performed, shall first make application to the *fire code official* and obtain the required permit. |

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| | **Reason:** Further clarifies when a permit is required. |
| 17. | 105.1.2 Types of permits. There shall be two types of permits as follows:<br>1. Operational permit. An operational permit allows the applicant to conduct an operation or a business for which a permit is required by Section 105.6 for either:<br>1.1. A prescribed period.<br>1.2. Until renewed or revoked.<br>2. Construction permit. A construction permit allows the applicant to install or modify systems and equipment for which a permit is required by Sections 105.6 through 105.6.26.13<br>2.1. *Fire protection system* permits shall only be issued to current business certificate holders. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>Regulation R1001.3.2 April 1, 2002 – Add NICET qualifications.<br>Adopted by Ordinance G-4160 March 12, 1999 – (1997 UFC).<br>Adopted by Ordinance G-3941 June 26, 1996<br>Fee for Fire Protection Equipment Companies $70.00 Revised 7/1/89<br>Adopted by Ordinance G-2922 October 17, 1986 (1986 Fire Prevention Code).<br>Adopted by Ordinance G-2221 September 1, 1981 -- (1981 Fire Prevention Code).<br>**Reason:** Non-qualified persons were attempting to install and/or maintain life safety systems. The Business Certificate system ensures minimum standards are met by qualifying contractors who install/maintain life safety systems, fire lines, extinguishing systems or other fire-extinguishing or detection systems, devices or appliances. Business certificate holder requirements have been in the code since 1975. |
| 18. | 105.1.4 Emergency repairs. Where equipment replacement and repairs must be performed in an emergency situation, the permit application shall be submitted within 72 hours of identifying the emergency, to the *fire code official*. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Allows for emergency repairs and business continuity while providing the requirements for permitting. |
| 19. | 105.1.5.1 Restoration procedures following a fire, explosion or hazardous materials release. A permit is required to repair damage to a building, premise, storage facility or outdoor area following a fire, explosion or *hazardous materials* release. All work is subject to inspector approval. Additional permits and *approved* plans may be required. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Added to cover what was being considered, by some, to be maintenance. |
| 20. | 105.3 Conditions of a permit. A permit shall constitute permission to maintain, store or handle materials; or to conduct processes that produce conditions hazardous to life or property; or to install equipment utilized in connection with such activities; or to install or modify any *fire protection system* or equipment or any other construction, equipment installation or modification in accordance with the provisions of this code where a permit is required by Section 105.5, 105.6, or 105.7. All work done on new and existing systems shall meet the requirements of the current adopted codes and standards. Such permission shall not be |

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| | construed as authority to violate, cancel or set aside any of the provisions of this code or other applicable regulations or laws of the jurisdiction. |
| | **Reason:** Adds section number to include Phoenix permits and explicitly states new work requires current code compliance. |
| 21. | 105.3.1 Expiration. An operational permit shall remain in effect until reissued, renewed or revoked, or for such a period of time as specified in the permit. Construction permits shall automatically become invalid unless the work authorized by such permit is 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 time the work is commenced. Before such work recommences, a new permit shall be first obtained and the fee to recommence work, if any, shall be one-half the amount required for a new permit for such work, provided that changes have not been made and will not be made in the original construction documents for such work, and provided further that such suspension or abandonment has not exceeded one year. Permits are not transferable and any change in occupancy, operation, use or hazard, tenancy or ownership shall require that a new permit be issued. |
| | **Reason:** Adds additional triggers to ensure current permits are obtained. |
| 22. | 105.3.3 Occupancy prohibited before approval. The building or structure shall not be occupied prior to the *fire code official* issuing a permit and conducting associated inspections indicating the applicable provisions of this code have been met.<br>Exception: It shall be lawful to occupy portions of buildings or structures under a Temporary Certificate of Occupancy issued by the City of Phoenix, subject to the conditions stated therein. |
| | **Reason:** Allows for occupancy of the building where requirements of the Temporary Certificate of Occupancy have been met and validated through PDD and PFD inspections. |
| 23. | 105.3.3.1 Temporary Certificate of Occupancy. In accordance with Section 111 of the *International Building Code,* the *fire code official*, in conjunction with the building official, is authorized to approve the conditions necessary to occupy the premises or portion thereof before the entire work or operations on the premises is completed. When issued, such portion or portions shall be occupied safely prior to full completion or installation of equipment and operations without endangering life or public welfare. |
| | **Reason:** Change of section reference to the correct section of the IBC |
| 24. | 105.4 Revocation. The *fire code official* is authorized to revoke a permit issued under the provisions of this code where it is found by inspection or otherwise that there has been a false statement or misrepresentation as to the material facts in the application or *construction documents* on which the permit or approval was based including, but not limited to, any one of the following:<br>1. The permit is used for a location or establishment other than that for which it was issued.<br>2. The permit is used for a condition or activity other than that listed in the permit.<br>3. Conditions and limitations set forth in the permit have been violated.<br>4. There have been any false statements or misrepresentations as to the material fact in the application for permit or plans submitted or a condition of the permit.<br>5. The permit is used by a different person or firm than the name for which it was issued.<br>6. The permittee failed, refused or neglected to comply with orders or notices duly served in accordance with the provisions of this code within the time provided therein.<br>7. The permit was issued in error or in violation of an ordinance, regulation or this code.<br>8. The permit holder's does not possess a current business certificate. |

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| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Business Certificates are required to remain current and responsible parties' in compliance. |
| 25. | 105.4.1 Work without a permit. Operating or starting work without the applicable fire prevention permit is strictly prohibited. A penalty equal to 300 percent of the cost of the required Fire Department construction permit and inspection fees shall be assessed for the work. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>**Reason:** Added to be consistent with the Planning & Development Dept. penalties for work without a permit. |
| 26. | 105.5 Required operational permits. The *fire code official* is authorized to issue operational permits for the operations set forth in Sections 105.5.2 through 105.5.58.16.<br>If a permit is denied, the applicant has the right to file for an appeal to the Fire Marshal in accordance with Section 104.7.4. |
| | **Reason:** Extends section to include additional permits required by Phoenix. |
| 27. | 105.5.5.5 Carnivals and fairs. An operational permit is required to conduct a carnival or fair.<br>See Section 105.5.40, Outdoor assembly event. |
| | **Reason:** Points applicant to the specific/correct permit section for outdoor assembly event. |
| 28. | 105.6.4 Cryogenic fluids. A construction permit is required for installation of or alteration to indoor/outdoor stationary cryogenic fluid storage systems where the system capacity exceeds the amounts listed in Table 105.5.11. Maintenance performed in accordance with this code is not considered to be an alteration and does not require a construction permit |
| | **Reason:** New to 2024, added requirement for permits of indoor cryogenic fluids systems. |
| 29. | 105.5.5.15 Exhibits and trade shows. An operational permit is required to operate exhibits and trade shows as regulated by Appendix N. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** New to 2024, with the adoption of appendix N, this permit section was updated to reference the requirements of appendix N. |
| 30. | 105.5.18 Flammable and combustible liquids. An operational permit is required:<br>1. To use or operate a pipeline for the transportation within facilities of flammable or *combustible liquids*. This requirement shall not apply to the off-site transportation in pipelines regulated by the Department of Transportation (DOTn) nor does it apply to piping systems.<br>2. To store, handle or use Class I liquids in excess of 5 gallons (19 L) in a building or in excess of 10 gallons (37.9 L) outside of a building, except that a permit is not required for the following:<br>2.1. The storage or use of Class I liquids in the fuel tank of a motor vehicle, aircraft, motorboat, mobile power plant or mobile heating plant, unless such storage, in the opinion of the fire code official, would cause an unsafe condition. |

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| | 2.2. The storage or use of paints, oils, varnishes or similar flammable mixtures where such liquids are stored for maintenance, painting or similar purposes for a period of not more than 30 days.<br>3. To store, handle or use Class II or Class IIIA liquids in excess of 25 gallons (95 L) in a building or in excess of 60 gallons (227 L) outside a building, except for fuel oil used in connection with oil-burning equipment.<br>4. To store, handle or use Class IIIB liquids in tanks or portable tanks for fueling motor vehicles at motor fuel-dispensing facilities or where connected to fuel-burning equipment.<br>**Exception:** Fuel oil and used motor oil used for space heating or water heating.<br>5. To remove Class I or II liquids from an underground storage tank used for fueling motor vehicles by any means other than the *approved*, stationary on-site pumps normally used for dispensing purposes.<br>6. To operate tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and *combustible liquids* are produced, processed, transported, stored, dispensed or used.<br>7. To place temporarily out of service (for more than 90 days) an underground, protected above-ground or above-ground flammable or *combustible liquid* tank.<br>8. To change the type of contents stored in a flammable or *combustible liquid* tank to a material that poses a greater hazard than that for which the tank was designed and constructed.<br>9. To manufacture, process, blend or refine flammable or *combustible liquids*.<br>10. To engage in the dispensing of liquid fuels into the fuel tanks of motor vehicles at commercial, industrial, governmental or manufacturing establishments in accordance with Section 5706.5.4 or to engage in on-demand mobile fueling operations in accordance with Section 5707.<br>11. To utilize a site for the dispensing of liquid fuels from tank vehicles into the fuel tanks of motor vehicles, marine craft and other special equipment at commercial, industrial, governmental or manufacturing establishments in accordance with Section 5706.5.4 or, where required by the *fire code official*, to utilize a site for on-demand mobile fueling operations in accordance with Section 5707.<br>12. To conduct pump-out of flammable and/or combustible liquid tanks.<br>13. To slurry fill an underground tank.<br>14. To abandon an underground or aboveground tank. |
| | **Reason:** This codifies the requirement for permit and inspection for the pumping out of contents. |
| 31. | 105.5.19 Floor finishing. An operational permit is required for floor finishing or surfacing operations exceeding 350 square feet (33 $m^2$) using Class I or Class II liquids.<br>Buildings under construction or renovation with a valid construction permit do not require a permit to conduct this activity. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Codifies that a permit is not required for finishing being conducted under a construction or renovation permit. |
| 32. | 105.5.22 Hazardous materials. An operational permit is required to store, transport on site, dispense, use or handle hazardous materials in excess of the amounts listed in Table 105.5.22. |

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| | **Reason:** Add reference to table |
| 33. | Table 105.5.22<br>FOOT NOTES:<br>a. 22 gallons where Table 5003.1.1(1) Note k applies and hazard identification signs in accordance with Section 5003.5 are provided for quantities of 22 gallons or less, where such materials are necessary for maintenance purposes, operation, or sanitation of equipment.<br>b. 220 pounds where Table 5003.1.1(1) Note k applies and hazard identification signs in accordance with Section 5003.5 are provided for quantities of 220 pounds or less where such materials are necessary for maintenance purposes, operation, or sanitation of equipment |
| | **Reason:** When chemicals are necessary for normal operations associated with specialized equipment quantities associated with that operation do not require additional permitting. |
| 34. | 105.5.25 Hot work operations. An operational permit is required for hot work including, but not limited to:<br>1. Public exhibitions and demonstrations where hot work is conducted.<br>2. Use of portable hot work equipment inside a structure.<br>Exception: Work that is conducted under a construction permit, or work conducted at one- and two-family dwellings.<br>3. Fixed-site hot work equipment, such as welding booths.<br>4. Hot work conducted within a wildfire risk area.<br>5. Application of roof coverings with the use of an open-flame device.<br>6. Where *approved*, the *fire code official* shall issue a permit to carry out a hot work program. This program allows *approved* personnel to regulate their facility's hot work operations. The *approved* personnel shall be trained in the fire safety aspects denoted in this chapter and shall be responsible for issuing permits requiring compliance with the requirements found in Chapter 35. These permits shall be issued only to their employees or hot work operations under their supervision. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Residential operations are not covered under the fire code. |
| 35. | 105.5.28 Liquid-fueled, gas-fueled or electric vehicles or equipment in buildings. An operational permit is required to display, operate or demonstrate liquid-fueled, gas-fueled or electric vehicles or equipment in buildings. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Added to address new technology not addressed by the base code. |
| 36. | 105.5.30 LP-gas. An operational permit is required for:<br>1. Storage and use of LP-gas.<br>Exceptions:<br>1. A permit is not required for individual containers with a 500-gallon (1893 L) water capacity or less or multiple container systems having an aggregate quantity not exceeding 500 gallons (1893 L).<br>2. Containers serving occupancies in Group R-3. |

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| | 3. Vapor service less than 2,000 gallons (7570 L) water capacity.<br>4. Operation of cargo tankers that transport LP-gas.<br>5. Flare off. |
| | **Reason:** This codifies the requirement for permit and inspection for the pumping out of contents. |
| 37. | 105.5.36 Open burning or bonfire. An operational permit is required for the kindling or maintaining of an open fire or a fire on any public street, alley, road, or other public or private ground. Instructions and stipulations of the permit shall be adhered to.<br>Exception: *Recreational fires*. |
| | **Reason:** Modified to include bonfire requirement for operational permit. |
| 38. | 105.5.38 Open flames and candles or flame performers. An operational permit is required to use open flames or candles in connection with fire performers, assembly areas, dining areas of restaurants or drinking establishments. |
| | **Reason:** Permit added to address life safety issues that were not being considered. |
| 39. | 105.5.40 Outdoor assembly event. An operational permit is required to conduct an *outdoor assembly event* where planned attendance exceeds 1000 persons or confining 50 or more persons by temporary installation of fencing or barrier. |
| | **Reason:** Alter the text to align with the code's definition of an outdoor assembly. Change from "confined area" to "by temporary installation of fencing." |
| 40. | 105.5.50 Storage of used, scrap tires and tire byproducts. An operational permit is required to establish, conduct or maintain storage of used or scrap tires and tire byproducts that exceed 2,500 cubic feet (71 $m^3$) of total volume of scrap tires, and for indoor storage of tires and tire byproducts. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>City Council request due to loss history.<br>**Reason:** Added clarity to section |
| 41. | 105.5.53 Waste handling and recycling operations. An operational permit is required for the operation of wrecking yards, junk yards, waste material-handling facilities and recycling operations. An additional assessment fee shall be charged in accordance with Chapter 28. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). [105.6.26]<br>**Reason:** Loss history at recycling operations where combustible loading is equivalent to waste handling facilities. |
| 42. | 105.5.58 City of Phoenix permits. The *fire code official* is authorized to issue operational permits for work as set forth in Sections 105.6.51.1 through 105.6.51.19. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** These facilities operate in other occupancies. |
| 43. | 105.5.58.1 Agro-industrial and solid biomass facilities. An operational permit is required to store agro-industrial products, chips, hogged material, lumber or plywood in excess of 2,500 cubic feet (71$m^3$). An additional assessment fee shall be charged in accordance with Chapter 28. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Groups Phoenix only permits in one section as to not alter base code numbering. |

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| 44. | 105.5.58.2 Ammunition. An operating permit is required for manufacturing or reloading any amount of small arms ammunition for resale, or to manufacture or reload any amount of military, specialty or custom ammunition.<br>Exception: Storage in Group R-3 occupancies of smokeless propellant, black powder and small arms primers for personal use, not for resale and in accordance with Section 5606. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** These facilities operate in other occupancies. |
| 45. | 105.5.58.3 Assisted living facilities. An operational permit is required to operate an assisted living facility. This includes assisted living homes R-3 (1–5 beds), R-4 (6–10 beds), assisted living centers (11 or more beds), supervisory care and adult foster care. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Groups Phoenix only permits in one section as to not alter base code numbering. |
| 46. | 105.5.58.4 Behavioral healthcare facility. An operational permit is required to operate a behavioral healthcare facility. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Groups Phoenix only permits in one section as to not alter base code numbering. |
| 47. | 105.5.58.5 Carbon dioxide liquid systems. An operational permit is required to operate a carbon dioxide liquid system. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** These facilities operate in other occupancies. |
| 48. | 105.5.58.6 Commercial daycare facilities. An operational permit is required to operate a commercial daycare facility for children or adults. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Groups Phoenix only permits in one section as to not alter base code numbering. |
| 49. | 105.5.58.7 Correctional facilities. An operational permit is required to operate a correctional facility. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Groups Phoenix only permits in one section as to not alter base code numbering. |
| 50. | 105.5.58.8 Developmentally disabled group care homes. An operational permit is required to operate a developmentally disabled group home. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Groups Phoenix only permits in one section as to not alter base code numbering. |
| 51. | 105.5.58.9 Educational facility. An operational permit is required for public and private schools K through 12. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Restored. Rest of section renumbered accordingly. |
| 52. | 105.5.58.10 Emergency Responder Communication Enhancement Systems. An operational permit is required to operate Emergency Responder Communication Enhancement Systems. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Adding the operational permit for the ERCES system to section 105 is consistent with the structure of the code, rather than section 510.3.2 in the base IFC. |
| 53. | 105.5.58.11 Firefighter Breathing Air Replenishment System. An operational permit is required to operate Firefighter Breathing Air Replenishment System. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC). |

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| | **Reason:** The Firefighter breathing air replenishment systems should be added to bring forward requirements identified in L103.3. |
| 54. | 105.5.58.12 Fireworks, indoor retail sales. An operational permit is required to conduct retail sales of fireworks indoors. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Restored. Rest of section renumbered accordingly. |
| 55. | 105.5.58.13 Fireworks, outdoor retail sales. An operational permit is required to conduct retail sales of fireworks outdoors. |
| | **Reason:** Restored. Rest of section renumbered accordingly. |
| 56. | 105.5.58.14 Fireworks, wholesale sales. An operational permit is required for wholesale sale of consumer fireworks. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Groups Phoenix only permits in one section as to not alter base code numbering. |
| 57. | 105.5.58.15 Hospital and nursing homes. An operational permit is required to operate a hospital or nursing home. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Groups Phoenix only permits in one section as to not alter base code numbering. |
| 58. | 105.5.58.16 Indoor temporary place of assembly. An operational permit is required conduct a public assembly when the means of egress are altered. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Groups Phoenix only permits in one section as to not alter base code numbering. |
| 59. | 105.5.58.17 Junk yard, salvage and wrecking operations. An operating permit is required for the operation of wrecking yards, salvage, and junk yards. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Groups Phoenix only permits in one section as to not alter base code numbering. |
| 60. | 105.5.58.18 Juvenile group homes. An operational permit is required to operate a juvenile group home. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Groups Phoenix only permits in one section as to not alter base code numbering. |
| 61. | 105.5.58.19 Medical facilities. An operational permit is required to operate a State of Arizona Department of Health Services (DHS) Licensed patient treatment medical facility. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Add Arizona State DHS to define medical facilities requiring permits. Original intent of this permit was to inspect facilities that requested fire inspections due to their state licensed requirements from Arizona DHS. It was not intended to require all medical facilities to obtain an operational permit. |
| 62. | 105.5.58.20 Semiconductor facilities. An operational permit is required to operate a semiconductor facility that is not part of an HPM facility. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** HPM facilities can be semiconductor facilities, however not all semiconductor facilities are HPM facilities. |
| 63. | 105.6.51.21 Temporary indoor building use (TIBU). An operational permit is required conduct a public assembly event in a building not designed for assembly. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC). |

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| | **Reason:** Permit is issued where necessary for use of building not designated as A occupancy. |
| 64. | 105.6 Required construction permits. The *fire code official* is authorized to issue construction permits for work as set forth in Sections 105.6.1 through 105.6.26.13 |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Clarifies section reference for user. |
| 65. | 105.6.9 Flammable and combustible liquids. A construction permit is required:<br>1. To install, repair or modify a pipeline for the transportation of flammable or *combustible liquids*.<br>2. To install, construct or alter tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and *combustible liquids* are produced, processed, transported, stored, dispensed or used.<br>3. To install, alter, remove, abandon or otherwise dispose of a flammable or *combustible liquid* tank.<br>Exceptions:<br>1. To temporarily or permanently install a storage tank or above-ground storage tank or pressure vessel for Class I, II or III-A liquids of fewer than 125 gallons (473 L) outside a building, or 60 gallons (227 L) inside a building.<br>2. To temporarily or permanently install a storage tank or above-ground storage tank or pressure vessel of fewer than 1,000 gallons (3785 L) for Class III-B liquids.<br>3. To slurry fill an underground tank.<br>4. To neutralize the hazard and abandon an underground or above-ground tank. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC). #6<br>**Reason:** Added to accommodate bio-fuel.<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC). #4 & #5<br>**Reason:** Added to cover fuel dispensing operations where non-listed and inappropriate tanks were installed.<br>**Reason:** Temporary tanks added due to loss history.<br>Phoenix does not issue construction permits for temporary tanks. |
| 66. | 105.6.13 Hazardous materials. A construction permit is required to install, repair damage to, abandon, remove, place temporarily out of service, or close or substantially modify a storage facility, hazardous materials storage tank, gas cabinet, exhausted enclosure, gas room or chemical drainage and containment area or other area regulated by Chapter 50 where the hazardous materials in use or storage exceed the amounts listed in Table 105.5.22.<br>Exceptions:<br>1. Routine maintenance.<br>2. For repair work performed on an emergency basis, application for permit shall be made within two working days of commencement of work.<br>Prior to the installation or modification of piping, systems, or tanks containing *hazardous materials* or the installation or modification of hazardous materials storage rooms, gas cabinets, exhausted enclosures, gas rooms or chemical drainage and containment areas, plans shall be submitted to the *fire code official* for approval. A Registered Design Professional shall seal and sign the construction documents. |

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| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Ensures plan review by a qualified inspector before installation. |
| 67. | 105.6.16 LP-gas. A construction permit is required for installation, alteration or modification of an LP-gas system including:<br>1. LP-gas containers with an aggregate water capacity of 125 gallons (473 L) or more used exclusively for vapor service.<br>2. Racks storing 20-pound cylinders for the purpose of conducting an LP-gas exchange program at a specific site.<br>3. LP-gas containers used for liquid transfer service.<br>4. Individual containers less than 125-gallon (473 L) water capacity serving occupancies in Group R-3, exclusively for vapor service. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), item #4 added at industry request.<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added due to loss history and increased installation of exchange cabinets. |
| 68. | 105.6.20 Smoke control or smoke exhaust systems. Construction permits are required for installation of or alteration to smoke control, smoke removal, smoke and heat vents or smoke exhaust systems. Maintenance performed in accordance with this code is not considered to be an alteration and does not require a permit. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** Added to allow for evaluation, permitting and inspection. This hybrid system not adequately covered by the Mechanical code. |
| 69. | 105.6.26 City of Phoenix required permits. The *fire code official* is authorized to issue construction permits for work as set forth in Sections 105.6.26.1 through 105.6.26.13. |
| | **Reason:** Specifies the City of Phoenix only permits |
| 70. | 105.6.26.1 Access, site. A construction permit is required to install or modify premises identification review, fire lanes, identification of fire protection equipment, key boxes, stairwell identification, photoluminescent installation and pedestrian gates. |
| | **Reason:** Phoenix specific permit for access to a construction site for the fire department vehicle. |
| 71. | 105.6.26.1.1 Address directories. A construction permit is required to install or modify *address directories*. |
| | **Reason:** Phoenix specific permit for address identification requirements in multi-family complexes. |
| 72. | 105.6.26.1.2 Alternate surface access roads. A construction permit is required to install or modify alternative surface *fire apparatus access roads*. |
| | **Reason:** Phoenix specific permit for use of an alternative surface when constructing an access road. |
| 73. | 105.6.26.2 Access and special egress control devices. A construction plan review and permit are required for strike card access and magnetic lock devices. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC). |

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| | **Reason:** Phoenix specific permit for connecting egress control devices to the fire alarm system. |
| 74. | 105.6.26.3 Blasting operations. A construction permit is required to conduct blasting operations using explosives |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Phoenix specific permit for blasting operations conducted within city limits. |
| 75. | 105.6.26.4 Carbon dioxide compressed gas systems, liquefied. A construction permit is required to install or modify a liquefied carbon dioxide compressed gas system (beverage dispensing, etc.). |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Phoenix specific permit for beverage dispensing systems liquid. |
| 76. | 105.6.26.5 Carbon dioxide compressed gas systems, high pressure. A construction permit is required to install or modify a high-pressure carbon dioxide compressed gas system (beverage dispensing, etc.). |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Phoenix specific permit for compressed gas systems. |
| 77. | 105.6.26.6 Combustible dust or fiber collection system. A construction permit is required to install, modify or alter a dust or fiber collection system for combustible dust- or fiber-producing operations. |
| | **Reason:** Phoenix specific permit for combustible dust safety systems. |
| 78. | 105.6.26.7 Fire apparatus access roads. A construction permit is required to install or modify *fire apparatus access roads*. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Phoenix specific permit for fire department access road construction |
| 79. | 105.6.26.8 Firefighter breathing air system. A construction permit is required for installation or modification of a firefighter breathing air system. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Phoenix specific permit for breathing air systems installed in high-rise buildings. |
| 80. | ◆105.6.26.9 Fire protection system removal permits. A removal permit allows the applicant to remove systems or equipment. The fire department shall be notified when any system is to be removed. Removal permits shall only be issued to current qualified contractors. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Provides tracking of installation locations. Explanatory policy |
| 81. | 105.6.26.10 Fire lines. A construction permit is required for the installation or modification of fire lines that serve *fire protection systems*, fire hydrants, or any combination thereof. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Remove the word "hydrants." Hydrant construction permits are covered in code in section105.7.19. This section was intended to be specific to fire lines only. |
| 82. | 105.6.26.10.1 Stub-outs and water supply. Stub-outs, which are installed and tested as part of the underground fire line, are included in the fire protection system lead-in charge. Where permitted separately from the building's underground fire line, a separate over-the-counter permit is required for each stub-out. Stub-outs shall not extend more than 10 feet (3048 mm) from outside the building to 6 inches (152 mm) above the finished floor and shall not contain more than one 90-degree bend. |
| | **Reason:** Phoenix specific permit for fire sprinkler system riser connections to onsite fire lines, often installed by separate contractor from the installing contractor for the fire sprinkler system. |

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| 83. | 105.6.26.13 Water tank. A construction permit is required to install, alter or modify a static water tank. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Phoenix specific permit for water tanks installed in Phoenix to support fire sprinkler system water supply. |
| 84. | ◆105.7 Business certificate to conduct business. The *fire code official* shall issue a business certificate to conduct business to qualified contractors that install, modify, alter, add to, test, repair, provide required inspections or service any life safety system including *fire alarm system*, sprinkler system, standpipe system, fire main, fire pump or any other fire-extinguishing or gas or detection system, device or appliance. Fire protection system construction permits shall only be issued to current business certificate holders. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Phoenix specific permit for qualified parties installing life safety systems within city limits. Tied to an explanatory policy which provides further guidance to applicants. Explanatory policy. |
| 85. | 105.7.1 Qualified contractors. The following conditions shall be met to become a business-certificate-qualified-contractor:<br>1. A current Arizona Registrar of Contractors license.<br>2. State of Arizona privilege tax license.<br>3. The qualified contractor shall be employed by the company to which the permit is issued. Employment verification may be required.<br>4. The qualified contractor applicant knows and understands the requirements of applicable standards and the code requirements appropriate for the business certificate being issued. This knowledge and understanding shall be determined by one of the following methods:<br>4.1. The *fire code official* may accept a National Institute of Certifying Engineering Technicians (NICET) Level 3 or 4 certification in lieu of an examination by a recognized testing agency in the following fire protection equipment categories: automatic sprinkler systems; underground fire mains and hydrants; fire alarm systems; and special extinguishing systems, all fire extinguishing systems (i.e., kitchen hoods).<br>4.2. The contractor applicant shall submit and maintain proof to the *fire code official* that his or her NICET certification is current in the proper fire protection equipment field for which they are applying.<br>The maintenance of the NICET certification shall be a condition of the business-certificate-qualified contractor. Failure to maintain the required certification shall void business-certificate-qualified contractor status.<br>4.3. The *fire code official* may accept a valid Arizona Board-certified professional engineer. Required certificates must be maintained for the permit to be valid for qualified contractor status.<br>4.4. The *fire code official* may accept a successful completion of an exam by a recognized testing agency. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Added to ensure a minimum professional standard be met that is not covered by AROC. Has been in code since 1975. |

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| 86. | 105.7.2 Responsibilities. The business-certificate-qualified contractor shall be responsible for:<br>1. Ensuring that all installations, modifications, maintenance and testing performed by the company comply with the applicable codes and standards.<br>2. Ensuring that the plans submitted for a permit meet minimum requirements of the codes and standards that apply.<br>3. Ensuring that the installation is done correctly and completely.<br>4. Ensuring that permits are inspected and green tagged by the Phoenix Fire Department.<br>5. Notifying Fire Prevention when an employee designated as a competent party is no longer employed by the company.<br>6. Ensuring that all work is done or supervised by the appropriate competent party.<br>7. Notifying Fire Prevention in writing of any address change within 10 calendar days after such change. Failure of the individual to give such notification of a change of address is grounds for revocation of business certificate.<br>8. Upon request, producing and showing proper identification and the business certificate to anyone for whom that individual seeks to render services or to the *fire code official*.<br>Facility self-inspection. Testing, repairing, or servicing of fire protection equipment, devices or appliances may be conducted by facility employees or employees of the qualified contractor, both of whom are required to have valid qualifications. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Added to ensure a minimum professional standard be met that is not covered by AROC. Has been in code since 1975. |
| 87. | 105.7.3 Business certificate renewal. Business certificates shall be renewed every 3 years from the date of issuance. When a certificate has expired, all work shall stop until updated qualifications have been submitted to Fire Prevention and a new certificate issued. Renewal shall take place prior to expiration.<br>Where a business certificate has expired, applications for renewal shall be filed in the same manner as a new application for a qualified contractor. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Added to ensure a minimum professional standard be met that is not covered by AROC. Has been in code since 1975. |
| 88. | 105.7.4 Suspending a qualified contractor business certificate. The following conditions may result in the suspension of a qualified contractor permit or certificate:<br>1. A single instance of performing work or an activity without a permit within a two-year period.<br>2. Three or more documented instances in a two-year period of two or more significant code violations at one construction project, or the completion or covering of work without inspections.<br>3. Failure to submit inspection deficiency reports.<br>This list of conditions is not all-inclusive. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Added to ensure a minimum professional standard be met that is not covered by AROC. Has been in code since 1975. |
| 89. | 105.7.5 Revocation of a business certificate. The *fire code official* may revoke business-certificate-qualified contractor status for due cause including: |

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| | 1. Three or more instances of performing work or an activity without a permit within a two-year period.<br>2. The performance of any fraudulent installation including but not limited to installation of sprinklers without connection to a piping system or installation of fire alarm devices without being connected to a fire alarm control panel.<br>3. Suspended or revoked Arizona Registrar of Contractors license.<br>4. Failure to submit inspection reports.<br>This list of conditions is not all-inclusive. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Added to ensure a minimum professional standard be met that is not covered by AROC. Has been in code since 1975. |
| 90. | 105.7.5.1.1 Suspension or revocation procedures. No suspension or revocation of a permit or certificate is lawful unless, prior to the action, the fire department provides the individual or business with notice and an opportunity for a hearing in accordance with this section. If the fire department finds that the public health, safety or welfare requires emergency action and incorporates a finding to that effect in its order, summary suspension of a permit or certificate may be ordered pending proceedings for revocation or other action. These proceedings shall be promptly instituted and determined. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Added to ensure a minimum professional standard be met that is not covered by AROC. Has been in code since 1975. |
| 91. | 105.7.5.1.2 Serving notice for hearing. All parties shall be afforded an opportunity for a hearing after reasonable notice. Unless otherwise provided by law, the notice shall be given at least 15 business days prior to the date set for the hearing. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Added to ensure a minimum professional standard be met that is not covered by AROC. Has been in code since 1975. |
| 92. | 105.7.5.1.2.1 Evidence and arguments. Opportunity shall be afforded all parties to respond and present evidence and argument on all issues involved. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Added to ensure a minimum professional standard be met that is not covered by AROC. Has been in code since 1975. |
| 93. | 105.7.5.1.2.2 Informal depositions. Unless precluded by law, informal depositions may be made of any contested case by stipulation, agreed settlement, or default. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Added to ensure a minimum professional standard be met that is not covered by AROC. Has been in code since 1975. |
| 94. | 105.7.5.1.2.3 Notification. Suspension or revocation shall be effective when the certificate holder is notified by the *fire code official*. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Added to ensure a minimum professional standard be met that is not covered by AROC. Has been in code since 1975. |
| 95. | 105.8 Competent party. A competent party shall possess a valid certificate issued by an approved governmental agency, or other *approved* organization for the type of system and work performed, and remain on site during installation, modifications, maintenance and testing performed on *fire protection systems*. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC). |

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| | **Reason:** Competent party added to ensure minimum professional standards for designers and installers not covered by AROC. Per NFPA 13 & 72 requiring qualifications acceptable to the AHJ. |
| 96. | 105.8.1 Qualifications. The following conditions shall be met to become a competent party:<br>1. The competent party shall be employed by, or under contract with, a company that is a qualified contractor. Verification may be required.<br>2. The competent party shall be knowledgeable with and comply with the applicable standards and the code requirements for the permit(s) issued.<br>This knowledge and understanding shall be determined by one of the following methods:<br>2.1. Successfully passing an examination provided by a recognized testing agency in the category for which the competent party is performing the work.<br>2.2. *Fire code official* acceptance of a current Arizona Registered Engineer or National Institute of Certifying Engineering Technicians (NICET) Level 2 or 1 certification or higher in lieu of the required examination in the following fire protection equipment categories: water-based system layouts, fire alarm systems, and special extinguishing systems.<br>2.2.1. The applicant shall submit and maintain proof to the *fire code official* that his or her NICET certification is current, in the proper fire protection equipment category and at the appropriate level within that category.<br>2.2.2. When the *fire code official* accepts NICET certification in lieu of the required written exam, the maintenance of the NICET certification shall remain current for the certificate to remain valid.<br>2.3. Factory training and certification in accordance with NFPA 72 for fire alarm installation.<br>2.4 Current trade certification for sprinkler installation and design.<br>2.5 Other qualifications for design and installation acceptable to the *fire code official*. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Competent party added to ensure minimum professional standards for designers and installers not covered by AROC. Per NFPA 13 & 72 requiring qualifications acceptable to the AHJ. |
| 97. | 105.8.2 Maintenance. Failure to maintain the required certification shall void the competent party certificate. Competent party certificate holders may not use their certifications when expired. It is the responsibility of the individual to maintain their certifications. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Competent party added to ensure minimum professional standards for designers and installers not covered by AROC. Per NFPA 13 & 72 requiring qualifications acceptable to the AHJ. |
| 98. | 105.9 Certificates of fitness. A certificate of fitness is required by persons to apply for and obtain a permit for pyrotechnics and blasting operations. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Language brought in from 1997 UFC amendments, has been in code for appx 40 years. Fingerprints removed as it is redundant process already completed by a superseding agency (ATFE). |

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| 99. | 105.9.1 Qualifications. An applicant for any of the various certificates of fitness shall submit evidence attesting to his or her qualifications and experience as follows:<br>Pyrotechnic Outdoor Fireworks. Pyrotechnic operators shall be a minimum of 21 years of age. The applicant shall require 2 years of active training with a licensed outdoor fireworks pyrotechnic operator, and the applicant shall have participated in the setting up, loading, and firing of outdoor fireworks in not fewer than eight electric or manual outdoor fireworks displays.<br>Pyrotechnic Indoor Effects. Pyrotechnic operators shall be a minimum of 21 years of age and shall require 2 years of active work with a licensed indoor pyrotechnic operator. The applicant shall have participated in the setting up and loading of pyrotechnics in not fewer than eight electric indoor displays.<br>Blasters. Blasters shall be a minimum of 21 years of age and shall require a minimum of 2 years of experience in the conduct of blasting operations. Experience shall include the understanding of blasting designs, drilling of holes, loading of holes, decking, stemming, and wiring methods. Military experience in blasting does not qualify as blasting experience under the fire code. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Language brought in from 1997 UFC amendments, has been in code for appx 40 years. Fingerprints removed as it is redundant process already completed by a superseding agency (ATFE). |
| 100. | 105.9.2 Examinations. Every individual applying for a certificate of fitness to conduct pyrotechnic displays or to use explosive materials shall successfully pass a prescheduled written examination and oral interval approved by the *fire code official*. The minimum passing score is 80 percent. An applicant who does not pass the examination may reschedule to take the entire examination not fewer than 30 days from the date of the previous examination. An applicant who does not pass the examination on the second attempt shall not be allowed to retake the examination for a minimum of 30 days. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>**Reason:** Language brought in from 1997 UFC amendments, has been in code for appx 40 years. Fingerprints removed as it is redundant process already completed by a superseding agency (ATFE). |
| 101. | 105.9.3 Letters of recommendation. Applications shall be accompanied by a minimum of three letters of recommendation. The letters shall be written and signed by past or present pyrotechnic or blasting company owners or their authorized representatives. Each letter of recommendation shall document the following information:<br>1. The name and title of the person recommending the applicant.<br>2. The recommending person's employer name, address and telephone number.<br>3. The applicant's employment dates if applicable.<br>4. The applicant's job responsibilities associated with the use of explosive materials.<br>5. The applicant's qualifications, experience, integrity, *knowledge* and training in the use and handling of explosive materials. The *fire code official* may contact all references submitted with the application to confirm qualifications and experience, as well as compliance with state laws and regulations, and competency of the applicant to perform in a safe manner. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC). |

<table>
<tr><td></td><td>Reason: Language brought in from 1997 UFC amendments, has been in code for appx 40 years. Fingerprints removed as it is redundant process already completed by a superseding agency (ATFE).</td></tr>
<tr><td rowspan="2">102.</td><td>105.9.4 Background verification. Each applicant who applies to conduct pyrotechnic displays or use explosive materials shall have a cleared background verification conducted by the fire department or other enforcement agency and shall provide and maintain a valid ATF license.</td></tr>
<tr><td>Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>Reason: Language brought in from 1997 UFC amendments, has been in code for appx 40 years. Fingerprints removed as it is redundant process already completed by a superseding agency (ATFE).</td></tr>
<tr><td rowspan="2">103.</td><td>105.9.6 Expiration. Certificates of fitness shall expire 3 years from the date of issuance. When a certificate has expired, revoked or suspended all work authorized by that certificate shall stop until the certificate is reinstated or a new certificate is obtained.</td></tr>
<tr><td>Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>Reason: Phoenix specific requirement for expiration timeframes for those working with fireworks and pyrotechnics.</td></tr>
<tr><td rowspan="2">104.</td><td>105.9.7 Suspension or revocation The following conditions may result in the suspension of a certificate of fitness:<br><br>1. Two instances of performing work or an activity without a permit within a two-year period.<br><br>2. Three or more documented instances in a two-year period of two or more significant code violations at one construction project, or the completion or covering of work without inspections.<br><br>3. Failure to maintain the required ATF license.<br>This list of conditions is not all-inclusive.</td></tr>
<tr><td>Reason: Phoenix specific requirement for suspension or revocation for pyrotechnic or blasting certificate of fitness based on the criteria listed within the section in an effort to enhance public safety.</td></tr>
<tr><td>105.</td><td>106.2.1 Information on construction documents. Construction documents shall be drawn to scale on suitable material. Electronic media documents are allowed to be submitted where approved by the fire code official. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations as determined by the fire code official.<br>Two sets of accurate and legible construction documents shall be submitted to the fire code official for approval, in the following scale:<br><br>
<table>
<tr><td>Site Plans</td><td>1 inch = 50 feet</td></tr>
<tr><td>Fire Protection Systems</td><td>⅛ inch = 1 foot</td></tr>
</table>
<br>Other scales may be used with prior approval from the fire code official. Electronic submittals require a bar graph scale on each page.<br>Where the scope of work is by definition, engineering practice, the plans shall be sealed by a licensed Arizona Engineer professional.</td></tr>
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| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Establishes minimum scale for shop drawings for consistent review and record keeping. New to 2024, includes the requirement for plan submittals that meet the definition of engineering practice to be sealed by a licensed Arizona Engineer professional. This was added to ensure scopes of work that deal with the life, health and safety of the public are reviewed by a licensed professional. |
| 106. | ◆ 106.2.2.1 Life Safety Report. A Life Safety Report, providing a description of the fire protection in the building, shall be prepared by a Registered Design Professional prior to submitting construction drawings for: high-rise buildings; covered mall buildings; buildings containing atriums, storage height over 40 feet (12 192 mm) or Group F and S occupancies over 500,000 square feet (464 512 m2); and other structures as determined by the fire code or building official. This description shall include the basic concepts used for suppression, alarm, notification, egress, fire resistive assemblies, smoke control, and other related systems, as well as the coordination of those systems. Additional fire protection and/or life safety systems including hose connections may be required by the fire code official. Upon completion of the project, a copy of the approved documentation shall be maintained for the life of the building, and shall include any changes and modifications related to the contents of the report, at the site and with the Fire Department. |
| | Adopted by Ordinance G-6601 July 11, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** ✦ Policy is created to ensure complete and consistent reports which are required to ensure the coordination of interactive life safety systems at these types of high risk facilities. |
| 107. | ~~108.3 Permit valuations. The applicant for a permit shall provide an estimated value of the work for which the permit is being issued at the time of application. Such estimated valuations shall include the total value of work, including materials and labor, for which the permit is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems. Where, in the opinion of the fire code official, the valuation is underestimated, the permit shall be denied unless the applicant can show detailed estimates acceptable to the fire code official. The fire code official shall have the authority to adjust the final valuation for permit fees.~~ |
| | **Reason:** Permit valuations are not used by Phoenix Fire Department, see fee schedule. |
| 108. | 108.2 Schedule of fees.<br>A fee for fire prevention activities shall be paid as required, in accordance with the schedule as established by the applicable governing authority. |
| | **Reason:** Specifies fire prevention activities fee requirements are guided by the published schedule. |
| 109. | 108.5.1 Permit related fees. The *fire code official* is authorized to assess fees for expedited plan review, expedited operational and new construction inspections, operational and new construction reinspections and standby personnel. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC). |

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| | Adopted by Ordinance G-5193 August 1, 2008 (2006 IFC amendment package)<br>**Reason:** Added at customer request. (expedited operational permits)<br>Adopted by Ordinance G-4834 November 1, 2006 (2003 amendment package). [4603.2]<br>**Reason:** Codifies re-inspection fees.<br>Adopted by Ordinance G-5898 April 18, 2014 – (2012 IFC amendment).<br>**Reason:** Added as billing mechanism for additional staff at special events. (standby) |
| 110. | 108.7 Fire-fighting operations. If it is discovered that a fire is the result of a code violation, fees may be assessed to cover fire-fighting operations. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** Means of cost recovery for Operations that are outside normal loss expectancy due to negligence. |
| 111. | 108.8 Fire-fighting on county islands. Fees may be assessed to cover fire-fighting operations that occur on county islands. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Per City Council and operations to cover mutual aid calls |
| 112. | 108.9 Assessment fees. The *fire code official* is authorized to assess fees annually for: agro-industrial or solid biomass facilities and pallet yards when material quantities meet those listed in the Fire Prevention Fee Schedule Agro-Industrial, Solid Biomass, and Pallet Fee Assessment Table.<br>The *fire code official* is authorized to assess fees annually for: hazardous materials or substances when quantities reach reportable quantities in accordance with the Fire Prevention Fee Schedule Hazardous Materials Assessment Classification Table.<br>Exceptions: The following hazardous materials, occupancies or uses are exempt from the annual assessment fee. Exemption from the assessment fee does not waive any of the applicable requirements contained or adopted in this code:<br>1. Tanks used as part of a hazardous waste treatment system are exempt from this requirement.<br>2. Radioactive materials regulated in accordance with A.R.S. Title 30, Chapter 4.<br>3. Fire-extinguishing systems.<br>4. Any material used or stored for noncommercial purposes at single-family residences.<br>5. Any material contained in a transportation vehicle when the vehicle is not being used for permanent storage.<br>6. Small quantity and large quantity hazardous waste generators that follow all applicable regulations in C.F.R Part 262 and Arizona Administrative Code R-18-8-262.<br>7. Underground storage tanks containing flammable or combustible liquids.<br>8. Underground storage containers containing flammable or combustible liquids.<br>9. Underground storage containers containing liquefied petroleum gases.<br>10. LP-gas cylinder exchange cabinets. |
| | **Reason:** This "assessment fees" section contained two separate types of assessment fees. One for outdoor combustibles facilities (agro, biomass, and pallet yards) and the other for hazardous materials. Unfortunately, as the code was printed, it combined them into one paragraph and resulted in confusion for our customers as to the specific types of activities and their fees. This clerical change separates them into their two categories. |

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| | The code also referenced the old fee schedule that was part of the fire code as Chapter 81 prior to 2021. In 2021 Council action removed this fee schedule from the fire code and created a stand alone fee schedule document with the same assessment fees included. The third change is in reference to facilities with more than 250,000 sq ft; which was a duplicate statement to section 106.10. Its removal clarifies and reduces possible customer confusion on requirements. |
| 113. | 108.10 Area assessment fees. Facilities more than 250,000 square feet (23 225 $m^2$), shall be assessed an additional fee calculated on the total area of the developed site. The assessment fee shall be calculated in intervals of 250,000 square feet (23 225 $m^2$) in accordance with the fee schedule. For those facilities being assessed hazardous material fees, area fees will be based on the fee group in accordance with the Fire Prevention Fee Schedule Area Assessment Fee Table. |
| | **Reason:** Add "developed" text to the calculation utilized for fees. It was intended to only charge a fee based on the area the facility uses, not undeveloped land on said property. Secondly, the old reference to chapter 81 (8106.3) fees is removed to reflect the current fire prevention fee schedule table location. |
| 114. | 109.2 Inspections. The *fire code official* is authorized to conduct such inspections as are deemed necessary to determine the extent of compliance with the provisions of this code and to approve reports of inspection by *approved* agencies or individuals. Reports of such inspections shall be prepared and submitted in writing for review and approval. Inspection reports shall be certified by a responsible officer of such *approved* agency or by the responsible individual. The *fire code official* is authorized to engage such expert opinion as deemed necessary to report on unusual, detailed or complex technical issues subject to the approval of the governing body.<br>The *fire code official* is authorized to conduct a general inspection fee-for-service program for inspections that are voluntary or not required by the fire code. A fire inspection report will be issued noting compliance with the fire code or noting any issues to be addressed. Reinspections will continue until all compliance issues are resolved. Reinspection fees shall apply. |
| | **Reason:** Allows fee for service in the form of non-required inspections. |
| 115. | 109.5 Annual Facilities Program. The *fire code official* may authorize fire department participation in the Annual Facilities Program. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC). [106.11]<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). [106.7]<br>**Reason:** Authorizes the Fire Prevention Division to utilize the AFP program. |
| 116. | ◆110.3 Recordkeeping. A record of periodic inspections, tests, servicing and other operations and maintenance shall be maintained on the premises or other approved location for not less than 3 years, or a different period of time where specified in this code or referenced standards. Records shall be made available for inspection by the fire code official, and a copy of the records shall be provided to the fire code official ~~on request~~. ~~The fire code official is authorized to prescribe the form and format of such recordkeeping~~. A copy of the inspection report shall be submitted through the online reporting system within 30 days of the inspection completion regardless of the compliant or non-compliant inspection results. Additionally, correction reports shall be submitted through the online reporting system within 30 days of correction completion. The fire code official is authorized to require that certain required records be filed with the fire code official. |

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| | **Reason:** New to 2024, clarifies the reporting requirement and method of uploading ITM reports through The Compliance Engine. See Explanatory Policy. |
| 117. | 112.5 Appeal to the Fire Marshal. An appeal shall be submitted to the Fire Marshal in writing. |
| | Adopted by Ordinance G-4777 July 19, 2019<br>**Reason:** The Phoenix Fire Code does not regulate or have authority over the procedures of filling timelines of the Arizona Superior court. |
| 118. | 113.3 Notice of violation. Where the *fire code official* finds a building, premises, vehicle, storage facility or outdoor area that is in violation of this code, the *fire code official* is authorized to prepare a written notice of violation describing the conditions deemed in violation. Nothing herein shall require the issuance of a notice of violation prior to commencement of emergency abatement, the issuance of a citation or civil or criminal violation proceedings. |
| | **Reason:** In conjunction with the Fire Department's Legal Council and the City of Phoenix Prosecutors, this section has been modified to more accurately reflect procedures and actions set forth by the Fire Code, Municipal Codes, and Court procedures and rules. |
| 119. | 113.3.1 Service of notice of violation. A notice of violation issued pursuant to this code shall be served on the *owner*, the owner's authorized agent, operator, occupant or other person responsible for the condition or violation, either by personal service, mail, e-mail or by delivering the same to, and leaving it with, some person of responsibility on the premises. For unattended or abandoned locations, a copy of such notice of violation may be posted on the premises in a conspicuous place at or near the entrance to such premises further served in accordance with this section. |
| | **Reason:** In conjunction with the Fire Department's Legal Council and the City of Phoenix Prosecutors, this section has been modified to provide more clarity and more accurately reflect procedures and actions set forth by the Fire Code, Municipal Codes, and Court procedures and rules. |
| 120. | 113.3.5 Service of civil citation. A civil citation issued pursuant to this code shall be served on the owner, the owner's authorized agent, operator, occupant or other person responsible for the condition or violation, either by personal service, mail, or by delivering the same to, and leaving it with, some person of responsibility on the premises. For unattended or abandoned locations, a copy of civil citation shall be posted on the premises in a conspicuous place at or near the entrance to such premises and the civil citation shall be mailed by certified mail or registered mail, with return receipt requested. Service of civil citations may also be accomplished as provided under rule 2.3 of the Local Rules of Practice and Procedure for the City of Phoenix Municipal Court. |
| | **Reason:** In conjunction with the Fire Department's Legal Council and the City of Phoenix Prosecutors, this section has been modified to provide more clarity and more accurately reflect procedures and actions set forth by the Fire Code, Municipal Codes, and Court procedures and rules. |
| 121. | 113.3.2 Compliance with orders and notices. A building, premises or thing shall not be used when in violation of this code as noted on a tag order or notice in accordance with Section 104.5. A notice of violation issued or served as provided by this code shall be complied with by the *owner*, the *owner's authorized agent*, operator, occupant or other person responsible for the condition or violation to which the notice of violation pertains. In case of extreme danger to persons or property, immediate compliance is required. |
| | **Reason:** In conjunction with the Fire Department's Legal Council and the City of Phoenix Prosecutors, this section has been modified to provide more clarity and more accurately |

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| | reflect procedures and actions set forth by the Fire Code, Municipal Codes, and Court procedures and rules. |
| 122. | 113.3.5 Cumulative proceedings and remedies. If violations are not promptly remedied, the *fire code official* is authorized to request the legal counsel of the jurisdiction to institute the appropriate legal proceedings at law or in equity to restrain, correct or abate such violation or to require removal or termination of the unlawful occupancy of the structure in violation of the provisions of this code or of the order or direction made pursuant hereto. The proceedings and remedies are cumulative and the City may proceed to seek one or more such remedies. |
| | **Reason:** In conjunction with the Fire Department's Legal Council and the City of Phoenix Prosecutors, this section has been modified to provide more clarity and more accurately reflect procedures and actions set forth by the Fire Code, Municipal Codes, and Court procedures and rules. |
| 123. | 113.3.6 Civil violations. Any person, firm or corporation who causes, permits, facilitates, aids or abets any violation of this code, or who fails to perform any act or duty required by this code, is subject to a civil sanction of not less than $500 nor more than $2,500. Each day that a violation continues may be deemed a separate violation. |
| | **Reason:** In conjunction with the Fire Department's Legal Council and the City of Phoenix Prosecutors, this section has been modified to provide more clarity and more accurately reflect procedures and actions set forth by the Fire Code, Municipal Codes, and Court procedures and rules. |
| 124. | 113.3.7 Criminal violations. Any person, firm or corporation who causes, permits, facilitates, aids or abets any violation of this code, or who fails to perform any act or duty required by this code, shall be guilty of a Class 1 misdemeanor. Each day that a violation continues may be deemed a separate violation. |
| | **Reason:** In conjunction with the Fire Department's Legal Council and the City of Phoenix Prosecutors, this section has been modified to provide more clarity and more accurately reflect procedures and actions set forth by the Fire Code, Municipal Codes, and Court procedures and rules. |
| 125. | 113.4.2 Abatement orders. The Municipal Court of the City of Phoenix shall have jurisdiction to issue orders to the property owner of record, as recorded in the Maricopa County Recorder's Office, to abate unsafe conditions or any other violation of this Code, or to issue orders permitting the City of Phoenix to abate unsafe conditions as defined in this Code. Abatement orders may be issued by the Municipal Court pursuant to a request from the *fire code official*, or may be initiated by the Court in addition to any civil sanction or criminal penalty assessed for violations of this Code. |
| | **Reason:** In conjunction with the Fire Department's Legal Council and the City of Phoenix Prosecutors, this section has been modified to provide more clarity and more accurately reflect procedures and actions set forth by the Fire Code, Municipal Codes, and Court procedures and rules. |
| 126. | 114.4 Failure to comply. Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to a civil sanction of not less than $500 nor more than $2,500 or a Class 1 criminal misdemeanor. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** COP clarification, adding specific amounts added to IFC base code in 2003, but not adopted until 2013 code. |

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| 127. | 115.1 General. If during the inspection of a premises, a building or structure, or any building system, in whole or in part, constitutes a clear and imminent threat to human life, safety or health, the *fire code official* shall issue such notice or orders to remove or remedy the conditions as shall be deemed necessary in accordance with this section, and shall refer the building to the building department for any repairs, *alterations*, remodeling, removing or demolition required. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Provides clarity. |
| 128. | 115.1.1 Unsafe conditions. Structures, yards, or any building system, in whole or in part or existing equipment that are or hereafter become unsafe or deficient because of inadequate *means of egress*, that constitute a fire hazard, are otherwise dangerous to human life or the public welfare, or involve illegal or improper occupancy or inadequate maintenance, shall be deemed an unsafe condition. A vacant structure that is not secured against unauthorized entry as required by Section 311 shall be deemed unsafe. |
| | **Reason:** Added to clarify jurisdiction over mulch and recycling yards. |
| 129. | 115.2 Evacuation. The *fire code official* or the fire department official in charge of an incident or inspection shall be authorized to order the immediate evacuation of any occupied building, site or facility deemed unsafe where such building has hazardous conditions that present imminent danger to building occupants. Persons so notified shall immediately leave the structure or premises and shall not enter or re-enter until authorized to do so by the *fire code official* or the fire department official in charge of the incident. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), add or inspection and site or facility.<br>**Reason:** Language added when Fire Prevention was challenged on having authority for an individual occupancy inside a building |
| 130. | 115.6 Restoration or abatement. The structure or equipment determined to be unsafe by the fire code official is permitted to be restored to a safe condition. The owner, the owner's authorized agent, operator or occupant of a structure, premises or equipment deemed unsafe by the fire code official shall abate or cause to be abated or corrected such unsafe conditions either by repair, rehabilitation, demolition or other approved corrective action. To the extent that repairs, alterations or additions are made or a change of occupancy occurs during the restoration of the structure, such repairs, alterations, additions or change of occupancy shall comply with the requirements of Section 105.1.5 and the International Existing Building Code. If the person, firm or corporation responsible for an unauthorized discharge is undetermined or unable to be contacted, then the property owner shall institute and complete all actions necessary to remedy the effects of such unauthorized discharge, whether sudden or gradual, at no cost to the jurisdiction.<br>Where deemed necessary by the *fire code official* and in the absence of the owner or responsible party, emergency measures may be taken to provide for security of property and its contents. The cost of such actions shall be borne by the property owner or other responsible party. Upon notification, the owner or responsible party may be required to provide for ongoing security of the property if deemed necessary by the *fire code official*. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** Pool abatement and coverage of imminent hazards prior to owner intervention. |
| 131. | 115.8 Emergency abatement. Where deemed necessary by the *fire code official*, emergency abatement measures shall be taken to provide for the public safety, security and rapid mitigation of hazards to property and contents. Where any resources, including |

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| | services, special equipment and materials, are required to abate the hazard(s), and the resources are not available on site, where required by the *fire code official* the owner or responsible party shall have, under written agreement with a resource provider, access to and use of resources sufficient to ensure rapid response and timely abatement. Resources may include, but are not limited to, material-handling equipment, water trucks, earth movers, qualified operators and any other equipment or personnel necessary to complete the abatement. The agreement(s) described herein are required and all current agreement(s) must be kept on site and provided to the *fire code official* immediately upon request. A copy of the service agreement(s) shall be submitted and kept on file with the operational fire permit application. The cost of procuring resources shall be borne by the property owner or responsible party. |
| | Adopted by Ordinance G-5898 April 18, 2014 – (2012 IFC amendment).<br>**Reason:** Mulch fire abatement requirements and addresses owner readiness at City Council request. |
| 132. | 115.9 Material-handling equipment. Material-handling equipment shall be available for moving mulch, dirt (soil or earth), wood chips, hogged material, wood fines, pallets or raw product during firefighting operations. All material-handling equipment located on site and required for either emergency abatement or abatement deemed necessary by a *fire code official* shall be kept in operable condition or replaced through the relevant agreement(s) described herein until repaired. |
| | Adopted by Ordinance G-5898 April 18, 2014 – (2012 IFC amendment).<br>**Reason:** Mulch fire abatement requirements and addresses owner readiness at City Council request. |
| 133. | 115.10 Security of property or premises. Upon notification, the owner or responsible party may be required to provide ongoing security of the property if deemed necessary by the *fire code official*. |
| | **Reason:** Specifies the owner or RP is responsible for providing security of a property where deemed necessary by the fire code official. |
| 134. | SECTION 116<br>CERTIFICATE OF INSURANCE<br>116.1 General. A valid certificate of insurance shall be filed with the *fire code official* when applying for a permit to conduct blasting, and pyrotechnics. |
| | **Reason:** Restored |
| 135. | SECTION 117<br>FIRE WATCH<br>117.1 Where required. *Fire watch* shall be provided as follows:<br>1. Where required by other sections of this code.<br>2. Where the *fire code official* deems a condition essential for public safety.<br>3. Where the fire officer determines that conditions may result in a rekindle. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC). [113.4]<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added to become an enforceable code item as required when fire life safety systems are unavailable. Provides guidelines for minimum qualifications and expectations. #9 added to coordinate with base code changes to Chapter 33 requiring fire watch on certain new construction sites. |

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| 136. | 117.1.1 Financial responsibility. The property owner, the tenant or the occupant in control of the premises shall be responsible for the cost of providing a *fire watch*. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC). [113.4]<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added to become an enforceable code item as required when fire life safety systems are unavailable. Provides guidelines for minimum qualifications and expectations. #9 added to coordinate with base code changes to Chapter 33 requiring fire watch on certain new construction sites. |
| 137. | 117.2 Qualifications. Personnel assigned to *fire watch* duties shall possess the following minimum qualifications:<br>1. Shall be at least 18 years of age.<br>2. Shall be able to speak, read and understand English.<br>3 Shall be capable of executing the duties and responsibilities as specified in Section 115.4.<br>4. Shall be capable of operating a mobile telephone or portable radio, or both.<br>5. Shall be capable of walking the assigned watch area. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC). [113.4]<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added to become an enforceable code item as required when fire life safety systems are unavailable. Provides guidelines for minimum qualifications and expectations. #9 added to coordinate with base code changes to Chapter 33 requiring fire watch on certain new construction sites. |
| 138. | 117.3 Number and hours. The *fire code official* shall specify the number of fire watch personnel required and the hours during which they must be present based on the conditions and size of the facility. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC). [113.4]<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added to become an enforceable code item as required when fire life safety systems are unavailable. Provides guidelines for minimum qualifications and expectations. #9 added to coordinate with base code changes to Chapter 33 requiring fire watch on certain new construction sites. |
| 139. | 117.4 Duties and responsibilities. Fire watch duties and responsibilities include, but are not limited to, the following:<br>1. Know the address of the facility being watched.<br>2. Be equipped with a mobile telephone that can be used to contact 9-1-1 or a portable radio that can be used to communicate with a constantly attended security/communications center.<br>3. Continuously make rounds and monitor all assigned areas.<br>4. Immediately report any sign of smoke, fire or other emergency to 9-1-1 or to the security/communications center.<br>5. Activate the *fire alarm system* where the building is equipped with such a system or notify those present to evacuate the building or area.<br>6. Assist with the evacuation of people present in the area. |

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| | 7. Keep a fire watch log that includes the following information:<br>7.1. Identifies the building or area by name and address that is under watch.<br>7.2. The date and time each round or tour is completed, plus comments on what was observed. Each entry shall contain the name and signature of the person conducting the watch.<br>Fire watch logs shall be immediately accessible for review by the *fire code official*. A copy of the fire watch log shall be submitted to the Phoenix Fire Department, Fire Prevention Division.<br>8. Continue the fire watch until permission has been received from the Phoenix Fire Department to terminate the fire watch activities.<br>9. The proper use of portable fire extinguishers.<br>Fire watch personnel shall not be assigned additional duties during their fire watch tour. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC). [113.4]<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added to become an enforceable code item as required when fire life safety systems are unavailable. Provides guidelines for minimum qualifications and expectations. #9 added to coordinate with base code changes to Chapter 33 requiring fire watch on certain new construction sites. |

| Chapter 2 Definitions | |
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| 140. | ADDRESS DIRECTORIES. Graphic displays of dwelling unit or business suite locations that are weather resistant, internally illuminated, and permanently mounted adjacent to the fire apparatus access road. |
| | Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Provides consistent outcomes to support fire operations. |
| 141. | ALTERNATIVE SURFACE ACCESS ROADS. Roads for fire department use that are required for fire department access and that are constructed with approved materials, other than pavement. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Provides consistent outcomes to support fire operations and allow design alternatives. |
| 142. | COMMON AREA. For the purposes of Americans with Disabilities Act (ADA) compliance for visual notification, a common area shall be a room, space, or element made available for the use of a restricted group of people (for example, occupants of a homeless shelter; the occupants of an office building, or the guests of such occupants). Common areas shall include restrooms, hallways, lobbies, meeting and conference rooms, classrooms, cafeterias, filing and photocopy rooms, employee break rooms, open office areas exceeding 300 square feet, examination and treatment rooms, and similar areas that are not used solely as employee work areas in accordance with the U.S. Access Board Technical Bulletin on Visual Alarms. Mechanical, electrical and telephone closets, janitor's closets, and similar non-occupiable spaces that are not common areas or assigned work areas are not required to have visual alarms. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Added for consistent outcomes for audio/visual compliance incorporating IFC, IBC and ADA requirements. |
| 143. | CONTROLLED ACCESS GATES. Automatic or manually operated gates or devices that are placed across a *fire apparatus access road* or access path. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Provides consistent outcomes to support fire operations. |

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| 144. | CROWD MANAGER. An individual designated to maintain safe conditions and assist with evacuations prior to and during a special event where crowds exceed 500 attendees. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Added to identify individuals with specific responsibility at large special events. |
| 145. | ENGINEERING PRACTICE. Professional service or work requiring engineering education, training and experience in applying engineering principles and interpreting engineering data to engineering activities that impact the health, safety and welfare of the public and the engineering design of buildings, structures, products, machines, processes and systems to the extent that the engineering education, training and experience requirements prescribed by sections ARS 32-122 and 32-122.01 are necessary to protect the health, safety and welfare of the public. |
| | **Reason:** New to 2024; This definition comes from the AZBTR and supports PFD's efforts to require PE stamps where necessary based on the definition of engineering practice. |
| 146. | FIRE CODE OFFICIAL. The fire chief or other designated authority charged with the administration and enforcement of the code, or a duly authorized representative. Within the City of Phoenix, the Fire Marshal is the designated fire code official. |
| | **Reason:** New to 2024; Added language to clarify who in the Phoenix Fire Department is considered the fire code official, and to clarify where the code states *where required by the fire code official* that an appeal may also be required where not specifically referenced in the code. |
| 147. | FIRE FLOW. The flow rate of a water supply, measured at 20 psi (137 kPa) residual pressure that is available for firefighting. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Provided for consistent outcomes for operations. Phoenix fire hoses do not function well with pressures under 20 psi. |
| 148. | FIRE LANE/EMERGENCY APPARATUS LANE. A road or other passageway developed to allow the passage of fire apparatus. A fire lane is not necessarily intended for vehicular traffic other than fire apparatus. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Provided for consistent outcomes for operations. |
| 149. | FIRE SAFETY DIRECTOR. A representative of the owner of the building who is responsible for implementing the Fire Safety and Evacuation Plan and providing information and training to staff, tenants, residents, and guests. The director is |

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| | responsible for directing the Fire Safety and Evacuation Plan during and after an emergency. The director is responsible for ensuring alternates are designated. The Fire Safety Director is the liaison to city agencies during emergencies. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provided for consistent outcomes for operations. |
| 150. | HYDRAULICALLY MOST DEMANDING HYDRANT. The fire hydrant that results in the most demanding flow and pressure requirement needed to supply the private fire distribution main(s). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>**Reason:** Provided for consistent calculation outcomes. |
| 151. | MAINTENANCE. The repair or replacement of defective or damaged equipment, systems or programming with an exact duplicate model. Maintenance also includes testing of equipment. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Defines the necessity of permitted work. This in response to fire alarms being replaced with non-compatible, non-upgradeable systems. |
| 152. | MODIFICATION. Any change or reprogramming of any existing fire and life safety equipment or system regulated by this code that is not the exact same model, area or programming from original equipment or installation. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Defines the necessity of permitted work. This in response to fire alarms being replaced with non-compatible, non-upgradeable systems. |
| 153. | OUTDOOR ASSEMBLY EVENT. An outdoor gathering of persons for any purpose having a projected attendance of 500 or more persons or confining 50 or more persons by temporary installation of fencing. |
| | **Reason:** Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Section 114 Fireworks moved to 115 to restore the 114 Insurance requirements. |
| 154. | PEDESTRIAN GATES. Gates used by pedestrians to provide access to or egress from buildings, yards, patios, courts, swimming pools and similar areas. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Defined when Knox requirements for access, other than apparatus, were initiated. |

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| 155. | PREEMPTION DEVICE. An approved electronic device attached to a controlled access gate that is used to open the gate when an electronic signal is received from an emergency vehicle. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Defined when Knox requirements for access, other than apparatus, were initiated. |
| 156. | SALVAGE. Something extracted (as from rubbish) as valuable or useful. |
| | **Reason:** New to 2024. Added to define work conducted by facilities that operate salvage yards. |
| 157. | SHELL BUILDING. A shell building is a structure with empty spaces that have not yet been classified with a known tenant. This condition will remain until a future tenant proposes a use to the building department. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC, maintenance and modification added.<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), common area added.<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC) common area added.<br>**Reason:** Added to define the scope of required systems and permittable actions.<br>Common area added as a combination of fire code, building codes and ADA definitions to provide guidance for audio/visual alarms. |
| 158. | SIGNAGE. Required fire department signage shall be either .80 3M aluminum, or Arizona Department of Transportation (ADOT) approved aluminum composite material or equivalent. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Defined when Knox requirements for access, other than apparatus, were initiated. |
| 159. | SPREAD NUMBERS. Numbers attached to a building that show the unit number of each dwelling unit on each floor of that residential building in a multibuilding residential complex. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). |

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| | **Reason:** Defined when Knox requirements for access, other than apparatus, were initiated. |
| 160**.** | TIPPING AREA. An area within an agro-industrial, solid biomass facility for vehicles to unload new material. |
| | Reason: Added as it is an industry standard term.<br>**Reason:** Correct the language of a tipping area. Was not the intention. |

| Chapter 3 General Requirements | |
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| 161. | 302.1 Salvage |
| | **Reason:** New to 2024. Definition added from Chapter 2. |
| 162. | ✦303.1 Transporting. Asphalt (tar) kettles shall not be transported over any highway, road or street when the heat source for the kettle is operating. All kettle doors shall be tightly closed and latched when in transit. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5898 April 18, 2014 (2012 IFC amendment package).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added due to loss history of roof fires in Phoenix. |
| 163. | 303.2 Location. Asphalt (tar) kettles shall not be located within 20 feet (6096 mm) of any combustible material, combustible building surface or any building opening and within a controlled area identified by the use of traffic cones, barriers or other *approved* means. Asphalt (tar) kettles and pots shall not be utilized inside or on the roof of a building or structure. Roofing kettles and operating asphalt (tar) kettles shall not block *means of egress*, gates, roadways or entrances. Asphalt kettles and fuel containers shall not be left unattended in a street or roadway. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5898 April 18, 2014 (2012 IFC amendment package).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added due to loss history of roof fires in Phoenix. |
| 164. | 303.10 Maintenance. Asphalt kettles and all integral working parts shall be in good working condition and shall be maintained free of excessive residue. |
| | **Reason:** Added to prevent excessive residue that contributes to poor operations. |
| 165. | ✦308.3.2 Theatrical performances. Where approved, open-flame devices used by fire performers or in conjunction with theatrical performances are allowed to be used where adequate safety precautions have been taken in accordance with NFPA 160. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), flame performers added.<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added to address increase in fire performers working in the city. |
| 166. | 315.2.1 Site plan.<br>Each site shall maintain a current site plan that includes a general description of the property, the boundaries of the lot, the size and location of buildings, and all of the following:<br>1. Utilities.<br>2. Type of construction and presence of sprinkler protection for other buildings on the site. |

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| | 3. Water supply sources for fire-fighting purposes.<br>4. Location of hazardous material storage areas.<br>5. Location of pallet storage.<br>6. Equipment protected with a dust collection system.<br>7. Fire apparatus access roads.<br>8. Designated smoking areas.<br>9. Location of fire alarm control panels. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Ensures facilities storing miscellaneous combustibles have a plan. |
| 167. | 315.2.2 Fire protection plan. The owner or operator shall prepare a fire protection plan for any facilities processing and/or storing finished lumber products, and solid biofuel products, in quantities requiring a permit. The fire protection plan shall address monitoring for, controlling, and extinguishing fires. The fire protection plan shall be submitted to the *fire code official*.<br>The fire protection plan shall include the following:<br>1. A scaled and dimensioned site plan indicating property lines, buildings, access roads, fire hydrants, location of tipping areas, salvage areas, pile height indicators, piles and push-out areas.<br>2. Pile contents (hogged material, compost, tipping, manure, etc.) and maximum pile dimensions of each pile.<br>3. Monitoring procedures and schedules for checking for pile temperature and moisture content.<br>4. Fire suppression methods and emergency plans.<br>5. Other procedures and methods to reduce fire within piles or stacks.<br>6. Employee training.<br>7. Equipment and resources available on site, and through contract, for fire prevention and suppression.<br>8. Thresholds for calling 911.<br>9. Location of fire alarm control panels.<br>10. Type of construction and presence of sprinkler protection for other buildings on the site.<br>Written plans, in support of the fire protection plan, shall be made available upon request by the fire code official. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Ensures facilities storing miscellaneous combustibles have a plan. |
| 168. | 315.4.3 Stacking. The method of stacking shall be solid piles in an orderly array. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5082 March 1,2008 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). |

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| | **Reason:** Added after multiple storage facility fires of recycled materials and pallets. Provides consistent outdoor storage requirements for lumber and mulch yards, solid bio-mass and other miscellaneous storage. |
| 169. | 315.4.4 Separation from buildings. Outside storage of combustible materials or combustible waste shall not be located within 20 feet (6096 mm) of a *building*.<br>Exception: Commercial trash receptacles. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5082 March 1,2008 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added after multiple storage facility fires of recycled materials and pallets. Provides consistent outdoor storage requirements for lumber and mulch yards, solid bio-mass and other miscellaneous storage. |
| 170. | 315.4.5 Size of piles. The maximum size of piles shall be 20 feet (6096 mm) wide by 150 feet (45 700 mm) long separated by aisles. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5082 March 1,2008 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added after multiple storage facility fires of recycled materials and pallets. Provides consistent outdoor storage requirements for lumber and mulch yards, solid bio-mass and other miscellaneous storage. |
| 171. | 315.4.6 Aisles width. *Aisles* shall be a minimum of 20 feet (6096 mm) wide and shall be maintained clear and unobstructed at all times. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5082 March 1,2008 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added after multiple storage facility fires of recycled materials and pallets. Provides consistent outdoor storage requirements for lumber and mulch yards, solid bio-mass and other miscellaneous storage. |
| 172. | 315.4.7 Dead ends. No dead-end *aisles* shall be allowed within the facility. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5082 March 1,2008 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added after multiple storage facility fires of recycled materials and pallets. Provides consistent outdoor storage requirements for lumber and mulch yards, solid bio-mass and other miscellaneous storage. |

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| 173. | 315.4.8 Fencing. An *approved* minimum 6-foot-high (1829 mm) noncombustible security fence or wall shall be provided. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5082 March 1,2008 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added after multiple storage facility fires of recycled materials and pallets. Provides consistent outdoor storage requirements for lumber and mulch yards, solid bio-mass and other miscellaneous storage. |
| 174. | 315.4.9 Fire apparatus access roads. *Fire apparatus access roads* shall be provided to within 150 feet (45 700 mm) of all combustible materials piles in compliance with Chapter 5. Fire apparatus access gates shall be in accordance with Chapter 5. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5082 March 1,2008 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added after multiple storage facility fires of recycled materials and pallets. Provides consistent outdoor storage requirements for lumber and mulch yards, solid bio-mass and other miscellaneous storage. |
| 175. | 315.4.10 Fire hydrants and water supply. Approved fire hydrants and water supply shall be provided in compliance with Chapter 5. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5082 March 1,2008 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added after multiple storage facility fires of recycled materials and pallets. Provides consistent outdoor storage requirements for lumber and mulch yards, solid bio-mass and other miscellaneous storage. |
| 176. | 315.4.11 Fire extinguishing equipment. Fire extinguishing equipment shall be provided throughout the facility in accordance with NFPA 10, Portable Fire Extinguishers. Travel distance to reach fire-extinguishing equipment shall not exceed 75 feet. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5082 March 1,2008 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added after multiple storage facility fires of recycled materials and pallets. Provides consistent outdoor storage requirements for lumber and mulch yards, solid bio-mass and other miscellaneous storage. |

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| 177. | 315.4.12 Additional equipment. A reliable means of rotating the combustible materials shall be readily available on the property (for example, pallet jack, front end loader or back hoe with bucket). |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5082 March 1,2008 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added after multiple storage facility fires of recycled materials and pallets. Provides consistent outdoor storage requirements for lumber and mulch yards, solid bio-mass and other miscellaneous storage. |
| 178. | 315.4.13 Vegetation. Weeds, grass and similar vegetation shall be eliminated throughout the entire yard. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5082 March 1,2008 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added after multiple storage facility fires of recycled materials and pallets. Provides consistent outdoor storage requirements for lumber and mulch yards, solid bio-mass and other miscellaneous storage. |
| 179. | 315.4.14 Fire watch. When required by the *fire code official*, a fire watch shall be provided in accordance with Section 115. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5082 March 1,2008 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added after multiple storage facility fires of recycled materials and pallets. Provides consistent outdoor storage requirements for lumber and mulch yards, solid bio-mass and other miscellaneous storage. |
| 180. | 315.4.15 Sources of ignition. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5082 March 1,2008 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added after multiple storage facility fires of recycled materials and pallets. Provides consistent outdoor storage requirements for lumber and mulch yards, solid bio-mass and other miscellaneous storage. |
| 181. | 315.4.15.1 Smoking**.** Smoking shall be prohibited within the storage area and shall comply with Section 310. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC). |

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| | Adopted by Ordinance G-5082 March 1,2008 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added after multiple storage facility fires of recycled materials and pallets. Provides consistent outdoor storage requirements for lumber and mulch yards, solid bio-mass and other miscellaneous storage. |
| 182. | 315.4.15.2 Clearance from sources of ignition**.** No heating equipment, including salamanders, braziers, portable heaters and other open fires, shall be located or used in the storage area. Potential sources of ignition such as hot work, warming or open fires and heating devices shall not be allowed within 60 feet (18 288 mm) of storage piles. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5082 March 1,2008 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added after multiple storage facility fires of recycled materials and pallets. Provides consistent outdoor storage requirements for lumber and mulch yards, solid bio-mass and other miscellaneous storage. |
| 183. | 315.7 Outdoor pallet storage. Pallets stored outdoors shall comply with Sections 315.7 through 315.7.8. Pallets stored within a building shall be protected in accordance with Chapter 32. Pallets at pallet manufacturing and recycling facilities shall comply with Chapter 28. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Provides clarity for consumers. |
| 184. | 315.7.8 Fire protection plan. A fire protection plan for outdoor storage, in accordance with 315.2.2, shall be submitted to the *fire code official*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Ensures facilities storing miscellaneous combustibles have a plan. |
| 185. | SECTION 316<br>HAZARDS TO FIRE PERSONNEL |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), moved to Chpt 3 and amended.<br>Adopted by Ordinance G-5193 August 1, 2008 (2006 IFC amendment package)<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), hazards to fire fighters or fire department personnel.<br>**Reason:** Changes title to include all fire personnel (inspectors). |
| 186. | 316.3 Pitfalls. The intentional design or *alteration* of buildings to disable, injure, maim or kill intruders is prohibited. A person shall not install and use firearms, sharp or pointed objects, razor wire, *explosives*, flammable or *combustible liquid* containers, or dispensers containing highly toxic, toxic, irritant or other hazardous materials in a manner that could passively or actively disable, injure, maim or kill a fire fighter who forcibly enters a building for the purpose of controlling or extinguishing a fire, rescuing trapped occupants or |

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| | rendering other emergency assistance; or a *fire code official* who enters a building or premises for the purpose of conducting inspections, or to perform the duties authorized by this code. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), moved to Chapter 3 and amended.<br>Adopted by Ordinance G-5193 August 1, 2008 (2006 IFC amendment package).<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), hazards to fire fighters or fire department personnel.<br>**Reason:** Includes fire inspector. |
| 187. | SECTION 323 SWIMMING POOL BARRIERS |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC). [321]<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). [321]<br>**Reason:** Added to give Fire Inspectors authority in accordance with the Pool Abatement agreement with Neighborhood Services Dept. – Date: October 10, 2008 |
| 188. | 323.1 General. Swimming pool barriers shall be maintained in accordance with Section 3109 of the *International Building Code.* |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC). [321]<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). [321]<br>**Reason:** Added to give Fire Inspectors authority in accordance with the Pool Abatement agreement with Neighborhood Services Dept. – Date: October 10, 2008 |
| 189. | SECTION 324 TRADE SHOWS AND EXHIBITS |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** This adopts the International Fire Code Appendix N that regulates and permits trade shows and exhibits. These activities can present a unique fire danger based on their contents, layout, booth construction, and large attendance. Prior to this appendix creation, the Phoenix Fire Code had a specific trade show section. This aligns Phoenix Fire Code with the national fire code. |
| 190. | 324.1 Trade shows and exhibits. Trade shows and exhibits shall conform to Appendix N. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason**: This adopts the International Fire Code Appendix N that regulates and permits trade shows and exhibits. These activities can present a unique fire danger based on their contents, layout, booth construction, and large attendance. Prior to this appendix creation, the Phoenix Fire Code had a specific trade show section. This aligns Phoenix Fire Code with the national fire code. |

<table>
<tr><th colspan="2">Chapter 4 Emergency Planning and Preparedness</th></tr>
<tr><td>191.</td><td>401.9 Fire or emergency alarm initiation. No person shall silence a fire or emergency alarm system, alarm-initiating device or component until the fire department arrives.</td></tr>
<tr><td></td><td>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Reason: Ensures fire investigations is conducted before alarm is silenced.</td></tr>
<tr><td>192.</td><td>401.10 Monitoring stations. Monitoring stations shall immediately notify the fire department of alarm signals initiated by manual fire alarm boxes, automatic fire detectors, water flow from the automatic sprinkler system or actuation of other fire extinguishing or detection systems or equipment. Any monitoring station shall notify the fire department of an alarm signal prior to contacting the subscriber.</td></tr>
<tr><td></td><td>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Reason: Requires fire department be contacted first in case of alarm signal.</td></tr>
<tr><td>193.</td><td>402.1 Definitions. The following terms are defined in Chapter 2:<br>CROWD MANAGER.<br>EMERGENCY EVACUATION DRILL.<br>FIRE SAFETY DIRECTOR.<br>LOCKDOWN.</td></tr>
<tr><td></td><td>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>Reason: Added for clarity as, and not addressed in national code. Phoenix identifies these personnel in special events and fire preparedness.</td></tr>
<tr><td>194.</td><td>403.11.1 Fire watch personnel. Where, in the opinion of the fire code official, it is essential for public safety in a place of assembly or any other place where people congregate, because of the number of persons, or the nature of the performance, exhibition, display, contest or activity, the owner, agent or lessee shall provide one or more fire watch personnel, as required and approved. Fire watch personnel shall comply with Sections 115, 403.12.1.1 and 403.12.1.2. Such fire watch personnel shall not be required or permitted, while on duty, to perform any duties other than those specified herein, in accordance with Section 115.</td></tr>
<tr><td></td><td>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Reason: Ensures personnel assigned to fire watch will not be distracted by other duties.</td></tr>
<tr><td>195.</td><td>TABLE 405.2<br>FIRE AND EVACUATION DRILL<br>FREQUENCY AND PARTICIPATION
<table>
<tr><th>GROUP<br>OROCCUPANCY</th><th>FREQUENCY</th><th>PARTICIPATION</th></tr>
<tr><td>High-rise buildings</td><td>Annually</td><td>All occupants</td></tr>
</table></td></tr>
</table>

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| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** All occupants added to ensure full building evacuation including guests. | | | | |
| 196**.** | 405.7 Notification. Where required by the *fire code official*, prior notification of emergency evacuation drills shall be given to the *fire code official*. Prior to activating a fire alarm signal, for conducting an evacuation drill, the building owner or authorized representative shall contact fire department dispatch at 602-495-5555. The building owner or authorized representative shall notify fire department dispatch on completion of the evacuation drill. | | | | |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and prevents unintended false alarms. | | | | |
| 197**.** | SECTION 408<br>EMERGENCY RESPONSE PREPLANNING<br>408.1 Emergency response preplanning. When required by the *fire code official,* a facility, property, and/or business shall provide the *fire code official* with a site plan and building layout (internal and external) identifying emergency access points, fire control and protection equipment locations, and other life safety features inside the property and structures. | | | | |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** To assist operations with knowledge of site conditions and improve firefighter safety | | | | |

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| 198. | 501.3 Construction documents. Construction documents for proposed fire apparatus access, location of fire lanes, security gates/barriers across *fire apparatus access roads* and construction documents and hydraulic calculations for fire hydrant systems shall be submitted to the fire department for review and approval prior to construction. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Broader definition provided to ensure greater compliance. |
| 199. | 501.5 Inspection of *fire apparatus access roads*. Roads used for apparatus access shall be subject to field inspection and may be subject to testing using fire apparatus. The owner is responsible for any repairs necessary due to the inadequate design of the *fire apparatus access road*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations ensuring roads are maintained and will carry fire trucks. |
| 200. | 502.1 Definitions. The following terms are defined in Chapter 2:<br>AGENCY.<br>FIRE APPARATUS ACCESS ROAD.<br>FIRE COMMAND CENTER.<br>FIRE DEPARTMENT MASTER KEY.<br>FIRE FLOW.<br>FIRE LANE/EMERGENCY ACCESS LANE.<br>KEY BOX.<br>PEDESTRIAN GATES.<br>PREEMPTION DEVICE.<br>SIGNAGE.<br>SPREAD NUMBERS.<br>TRAFFIC CALMING DEVICES. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC). – Signage added.<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added for consistent outcomes and clarity of intent. |
| 201. | 503.1 Where required. *Fire apparatus access roads* shall be provided and maintained in accordance with Sections 503.1.1 through 503.1.3.<br>The Phoenix Fire Department is the only authority authorized to designate a fire *apparatus access road*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Ensures fire department review and assists operations. Ensures |
| 202. | 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 (45.72 m) 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. |

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| | Exceptions:<br>1. The fire code official is authorized to increase the dimension of 150 feet (45.72 m) to 350 feet (107 m) where any of the following conditions occur:<br>1.1. The building is equipped throughout with an approved automatic sprinkler system<br>installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.<br>1.2. Fire *apparatus access roads* cannot be installed because of location on property, topography, waterways, nonnegotiable grades or other similar conditions, and an approved alternative means of fire protection is provided.<br>1.3. There are not more than two Group R-3 or Group U occupancies.<br>2. Where approved by the fire code official, *fire apparatus access roads* shall be permitted to be exempted or modified for solar photovoltaic power generation facilities.<br>3. Facilities equipped with an automatic standpipe system in accordance with Section 905. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Following 2024 IFC for exception #1, giving industry accepted options and following established design criteria. |
| 203. | 503.2.1.1 Vehicle passing points. Where fire department access roads exceed 300 feet (91.44 m) in length, vehicle passing points shall be installed at intervals not to exceed 300 feet (91.44 m). Vehicle passing points shall be not less than 30 feet (91.44 m) in width exclusive of shoulders and 50 feet (15.24 m) in length.<br>Exception: Where code-compliant fire lanes are continuous through a property leading to an approved exit point, no passing points are required. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5082 January 30, 2008 (2006 IFC amendment package).<br>**Reason:** Added to allow for apparatus access in congested areas. |
| 204. | 503.2.1.2 Loading areas and passenger drop-off areas. On private property, where fire *apparatus access roads* are utilized for loading or unloading or are utilized for passenger drop-off or pickup, an additional 8 feet (2.438 m) of width shall be added to the fire *apparatus access road*. This width is in addition to the mini-mum 20-foot (6.096 m) access road width exclusive of shoulders. *Fire apparatus access* roads established and approved per Phoenix Fire Department or Planning and Development Department site plan prior to June 20, 2007 are not required to be widened if maintained and marked in accordance with this chapter. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes. |
| 205. | 503.2.3 Surface. Fire *apparatus access roads* shall be designed and maintained to support the imposed loads of fire apparatus and shall be surfaced so as to provide all-weather driving capabilities in accordance with Maricopa Association of Governments standards. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes. Utilizing local |

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| | county standards for road design. |
| 206. | 503.2.3.1 Stabilized edge. A stabilized edge meeting Maricopa Association of Governments standards or equivalent is required on *fire apparatus access roads*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes. Utilizing local county standards for road design. |
| 207. | 503.2.3.2 Live loads. Fire *apparatus access roads* shall be designed and maintained to support the imposed loads of fire apparatus and shall be designed and maintained to support the imposed live load of 70,000 pounds (31 752 kg) with a maximum axle load of 28,000 pounds (12 701 kg). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes. Based on Phoenix Fire Department apparatus specifications. |
| 208. | 503.2.3.3 Alternative surface. Alternative surface fire lanes shall meet the requirements of fire *apparatus access roads* and this section. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes. Ensures alternative surface roads, installed permanently are designed to the same standards as non-alternative surface roads. |
| 209. | 503.2.4 Turning radius. The required turning radius of a *fire apparatus access road* shall have a minimum 45-foot (13.716 m) centerline radius [35-foot (10.668 m) inside radius, 55-foot (16.764 m) outside radius] on curves. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes. Based on Phoenix Fire Department apparatus specifications. |
| 210. | 503.2.7 Grade. The grade of the fire *apparatus access road* shall not exceed 15 percent (15 feet in 100 feet) (4.572 m in 30.480 m). Cross-slope of an access road shall not exceed a depth of 6 inches (.152 m). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes. Based on Phoenix Fire Department apparatus specifications. |
| 211. | 503.2.7.1 Drainage. Water drainage shall be directed away from the *fire apparatus access road* or piped under fire apparatus access roads. Ponding water on an *fire* |

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| | *apparatus access road* shall not exceed a depth of 6 inches (.152 m). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes. Revised language to provide clarity. |
| 212. | 503.2.8.1 Curbs. A rolled curb meeting Maricopa Association of Governments standards or equivalent shall be installed at the entrances to *fire apparatus access roads.* |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes. Utilizing local county standards for road design. |
| 213. | 503.2.9 Maintenance. *Fire apparatus access roads* shall be maintained by the owner in accordance with section 503 at all times. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides for consistent outcomes. Revised language to provide clarity. |
| 214. | 503.2.10 Alternative surface. Alternative surface fire lanes shall meet the requirements of *fire apparatus access roads* and this section. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Allows for enforceability. |
| 215. | 503.2.10.1 Report. Alternative surface *fire apparatus access* roads shall be designed by an engineer professional registrant. The engineer shall prepare a sealed design report to address soil compaction, the imposed live load, drainage, stabilization and curbing for submittal to and approval by the fire department. Plans shall be sealed and submitted with the report (see Section 501.3). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Ensure alternative access roads are designed and built under the review of a professional engineer. |
| 216 | 503.2.10.2 Stabilization. Stabilization of the *fire apparatus access road* surface shall be addressed in the alternative surface fire apparatus access road report and may be accomplished by curbing.<br>At a minimum, the surface of *fire apparatus access* roads shall be as follows:<br>1. Minimum 6 inches (.152 m) of native soil compacted to 95 percent of standard proctor density (ASTM D698), and<br>2. Minimum 4 inches (.102 m) of aggregate base compacted to 100 percent of standard proctor density (ASTM D698).<br>The surface of fire apparatus access roads may differ from the above requirements if it is shown that the surface provided is sufficient to support an imposed live load of 70,000 pounds (31 752 kg) with a maximum axle load of |

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| | 28,000 pounds (12 701 kg). An engineer professional registrant shall prepare and seal the soil compaction report. The report shall be available for review by the fire code official. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Restores previous amendment. Provide specific stabilization requirements based on Phoenix Fire Department apparatus. |
| 217. | 503.2.10.3 Compaction. Minimum 95 percent compaction of subgrade soil is required. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Restores previous amendment. Provide specific compaction requirements based on Phoenix Fire Department apparatus. |
| 218. | 503.2.10.4 Curbs. A rolled curb shall be installed at the entrances to *fire apparatus access roads*. See Chapter 80, Referenced Standards, for Maricopa Association of Government Standards with City of Phoenix supplements. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Restores previous amendment. Provide specific curb construction requirements based on Maricopa County standards. |
| 219. | 503.2.10.5 Marking. The curb shall be painted red or red reflectors shall be installed to define the width of alternative surface *fire apparatus access roads*. The reflectors shall be imbedded into bordering curbing at intervals not exceeding 25 feet (4572 mm) (see Appendix D). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Restores previous amendment. Provide specific curb marking requirements based on the Phoenix Fire Department apparatus. |
| 220. | 503.2.10.6 Special inspections. An Arizona-registered professional engineer shall conduct a special inspection prior to final approvals being issued for the alternative surface *fire apparatus access road*. The report shall be submitted for review by the fire code official. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Restores previous amendment. Specifies special inspection requirements for alternative surface FD access roads. This ensures design and build of roads are under the review of a registered engineer. |
| 221. | 503.2.10.7 Special inspection documentation. The special inspection documentation shall include, but not be limited to, the following:<br>1. Subgrade soil compaction report.<br>2. Base material quality, thickness and compaction.<br>3. Concrete depth and compressive strength, when applicable.<br>4. An evaluation of the installation in accordance with design drawings and manufacturer specifications.<br>5. Crown and drainage requirements.<br>6. Stabilization. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Restores previous amendment. Provides guidance on what the special inspection for alternative surface FD access roads is to include. |
| 222. | 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. See table 503.3 and Appendix D. The means by which fire lanes are |

<table>
<tr><td></td><td>designated shall be maintained in a clean and legible condition at all times and be replaced or repaired when necessary to provide adequate visibility.</td></tr>
<tr><td></td><td>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Reason: Restores previous amendment. Added language to include new table shown below.</td></tr>
<tr><td>223.</td><td>Table 503.3 Marking
<table>
<tr><th>Occupancy</th><th>Marking on both sides</th><th>Marking on one side</th><th>Marking not required</th></tr>
<tr><td>Group R-3</td><td>Width < 20 feet</td><td>20 feet ≤ width < 28 feet</td><td>Width ≥ 28 feet</td></tr>
<tr><td>Others</td><td>Width < 28 feet</td><td>28 feet ≤ width < 36 feet</td><td>Width ≥ 36 feet</td></tr>
</table></td></tr>
<tr><td></td><td>Reason: New to 2024. The table replaces several sections of written narrative on where the signs and markings are required.</td></tr>
<tr><td>224.</td><td>503.3.1 Signage. Required fire department signage shall be either .80-inch 3M aluminum, or Arizona Department of Transportation (ADOT) approved aluminum composite material or equivalent (see Appendix D).</td></tr>
<tr><td></td><td>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Reason: Restores previous amendment. Provides guidance on signage requirements and points users to appendix D for example signage.</td></tr>
<tr><td>225.</td><td>503.3.2 Fire apparatus access road signs. Fire apparatus access roads shall be identified by fire lane signs (see Appendix D) and red curbs as follows:<br>1. Signs shall be attached to an approved stationary pole set not less than 18 inches (.457 m) in concrete.<br>2. The bottom of each sign shall be 7 feet (2.137 m) above grade.<br>3. The signs shall face oncoming traffic.<br>4. The signs shall be set back from the curb line or sidewalk not less than 12 inches (.305 m) or greater than 18 inches (.457 m).<br>5. Signs shall be plainly visible at all times. Vegetation or other obstructions shall be located such that a minimum 3-foot (.914 m) clearance is maintained along the line of sight.<br>6. A sign shall be installed no less than 15 feet (4.572 m) from the beginning and end of the fire lane.<br>6.1. Signs and red reflective markers shall be placed at 100 feet intervals, alternating every 50 feet.<br>7. Fire apparatus access roads shall be identified by curbs painted red on both the top and face along the entire length of the fire apparatus access road. Where no curb exists, or a rolled curb is installed, a 6-inch (152 mm) wide red stripe shall be applied the full length of the fire apparatus access road.</td></tr>
<tr><td></td><td>Reason: New to 2024. Restores previous amendment. Consolidated amendment 503.3.1 & previous version of 503.3.3.2.</td></tr>
<tr><td>226.</td><td>503.3.2.1 Marking. Reflectors shall be placed on the curbs and roadway.</td></tr>
<tr><td></td><td>Reason: New to 2024. Text was copied from Appendix D details. No new requirements, only adding Appendix text to code text to make finding the requirement easier. This requirement is found in Maricopa Association of Governments (MAG) specifications.</td></tr>
<tr><td>227.</td><td>503.3.2.1.2 Red reflectors shall be provided in accordance with table 503.3</td></tr>
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| | **Reason:** New to 2024. Text was copied from Appendix D details. No new requirements, only adding Appendix text to code text to make finding the requirement easier. This requirement is found in Maricopa Association of Governments (MAG) specifications. |
| 228. | 503.3.2.1.3 Red reflectors shall be spaced at 100 foot intervals on hard surfaces and 75' on alternative surfaces. |
| | **Reason:** New to 2024. Text was copied from Appendix D details. No new requirements, only adding Appendix text to code text to make finding the requirement easier. This requirement is found in Maricopa Association of Governments (MAG) specifications. |
| 229. | 503.3.2.1.4. Blue reflectors shall be placed in the center of the roadway adjacent to the hydrant. |
| | **Reason:** New to 2024. Text was copied from Appendix D details. No new requirements, only adding Appendix text to code text to make finding the requirement easier. This requirement is found in Maricopa Association of Governments (MAG) specifications. |
| 230. | 503.3.2.1.5 Reflector Installation. There are three acceptable adhesives for installing the markers.<br>(1) Wedco A-4036 Epoxy Part A Resin, Part B catalyst<br>(2) Thermoset EP-308 Epoxy resin part 'A' and EP-308 epoxy hardener Part 'B'<br>(3) Bituminous adhesive<br>The adhesive shall be placed uniformly on the cleaned pavement surface in an amount sufficient to result in complete coverage of the area of contact of the marker, with no void present and with slight excess after the marker has been placed. The marker shall be placed in position and pressure applied until firm contact is made with the pavement. The marker shall be protected against impact until the adhesive has set to the degree acceptable to the Engineer. |
| | **Reason:** New to 2024. Text was copied from Appendix D details. No new requirements, only adding Appendix text to code text to make finding the requirement easier. This requirement is found in Maricopa Association of Governments (MAG) specifications. |
| 231. | 503.3.3 Stenciling. The fire code official is authorized to require stenciling or other permanent markings to improve the identification of fire apparatus access roads. Where required, the stenciling shall state "FIRE LANE — NO PARKING." Lettering shall be white on a red painted curb and shall be a minimum of 3 inches (76 mm) high with a 1/2-inch (13 mm) brush stroke. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides consistent outcomes - Richard Tritch memorial code. |
| 232. | 503.3.4 Marking not required. A *fire apparatus access road* that is greater than 36 feet (10 973 mm) in width shall not be required to have signs and painted curbs on either side of the fire apparatus access road. |
| | **Reason:** New to 2024. Clarifies where marking is not required for fire apparatus access roads. |
| 233. | 503.4.2 Fences and pedestrian gates. Where distances from an approved fire department access road exceed the maximum distance allowed in Section 503 and fences are installed, a pedestrian gate shall be provided in the fence to maintain the required fire department access. The gate shall be not less than 4 feet (1219 mm) in width and be equipped with a key box in accordance with Section 506. |

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| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** Added to address additional security measures that potentially block fire apparatus and personnel access. |
| 234**.** | 503.4.3 Other obstructions to access. Where other obstructions are installed that cause the distances from an approved fire department access road to exceed the maximum distance allowed in Section 503, the fire code official is authorized to require additional fire protection as specified in Section 901.4.4. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** Added to address additional security measures that potentially block fire apparatus and personnel access. |
| 235**.** | 503.5.1 Secured gates and barricades. Where required, gates and barricades shall be secured in an approved manner. Roads, trails and other accessways that have been closed and obstructed in the manner prescribed by Section 503.5 shall not be trespassed on or used unless authorized by the owner and the fire code official. Chains alone across a *fire apparatus access road* are prohibited.<br>Exception: The restriction on use shall not apply to public officers acting within the scope of duty. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Added due to loss history, firefighter injuries, and provides consistent outcomes. |
| 236**.** | 503.6 Security gates. The installation of security gates across a fire apparatus access road shall be approved by the fire code official, and in accordance with Section 512**.** Where security gates are installed, they shall have an approved means of emergency operation. The security gates and the emergency operation shall be maintained operational at all times. Electric gate operators, where provided, shall be listed in accordance with UL 325. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F2200. Fire apparatus access gates shall be designed and installed such that they do not obstruct the ingress or egress of emergency vehicles. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and addresses security requirements and their impact on accessibility for fire operations providing consistent outcomes. |
| 237**.** | 503.6.1 Group R-3. Where access to the primary access door is obstructed by an automatic gate in single-family, detached Group R-3 occupancies, a key switch shall be provided, on the exterior side. Key switches shall be identified with an approved sign reading "FD Access."<br>Exception: Single-family residences where the primary access door is not obstructed by the restrictions of fences or gates shall not require a permit. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Requires specific single-family homes developments to install key switch for |

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| | FD access where access is obstructed by gating the property. |
| 238. | 503.7 Preemption devices. Preemption devices are required on all new automatic fire access gates installed after January 1, 2001 at multifamily residential properties, gated communities with more than two Group R-3 occupancies, and other occupancies as required by the fire code official. Gates installed without permits or proof of installation date, require preemption devices. Voluntary installations of preemption devices shall comply with the requirements of this policy.<br>Exception: Access road serving three or fewer Group R-3 occupancies. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes, provides quicker response at multi-family and large complexes. |
| 239. | 503.7.1 Locations. The devices shall be installed such that the gate will open for both ingress and egress of emergency vehicles. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes, provides quicker response at multi-family and large complexes. |
| 240. | 503.7.2 Minimum installation standards. The installation of preemption devices shall comply with the following:<br>1. Detectors shall be mounted 8 feet to 10 feet (2439mm to 3048 mm) above grade.<br>2. Detectors shall be located not less than 18 inches (457 mm) behind the gate on the property side.<br>3. Detectors shall be mounted on a separate 4-inch by 4-inch (102 mm to 102 mm) metal post and not on the guidepost. The metal post shall be cemented not less than 18 inches (457 mm) below grade.<br>4. Detectors shall activate at not less than 150 feet (45 720 mm) from the gate.<br>5. Detectors shall point toward both the approach and the exit path of the emergency vehicle.<br>6. The sight path of the detector shall be free of visual obstructions such as signs, covered parking, canopies and vegetation.<br>7. Individual detectors shall be mounted together with the power module in the dual detector/mounting box. Detectors shall be approved and tested by the fire department. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes, provides quicker response at multi-family and large complexes. |
| 241. | 504.1 Required access. Exterior doors and openings required by this code or the International Building Code shall be maintained readily accessible for emergency access by the fire department. An approved access walkway leading from fire apparatus access roads to exterior openings shall be provided where required by the fire code official. Key |

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| | boxes, keys, toggle switches and padlocks required for fire department access shall be in accordance with Section 506 and Chapter 10. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added for operations access to facilities. |
| 242. | 504.2.1 Exterior door access. Required exterior doors shall have a key cylinder or other means to be opened from the exterior. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Added to ensure key cylinders installed in door, due to security concerns they were being removed. |
| 243. | 504.2.2 Exterior stairwells. Where determined by the fire code official that access is necessary for lifesaving or fire-fighting purposes, exterior stairwells providing access to fire protection equipment shall be marked in accordance with Section 503.3.1. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations. Points users to signage requirements of section and to appendix D for examples of signs. |
| 244. | 505.1 Address identification. New and existing buildings shall be provided with approved address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. Each character shall be not less than 4 inches (102 mm) high with a minimum stroke width of 1/2 inch (12.7 mm). Where required by the fire code official, address identification shall be provided in additional approved locations to facilitate emergency response. Where access is by means of a private road and the building cannot be viewed from the public way, or the building is a podium building or has multiple fire separations with interior corridors, a monument, pole or other sign or<br>means installed in accordance with Section 505.1.3.4 shall be used to identify the structure and features. Address identification shall be maintained clearly visible and free from obstructions, including landscaping, and shall be kept current. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Ensures Operations can quickly and easily identify their location and features of the facility. Maintenance includes more than just the sign itself. |
| 245. | 505.1.1 Single-family homes. Individually addressed townhouses and detached single-family homes shall be provided with address numbers not less than 4 inches (102 mm) high, with a minimum 1/2-inch (12.7 mm) brush stroke on a contrasting background. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and allows for quicker identification of buildings in response events. |

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| 246. | 505.1.1.1 All other residential occupancies. The address, individual building, spread, and dwelling numbers shall be in accordance with this section. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations for timely response during critical period. |
| 247. | 505.1.1.1.1 Building or site address. The building or site address shall be designated by characters not less than 12 inches (305 mm) high that must be clearly visible from the fire apparatus access road. The building address is required to be internally or externally illuminated. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations for timely response during critical period. |
| 248. | 505.1.1.1.2 Building identification. Each building shall display its specific alphabetical or numerical designation, which must be clearly visible from the fire apparatus access road. The building identification shall be not less than 18 inches (457 mm) high with a minimum 3-inch (76 mm) brush stroke on a contrasting background. The building identification is required to be internally or externally illuminated. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations for timely response during critical period. |
| 249. | 505.1.1.1.3 Spread numbers. Spread numbers shall be provided adjacent to the building identification to indicate the apartment or unit numbers by floors in the building. Spread numbers shall be not less than 7 inches (178 mm) high with a 1-inch (25 mm) brush stroke on a contrasting background. The spread numbers are required to be internally or externally illuminated. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations for timely response during critical period. |
| 250. | 505.1.1.1.4 Unit identification at entrances. Spread plates are required where more than one dwelling or unit is accessed from a building entrance, a spread plate is required. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations for timely response during critical period. |
| 251. | 505.1.1.1.5 Apartment or unit numbers. Individual apartment or unit numbers shall be not less than 4 inches (102 mm) high with a minimum 3/8-inch (9.52mm) brush stroke on a contrasting background. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations for timely response during critical period. |
| 252. | 505.1.1.1.6 Additional identification signs. Where a building is not visible from the fire *apparatus access road*, a directional sign indicating the location of the unit is required. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations for timely response during critical period. |
| 253. | 505.1.1.1.7 Buildings more than 100 feet (30 480 mm) long. Where buildings are more than 100 feet (30 480 mm) long, not fewer than two building address numbers shall be provided on opposite end of the building visible from the fire *apparatus access road*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations and provides consistent outcomes. |
| 254. | 505.1.1.1.8 Buildings with multiple fire apparatus access points. Where buildings have multiple fire apparatus access points, numbers and addresses shall be provided at each access point. |

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| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations and provides consistent outcomes |
| 255. | 505.1.2 Commercial occupancies. Premises identification shall be provided for Group A, B, E, F, H, I, M, S and U occupancies. The building identification is required to be internally or externally illuminated to meet visibility requirements in low or no light conditions. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Supports operations |
| 256. | 505.1.2.1 Buildings less than 200 feet. Buildings less than 200 feet (60 960 mm) long and less than 100 feet (30 480 mm) from the edge of the road shall be identified with a building address that is not less than 12 inches (305 mm) high with a minimum 2-inch (51 mm) brush stroke on a contrasting background. The address shall be visible from all access directions. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations and provides consistent outcomes |
| 257. | 505.1.2.2 Buildings more than 200 feet. Buildings more than 200 feet (60 960 mm) long and set back from the road 100 feet or more (30 480 mm) shall be identified with a building address that is not less than 24 inches (610 mm) high with a 4-inch (102 mm) brush stroke of a contrasting color. The address shall be visible from all access directions. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations and provides consistent outcomes |
| 258. | 505.1.2.3 Buildings more than 500 feet. Buildings greater than 500 feet (152 400 mm) in length shall have building addresses that are visible from all access directions. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations and provides consistent outcomes |
| 259. | 505.1.2.4 Multiple-tenant buildings. Individual tenant spaces in multiple-tenant buildings shall have their address or suite identification posted at the front entrance and rear access doors. This building identification shall be not less than 6 inches (152 mm) high with a 1-inch (25 mm) brush stroke on a contrasting background. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations and provides consistent outcomes |
| 260. | 507.3.1 Exterior storage. Where there is exterior storage of combustible or hazardous materials, the required fire flow to protect exterior storage shall be in accordance with Appendix B and based on an approved engineering analysis. If the fire flow required to protect the exterior storage exceeds the fire flow required to protect the building, the higher flow shall be provided. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Loss history of major outdoor multi-alarm storage fires. |
| 261. | 507.3.2 Minimum standards. Where a water supply for fire protection is not available from the City of Phoenix, or if the flow rate, pressure or duration of the water supply available from the City does not meet the minimum requirements of the Phoenix Fire |

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| | code, the owner shall be responsible for installing infrastructure required to meet the fire flow, pressure and duration requirements of the Phoenix Fire code. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>**Reason:** Codifies Water Dept. policy for developers to provide infrastructure on developments. Stricken text modifies sentence structure only. |
| 262. | 507.3.3 Failure to maintain water supply. Failure to provide and maintain the required water supply necessary for fire protection shall be considered a hazard to life or property and is subject to enforcement under Section 104 of the Phoenix Fire code. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** Loss history of developed lands. Makes enforceable code. |
| 263. | 507.5.1 Where required. Where a portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than 400 feet (122 m) from a hydrant on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains shall be provided where required by the fire code official.<br>Exceptions:<br>1. For Group R-3 and Group U occupancies, the distance requirement shall be 600 feet (183 m).<br>2. For buildings equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the distance requirement shall be 600 feet (183 m). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Elimination of amendment to align with base code requirements. |
| 264. | 507.5.1.2 City of Phoenix hydrant specifications. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Provides consistent outcomes and minimum standards reflecting Water dept guidelines. |
| 265. | 507.5.1.2.1 Phoenix threads. Fire hydrants shall be provided with Phoenix threads. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Provides consistent outcomes and minimum standards reflecting Water dept guidelines. |
| 266. | 507.5.1.2.2 Color of hydrants. The color of hydrants shall be Maricopa Association of Government Standards, standard fire hydrant yellow. Private fire hydrants shall have the bonnet painted reflective white. Hydrants not intended for fire department use shall have the bonnet painted black. The red bonnet indicates a hydrant coming off a sub-standard main, or a low-flow hydrant, normally coming off a 4-inch (101 mm) feed. When the water supply static and residual pressures meet or exceed 125 psi the hydrants on the water supply zone shall be marked with a dark blue stripe that spans from each 2-1/2" connection and over the top of the hydrant. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC). |

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| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides consistent outcomes and minimum standards reflecting Water Dept. guidelines and MAG guidelines. New to 2024 requirement for identification of high-pressure hydrants added to address high-pressure hydrants that could impact firefighter safety. |
| 268. | 507.5.1.2.3 Height. Fire hydrants shall be installed so that the centerline of the lowest outlet is not less than 18 inches (457 mm) above grade and the highest outlet does not exceed 30 inches (762 mm) above grade. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides consistent outcomes and minimum standards reflecting Water Dept. guidelines and MAG guidelines. |
| 269. | 507.5.1.2.4 Hydrant location. New hydrants shall be located on the right-hand (passenger) side of the street. Fire hydrants shall be located not less than 1 foot (305 mm) and not more than 6 feet (1829 mm) from the back of the curb of the access road or other vehicle access point. The largest outlet on the hydrant shall face the access road. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>**Reason:** Provides consistent outcomes, supports operations and minimum standards reflecting Water Dept. guidelines. |
| 270. | 507.5.1.2.5 Hydrants on major streets. Fire hydrants on major streets, collector streets, or any other streets that are not divided by raised median islands or light-rail tracks can be included in the coverage analysis. If those streets classes are divided by raised median islands or light-rail tracks, then the existing hydrant can only be included in the coverage analysis if its location is on the same side of the median as the new development. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Provides consistent outcomes, supports operations and minimum standards reflecting Water Dept. guidelines. |
| 271. | 507.5.1.2.6 First new hydrant. The first new fire hydrant shall be located at the street intersection or at the main entrance(s) into a subdivision, apartment complex or commercial development. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Provides consistent outcomes, supports operations and minimum standards reflecting Water Dept. guidelines. |
| 272. | 507.5.1.2.7 Additional hydrants. Additional hydrants shall be spaced up to 500 feet (152 m) apart in single-family residential developments and shall be up to 300 feet (91 m) apart in all other development types. The distance between hydrants shall be measured along the path of the *fire apparatus access road*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC). |

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| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Provides consistent outcomes, supports operations and minimum standards reflecting Water Dept. guidelines. Strikethrough of language not necessary for enforcement. |
| 273. | 507.5.1.2.8 Parking areas. In open-air, on-grade parking areas, at least one fire hydrant shall be located within 600 feet (183 m) of all areas. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Provides consistent outcomes, supports operations and flexibility in large parking areas. |
| 274. | 507.5.1.2.9 Distance. Distance to fire department connection (FDC). At least one fire hydrant shall be located within 200 feet (61 m) of a FDC supplying building fire protection systems. The distance between the hydrant and FDC shall be measured along the path of the fire apparatus access road and as fire fighters would lay hose (see also Section 912). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>**Reason:** Provides consistent outcomes, supports operations. |
| 275. | 507.5.1.2.10 Tampering and obstructions. Vehicle parking shall be prohibited within 15 feet (4572 mm) in either direction of a fire hydrant installed parallel to a curb line. For hydrants that are set back from the curb, the 15-foot (4572 mm) clearance shall be measured from the curb line. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and more specifically addresses issues. |
| 276. | 507.5.1.2.11 Accessibility. Fire hydrants shall be accessible to fire department apparatus by roads meeting the requirements of Section 503. The largest outlet on the hydrant shall face the fire apparatus access road. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>**Reason:** Provides for consistent outcomes and specific isolation valves for partial impairment repair and defines undefined code terms in NFPA documents. |
| 277. | 507.5.1.2.12 Sectional valves. Sectional valves shall be provided to ensure minimal impairments to fire protection should any mains require repair or alteration.<br>1. Every looped private main shall have backflow prevention serving a minimum two sectional valves at the point of connection on each leg of the loop and a minimum of one sectional valve separating the supply line in two approximately equal sections. The backflow valve assembly can serve as a sectional valve.<br>2. One sectional valve shall be placed on the private main supply to isolate every four to six connections to either sprinkler systems or hydrants, which each sprinkler lead-in and hydrant feed require their own control valves by NFPA 13 and NFPA 24. |

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| | When a large private fire main has six or more connections to the main, multiple sectional valves are required to minimize impairments.<br>3. The backflow supply valve installed on connections from City of Phoenix public water mains is required outside the City of Phoenix right-of-way. The backflow valve assembly<br>may serve as the fire sprinkler connection valve only for a dedicated sprinkler system supply.<br>4. If the sprinkler riser supply piping is run more than 5 feet (1524 mm) under the building, a Post Indicator Valve (PIV) shall be provided adjacent to the foundation, within 25 feet (7620 mm) to isolate the pipe running under the foundation. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>**Reason:** Provides for consistent outcomes and specific isolation valves for partial impairment repair and defines undefined code terms in NFPA documents. |
| 278. | 507.5.1.2.13 Marking. Curbing adjacent public hydrants shall be painted red in accordance with Municipal code sections 36-27 and 36-134. |
| | **Reason:** New to 2024, makes currently adopted municipal code enforceable via the fire code. |
| 279. | 508.1.1 Location and access. The location and accessibility of the fire command center shall be approved by the Fire Department The fire command center shall be identified by a permanent, easily visible sign noting "Fire Department Command Center" located on the door to the fire command center (see Appendix D). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>**Reason:** Supports operations |
| 280. | 508.1.6 Required features. The fire command center shall comply with NFPA 72 and shall contain and maintain the following features:<br>1. The emergency voice/alarm communication system control unit.<br>2. The fire department communications system.<br>3. Fire detection and alarm system annunciator.<br>4. Annunciator unit visually indicating the location of the elevators and whether they are operational.<br>5. Status indicators and controls for air distribution systems.<br>6. The fire fighter's control panel required by Section 909.16 for smoke control systems installed in the building.<br>7. Controls for unlocking interior exit stairway doors simultaneously.<br>8. Sprinkler valve and water-flow detector display panels.<br>9. Emergency and standby power status indicators.<br>10. A telephone for fire department use with controlled access to the public telephone system.<br>11. Fire pump status indicators.<br>12. Schematic building plans indicating the typical floor plan and detailing the building core, means of egress, fire protection systems, fire-fighter air-replenishment systems, fire-fighting equipment and fire department access, and the location of fire walls, fire barriers, fire partitions, smoke barriers and smoke partitions. |

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| | 13. An approved Building Information Card that includes, but is not limited to, all of the following information:<br>13.1. General building information that includes: property name, address, the number of floors in the building above and below grade, use and occupancy classification<br>(for mixed uses, identify the different types of occupancies on each floor) and the estimated building population during the day, night and weekend;<br>13.2. Building emergency contact information that includes: a list of the building's emergency contacts including but not limited to building manager, building engineer, fire alarm and sprinkler contractor, security system contractor, and elevator contractor and their respective work phone number, cell phone number and e-mail address;<br>13.3. Building construction information that includes: the type of building construction<br>including but not limited to floors, walls, columns and roof assembly;<br>13.4. Exit access stairway and exit stairway information that includes: number of exit access stairways and exit stairways in building; each exit access stairway and exit stairway designation and floors served; location where each exit access stairway and exit stairway discharges, interior exit stairways that are pressurized; exit stairways provided with emergency lighting; each exit stairway that allows reentry; exit stairways providing roof access; elevator information that includes: number of elevator banks, elevator bank designation, elevator car numbers and respective floors that they serve; location of elevator machine rooms, control rooms and control spaces; location of sky lobby; and location of freight elevator banks;<br>13.5. Building services and system information that includes: location of mechanical rooms, location of building management system, location and capacity of all fuel oil tanks, location of emergency generator and location of natural gas service;<br>13.6. Fire protection system information that includes: location of standpipes, location of fire pump room, location of fire department connections, floors protected by automatic sprinklers and location of different types of automatic sprinkler systems installed including but not limited to dry, wet and pre-action;<br>13.7. Hazardous material information that includes: location and quantity of hazardous material.<br>14. Work table.<br>15. Generator supervision devices, manual start and transfer features.<br>16. Public address system, where specifically required by other sections of this code.<br>17. Elevator fire recall switch in accordance with ASME A17.1/CSA B44.<br>18. Elevator emergency or standby power selector switch(es), where emergency or standby power is provided.<br>19. A key box shall be permanently installed near the door to the fire command center. The key box shall be located 4 to 5 1/2 feet (1219 mm to 1677 mm) above grade in a clearly visible location, with no fewer than eight sets of keys, unless additional keys are required by the fire code official. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), #19 added<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package). |

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| | **Reason:** Add items 1-6 to 13.2 in list format, #1-3,6, 7, & 11 remove "via the…" #11 add individually indicated. #19 supports operations, reference 506.1.4 to a maximum of 12 on site. |
| 281. | 508.1.6.2 Fire department communications system. Two-way hardwired communication systems are required in high-rise buildings. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Clarifies the requirements for high-rise buildings to have both a hardwired and wireless communication system. |
| 282. | 509.1 Identification. Fire protection equipment shall be identified in an approved manner. Rooms containing controls for air-conditioning systems, sprinkler risers and valves, or other fire detection, suppression or control elements shall be identified for the use of the fire department. Approved signs required to identify fire protection equipment and equipment location shall be constructed of durable materials, permanently installed and readily visible. See Appendix D. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Points to Phoenix details for signage in Appendix D |
| 283. | 510.1.1 New buildings that pass a benchmark test are not required to re-test annually to verify compliance. A re-test is required for any of the following qualifying events.<br>1. New construction or tenant improvement.<br>2. Change of occupancy or use.<br>3. Operations or other public safety departments flag the property for radio communication issues.<br>4. Where required by the Fire Code Official. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** The added section clarifies how often a building is required to be tested and includes the qualifying events for retest. New to 2024. |
| 284. | 510.3 Permit required. A construction permit for the installation of or modification to emergency responder radio coverage systems and related equipment is required as specified in Sections 105.7.6 and 105.5.14. Maintenance performed in accordance with this code is not considered a modification and does not require a permit. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** The section in 510 should reference the operational permit in section 105.5.14. New to 2024. |
| 285. | 510.3.1 Permit required. A construction permit for the installation of or modification to in-building emergency responder communications enhancement systems and related equipment is required as specified in Section 105.6.5. Modifications include, but are not limited to, changes to the frequency list, BDA replacements, donor antenna changes, or re-optimization with Regional Wireless Cooperative (RWC) require permits. Maintenance performed in accordance with this code is not considered a modification and does not require a permit. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** The permit requirement needs additional clarification on what a modification is. New to 2024. |
| 286. | 510.4.2 System design. The in-building emergency responder communications enhancement system shall be designed in accordance with Sections 510.4.2.1 through 510.4.2.10 and NFPA 1225. |
| | **Reason:** Provides user with design guidelines and reference standard for ERRCS. New to 2024. |
| 287. | 510.5.5 FCC compliance. The in-building emergency responder communications |

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| | enhancement system installation and components shall comply with all applicable federal regulations including, but not limited to, FCC 47 CFR Part 90.219. The system shall not radiate more than -43 dBm of noise in-band and -70dBm of noise out-of-band of operation. |
| | **Reason:** Greater detail added to this to clarify what reporting shall be provided at acceptance testing. New to 2024. |
| 288. | 510.5.5.1 FCC licensee control. An emergency power off button (EPO) shall be provided at the main BDA for emergency shut down of the system. When the EPO is used the RWC and Fire Department shall be notified. The EPO shall be identified with signage in accordance with Appendix D. |
| | **Reason:** The BDA are often in secured buildings and areas that prevent the easy access of the FCC licensee to be able to shut down these systems. An EPO will allow any person who has access to the system to easily shut down the system with no prior knowledge of how to interact with the system. Includes requirement to notify the Fire Department and RWC when a BDA is shut down. New to 2024. |
| 289. | 510.5.6 Acceptance test documentation. At the conclusion of acceptance testing, updated documentation shall be kept at the site that includes the following:<br>a. All system equipment utilized<br>b. Manufacturer's data sheets<br>c. Installation, testing, and maintenance documentation<br>d. As-built drawings showing all equipment locations<br>e. FCC License Holder express written consent.<br>f. Written documentation acceptable to the AHJ of the initial system testing, including system performance measurements at all locations covered by the installed system<br>g. Secondary power calculations<br>h. List of assigned frequencies<br>i. Where signal boosters are used, system isolation test results<br>j. Measured signal source levels<br>k. Identification of the type of signal source<br>l. The settings of all frequency channels or bands, subbands, channel/band gains, and filter bandwidths, and all configurable parameters of automatic gain control (AGC) modes used during the installation and testing<br>m. FCC part 90 in band and out of band test results.<br>n. Material and installation warranty information.<br>o. Central station report showing alarm points tested. |
| | **Reason:** More clarity added as to the level of detail needed in the documents left onsite. New to 2024. |
| 290. | 511.1 Sprinkler requirement. An automatic sprinkler system shall be installed in Group R-3 and R-4 occupancies on hillside areas where the gradient for a fire apparatus access road exceeds 15 percent, or hydrant spacing does not comply with Section 507, or a reliable water supply is not available. Group R-4 occupancies up to four stories in height shall require a minimum NFPA 13R automatic sprinkler system to be installed. Group R-3 occupancies, one-and two-family dwellings and manufactured homes, shall require a minimum NFPA 13D automatic sprinkler system to be installed. |

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| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** 1988 code sprinkler requirements that pre-date the Tarver Ordinance. Supports operations and provides consistent outcomes. |
| 291. | CONTROLLED ACCESS/SECURITY<br>GATES OR BARRIERS<br>512.1 General. The installation of controlled access/security gates or barriers across a fire apparatus access road shall be approved by the fire code official and meet the requirements of Section 512. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and addresses security requirements and their impact on accessibility for fire operations providing consistent outcomes. |
| 292. | 512.1.1 Permits. Permits shall be required to install or modify controlled access gates. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** A way to monitor installations. |
| 293. | 512.1.2 Gate installation companies. When gates are installed at any location that obstructs a fire apparatus access road, the installing company shall be licensed by the Arizona Registrar of Contractors as L-5 or C-5. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Accountability and consistent outcomes. |
| 294. | 512.1.3 Egress. Fire apparatus access/security gates or barriers shall be designed and installed such that they do not obstruct the egress or departure of emergency vehicles. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and addresses security requirements and their impact on accessibility for fire operations providing consistent outcomes. |
| 295. | 512.1.3.1 Pedestrian gates. Pedestrian gates installed as part of the means of egress shall comply with the Phoenix Building Code and Chapter 10 of this code. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Supports operations and addresses security requirements and their impact on accessibility for fire operations providing consistent outcomes. |

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| 296. | 512.1.4 Maintenance. All fire apparatus access gates shall be maintained operable at all times and shall be inspected at least annually. Copies of the annual inspection report shall be maintained and be accessible for fire department review. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and addresses security requirements and their impact on accessibility for fire operations providing consistent outcomes. |
| 297 | 512.1.5 Inoperable gates. Controlled access gates that are inoperable and impede the entrance of fire apparatus shall be chained open or removed at the owner's expense. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and addresses security requirements and their impact on accessibility for fire operations providing consistent outcomes. |
| 298. | 512.1.6 Illegal gates. Controlled access gates that cross fire apparatus access roads that have been installed without a permit shall be chained open or removed at the owner's or installing contractor's expense until a permit and final approval have been obtained from the fire department. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides legal means to address violations. |
| 299. | 512.2 Fire apparatus access gates.<br>512.2.1 General. Access openings are required to be automatic where no turnaround is provided for fire apparatus. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations. |
| 300. | 512.2.2 Main entrance identification. Access openings shall have signs that identify the location of the property's primary entrance, and signs shall be bolted on the street side of the fire apparatus access gate (see Appendix D). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes. |
| 301. | 512.2.3 Marking and signage. Manual and automatic access openings are required to be marked in accordance with Section 512.3.5. Signage shall be provided in accordance with Section 512.5.2. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package). |

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| | Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes. |
| 302. | 512.3 Controlled access gate specifications. When con-trolled access gates are installed across a fire apparatus access road the specifications in Section 512.2 shall apply. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes. |
| 303. | 512.3.1 Opening width. When the gate is fully opened, a minimum 20-foot (6096 mm) clear width shall be provided for both the entrance and exit gates. Gates installed and approved prior to Nov. 8, 2003 shall be maintained in accordance with the original approval. The fire code official shall require additional width opening where a 45-foot (13 716 mm) fire apparatus turning radius cannot be met.<br>Exception: Access roads serving three or fewer Group R-3 occupancies within 350 feet (107 m) from the street to each residence's main entrance as the fire fighters travel shall be exempt from the requirement of 20 feet (6096 mm). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes |
| 304. | 512.3.2 Electric and solar voltaic power system operated gates. Electric and solar-operated gates shall be installed in accordance with this section. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), added solar.<br>**Reason:** Supports operations and provides for consistent outcomes. Ensures gates are installed with backup power. |
| 305. | 512.3.2.1 Backup power systems. Electric and solar operated gates shall be provided with a backup power system. Backup power is permitted to be, but not limited to, battery backup or connection to an emergency generator. The activation of the system shall open gates and maintain them in the open position until primary power is restored to the system.<br>Exception: Controlled access gates installed at occupancies other than multifamily residential properties may remain closed until the emergency gate switch is activated and shall then remain open while the backup power system is operating the gate. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes. Ensures gates are installed with backup power. |
| 306. | 512.3.3 Opening time. Electric and solar-operated controlled access gates shall open at a minimum rate of 1 foot per second (0.305 m/s). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). |

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| | Reason: Provides minimum standards. |
| 307. | 512.3.4 Key switch. Each electric and solar-operated controlled access gate shall be equipped with an approved key switch on both sides of the gate. Where separate entry and exit gates are provided, the emergency key switch shall open the entrance and exit gates. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes. |
| 308. | 512.3.5 Key switch identification. An approved sign reading "F.D. ACCESS" shall be installed within 12 inches (305 mm) of the emergency key switch. The key switch shall be illuminated so as to be visible from fire apparatus (see Appendix D). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes. |
| 309. | 512.3.6 Height. The key switch shall be mounted between 51/2 and 6 feet (1676 to 1829 mm) above grade. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for access from fire apparatus. |
| 310. | 512.3.6.1 Solar photovoltaic cell location. The solar cell shall be located not less than 7 feet (2133 mm) above grade. The photovoltaic cell shall be located on the 4-inch by 4-inch preemption post as shown in the solar powered gate detail (see Appendix D). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes. |
| 311. | 512.3.7 Obstruction and impairment. Posts, fences, vehicles, growth, trash, storage and other materials shall not be kept near key switches in a manner that would prevent the key switches from being visible. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes. Strike through change to numbering sequence to correct 2018 error. |
| 312. | 512.3.8 Bypass of systems. When activated, the emergency key switch shall bypass all occupant and loop switch systems. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). |

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| | **Reason:** Supports operations and provides for consistent outcomes |
| 313. | 512.4 Preemption devices. Preemption devices are required on all new automatic fire access gates installed after Jan. 1, 2001, at residential properties. Gates installed without permits or proof of installation date require preemption devices. Voluntary installations of preemption devices shall comply with the requirements of Section 512.4.2.<br>Exception: Access roads serving three or fewer Group R-3 occupancies. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes, provides quicker response at multi-family and large complexes. |
| 314. | 512.4.1 Locations. The devices shall be installed such that the gate will open for both ingress and egress of emergency vehicles. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes. |
| 315. | 512.4.2 Minimum installation standards. The installation of preemption devices shall comply with the following:<br>1. Detectors shall be mounted 8 to 10 feet (2439 to 3048 mm) above grade.<br>2. Detectors shall be located not less than 18 inches (457 mm) behind the gate on the property side.<br>3. Detectors shall be mounted on a separate 4-inch by 4-inch (102 to 102 mm) metal post and not on the guide post. The metal post shall be cemented not less than 18 inches (457 mm) below grade.<br>4. Detectors shall activate at not less than 150 feet (45 720 mm) from the gate.<br>5. Detectors shall point toward both the approach and the exit path of the emergency vehicle.<br>6. The sight path of the detector shall be free of visual obstructions such as signs, covered parking, canopies and vegetation.<br>7. Individual detectors shall be mounted together with the power module in the dual detector-mounting box. Detectors shall be approved by the fire department. A list of approved devices will be maintained by the fire department and available to the public. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes. |
| 316. | 512.5 Manually controlled access gates. Where the fire code official determines that manually controlled access gates cross fire apparatus access roads or other roads that provide access to areas where immediate access is necessary for lifesaving or fire-fighting purposes, such gates shall comply with Section 512.3. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes. |
| 317. | 512.5.1 Locking mechanism. All manual controlled access gates that cross a fire apparatus access road shall use an approved dual padlock mechanism (see Appendix D). Gates installed and approved prior to Nov. 8, 2003 shall be maintained in |

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| | accordance with the original approval. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes |
| 318**.** | 512.5.2 Signs. Approved signs shall be provided on the manual gates. The signs shall have a reflective background and shall be bolted back-to-back onto each side of the gate (see Appendix D). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes |
| 319 | 512.5.3 Marking. Red, crosshatched striping not less than 6 inches (152 mm) wide shall be painted on the ground surface on both sides of the manual access gate, including recessed areas as determined by the Fire Department. No fewer than two applications of paint are required. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations and provides for consistent outcomes |

| Chapter 6 Building Services and Systems | |
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| 320. | ◆Section 604 Fire Service Access Elevator, Elevator operation, maintenance and fire service keys |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 321. | 604.8 General.<br>Where required by Section 403.6.1 of the *International Building Code*, every floor above and including the lowest level of fire department vehicle access of the building shall be served by fire service access elevators complying with Sections 604.8 through 604.8.9. Except as modified in this section, fire service access elevators shall be installed in accordance with this chapter and ASME A17.1/CSA B44.<br>Exceptions:<br>1. Elevators that only service an open or enclosed parking garage and the lobby of the building shall not be required to serve as fire service access elevators.<br>2. The elevator shall not be required to serve the top floor of a building where that floor is utilized only for equipment for building systems. |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 322. | 604.8.1 Automatic sprinkler system. The building shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, except as otherwise permitted by Section 903.3.1.1.1 and as prohibited by Section 3007.2.1 of the *International Building Code*. |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 323. | 604.8.2 Prohibited locations. Automatic sprinklers shall not be installed in machine rooms, elevator machinery spaces, control rooms, control spaces and elevator hoistways of fire service access elevators. |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 324. | 604.8.3 Automatic sprinkler system monitoring. The automatic sprinkler system shall have a sprinkler control valve supervisory switch and water-flow-initiating device provided for each floor that is monitored by the building's fire alarm system. |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 325. | 604.8.3 Water protection. Water from the operation of an automatic sprinkler system outside the enclosed lobby shall be prevented from infiltrating into the hoistway enclosure in accordance with an approved method. |

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| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 326. | 604.8.4 Shunt trip. Means for elevator shutdown in accordance with Section 3005.5 shall not be installed on elevator systems used for fire service access elevators. |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 327. | 604.8.5 Hoistway enclosures. The fire service access elevator hoistway shall be located in a shaft enclosure complying with Section 713. |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 328. | 604.8.5.1 Structural integrity of hoistway enclosures. The fire service access elevator hoistway enclosure shall comply with Sections 403.2.2.1 through 403.2.2.4 of the *International Building Code*. |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 329. | 604.8.5.2 Hoistway lighting. When firefighters' emergency operation is active, the entire height of the hoistway shall be illuminated at not less than 1 footcandle (11 lux) as measured from the top of the car of each fire service access elevator. |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 330. | 604.8.6 Fire service access elevator lobby.<br>The fire service access elevator shall open into an enclosed fire service access elevator lobby in accordance with Sections 604.8.6.1 through 604.8.6.5. Egress is permitted through the enclosed elevator lobby in accordance with Item 1 of Section 1016.2 of the *International Building Code*.<br>Exceptions:<br>1. Where a fire service access elevator has two entrances onto a floor, the second entrance shall be permitted to be protected in accordance with Section 3006.3.<br>2. A fire service access elevator lobby is not required to be provided at an occupiable roof. |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 331. | 604.8.6.1 Access to interior exit stairway or ramp. The enclosed fire service access elevator lobby shall have direct access from the enclosed elevator lobby to an enclosure for an interior exit stairway or ramp. |

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| | Exception: Access to an interior exit stairway or ramp shall be permitted to be through a protected path of travel that has a level of fire protection not less than the elevator lobby enclosure. The protected path shall be separated from the enclosed elevator lobby through an opening protected by a smoke and draft control assembly in accordance Section 716.2.2.1 of the *International Building Code*. |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 332. | 604.8.6.2 Elevator lobby separation. The fire service access elevator lobby shall be separated from each floor with a smoke barrier in accordance with Section 709 of the *International Building Code*, except that lobby doorways shall comply with Section 604.8.6.3.<br>Exception: Fire service access elevator lobbies are not required to be separated at the levels of exit discharge. |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 334. | 604.8.6.3 Elevator lobby doorways. Other than doors to the elevator control room or elevator control space, each door in the smoke barrier shall be provided with a 3/4-hour fire door assembly complying with Section 716 of the *International Building Code*. Such a fire door assembly shall comply with the smoke and draft control door assembly requirements of Section 716.2.2.1.1 of the *International Building Code* and be tested in accordance with UL 1784 without an artificial bottom seal. |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 335. | 604.8.6.4 Lobby size. Regardless of the number of fire service access elevators served by the same elevator lobby, the enclosed fire service access elevator lobby shall be not less than 150 square feet (14 m2) in an area with a dimension of not less than 8 feet (2440 mm). |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 336. | 604.8.6.5 Fire service access elevator symbol. A pictorial symbol of a standardized design designating which elevators are fire service access elevators shall be installed on each side of the hoistway door frame on the portion of the frame at right angles to the fire service access elevator lobby. The fire service access elevator symbol shall be designed as shown in Figure 604.8.6.5 and shall comply with the following:<br>1. The fire service access elevator symbol shall be not less than 3 inches (76 mm) in height.<br>2. The helmet shall contrast with the background, with either a light helmet on a dark background or a dark helmet on a light background.<br>3. The vertical center line of the fire service access elevator symbol shall be centered on the hoistway door frame. Each symbol shall be not less than 78 inches (1981 mm), |

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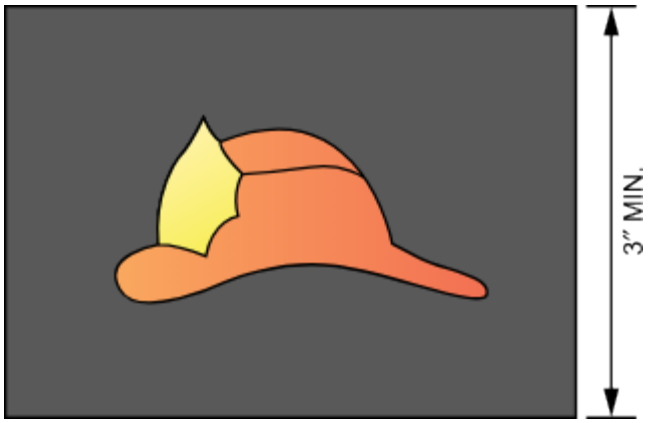
| | and not more than 84 inches (2134 mm) above the finished floor at the threshold. |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 337. | FIGURE 604.8.6.5 FIRE SERVICE ACCESS ELEVATOR SYMBOL<br>  <br> |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 338. | 604.8.7 Elevator system monitoring. The fire service access elevator shall be continuously monitored at the fire command center by a standard emergency service interface system meeting the requirements of NFPA 72. |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 339. | 604.8.8 Electrical power. The following features serving each fire service access elevator shall be supplied by both normal power and Type 60/Class 2/Level 1 standby power:<br>1. Elevator equipment.<br>2. Elevator hoistway lighting.<br>3. Ventilation and cooling equipment for elevator machine rooms, control rooms, machine spaces and control spaces.<br>4. Elevator car lighting. |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 340. | 604.8.8.1 Protection of wiring or cables. Wires or cables that are located outside of the elevator hoistway and machine room and that provide normal or standby power, control signals, communication with the car, lighting, heating, air conditioning, ventilation and fire-detecting systems to fire service access elevators shall be protected using one of the following methods:<br>1.Cables used for survivability of required critical circuits shall be listed in accordance |

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| | with UL 2196 and shall have a fire-resistance rating of not less than 2 hours.<br>2.Electrical circuit protective systems shall have a fire-resistance rating of not less than 2 hours. Electrical circuit protective systems shall be installed in accordance with their listing requirements.<br>3.Construction having a fire-resistance rating of not less than 2 hours.<br>Exception: Wiring and cables to control signals are not required to be protected provided that wiring and cables do not serve Phase II emergency in-car operations. |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 341. | 604.8.9 Standpipe hose connection. A Class I standpipe hose connection in accordance with Section 905 shall be provided in the interior exit stairway and ramp having direct access from the enclosed fire service access elevator lobby. |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 342. | 604.8.9.1 Access. The exit enclosure containing the standpipe shall have access to the floor without passing through the enclosed fire service access elevator lobby. |
| | **Reason:** New to 2024, section 3007 Fire Service Access Elevator from the International Building Code bring incorporated into the Phoenix Fire Code to align code requirements with enforcement authority seated within Fire Prevention under the Fire Marshal. |
| 343. | 605.4.2 Fuel oil storage inside buildings. Fuel oil storage inside buildings shall comply with Sections 605.4.2.2 through 605.4.2.8 and Chapter 57. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Existing unchanged amendment brought forward, section reference change made in 2024. |
| 344. | 608.1.3 Pipe labeling. Piping shall be labeled every 20 feet or change of direction per Section 5003.2.2.1(2). All piping containing ammonia shall be labeled per IIAR Bulletin 14. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Existing unchanged amendment brought forward, section reference change made in 2024. |
| 345. | 608.1.4 Valve tagging. All valves shall be tagged per Section 5003.2.2.1(2), and marked on the Piping and Instrumentation diagram. |
| 346. | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Existing unchanged amendment brought forward, section reference change made in 2024. |
| 347. | 608.7.2 Maintenance. Mechanical refrigeration systems shall be maintained in proper operating condition, free from accumulations of oil, dirt, waste, excessive corrosion and other debris and leaks, in accordance with the International Mechanical Code. |
| 348. | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Existing unchanged amendment brought forward, section reference change made in 2024. |
| 349. | 608.7.3 Operators. Facilities using ammonia refrigeration equipment shall, upon the |

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| | request of the Fire Department, provide evidence that the refrigeration equipment is maintained and operated by technicians who have Certified Industrial Refrigeration Equipment Operator (CIRO) certification through the Refrigeration Engineer's and Technician's Association, or similar nationally recognized certification approved by the fire code official. |
| 350. | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Existing unchanged amendment brought forward, section reference change made in 2024. |
| 351. | 608.7.4 Emergency response documents.<br>Emergency response documents shall be maintained at a location approved by the fire department and include the following:<br>1. Hazardous material permit application.<br>2. Site map.<br>3. Hazardous materials inventory statement.<br>4. EPCRA emergency response plan questionnaire.<br>5. Facility emergency response plan.<br>6. Refrigerant system operation guide detailing compressor room layout, piping and instrumentation diagram (P&ID), valve schedule, emergency pressure control shutdown procedures, and supporting documentation as required by the fire code official. |
| 352. | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Existing unchanged amendment brought forward, section reference change made in 2024. |
| 353. | 608.9 Refrigerant detection. Refrigerant detection systems shall be in accordance with Section 916. |
| | **Reason:** New to 2024, the intent is to consolidate all gas detection requirements throughout the Phoenix Fire Code to section 916. |
| 354. | 608.9.2 Ventilation system. A clearly identified ventilation system switch of the break-glass type or an approved tamper-resistant cover shall provide on-only control of the machinery room ventilation fans in accordance with the International Mechanical Code. |
| 355. | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Existing unchanged amendment brought forward, section reference change made in 2024. |
| 356. | 608.9.3 Wind indicator. A wind sock, pennant or other wind indicator shall be provided and clearly visible near the machinery room. |
| 357. | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Existing unchanged amendment brought forward, section reference change made in 2024. |
| 358. | 608.9.4 Machinery room door sign.<br>A permanent sign shall be mounted on or near the machinery room door with the following information:<br>1. Name of facility.<br>2. Address. |

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| | 3.Total refrigerant system charge. |
| 359. | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Existing unchanged amendment brought forward, section reference change made in 2024. |
| 360. | 608.13.8 Additional ammonia diffusion tank features.<br>An ammonia diffusion tank shall have the following additional features:<br>1.Automatic fill capability.<br>2.External sight board visible from a distance of not less than 150 feet (45 720mm) for the fire apparatus access lane.<br>3.Ammonia leak detection in relief vent piping or at diffusion tank.<br>4.A fire hydrant located within 200 feet (60 960 mm) from the fire department connection to the ammonia diffusion tank.<br>5.The Fire Department Connection (FDC) marked with a sign that says: "FDC TO AMMONIA DIFFUSION TANK ONLY" per PFD specifications. See Appendix D.<br>6.An ammonia diffusion tank labeled: "AMMONIA DIFFUSION TANK" using contrasting background that is visible at a distance of at least 150 feet (45 720 mm).<br>An ammonia diffusion tank shall have a low water sensor with an audible or visual alarm located in an approved location nearby. The audible or visual device shall be labeled: "Low Water—Ammonia Diffusion Tank." |
| 361. | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Existing unchanged amendment brought forward, section reference change made in 2024. |
| 362. | 608.16 Records. A record of refrigerant quantities brought into and removed from the premises shall be maintained in a location approved by the fire code official. |
| 363. | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Existing unchanged amendment brought forward, section reference change made in 2024. |
| 364. | 608.18.4 Alternative design requirements for refrigeration systems. Alternative designs shall be approved by appeal to the fire code official. |
| 365. | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Existing unchanged amendment brought forward, section reference change made in 2024. |
| 366. | 609.3 Cryogenic tanks and piping. Cryogenic tanks and piping associated with hyperbaric facilities shall also comply with Chapters 50 and 55. |
| 367. | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Existing unchanged amendment brought forward, section reference change made in 2024. |

| Chapter 7 Fire and Smoke Protection Features | |
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| **1.** | Amendments to this chapter are not applicable, no new amendments are proposed at this time. |
| | **Reason:** |

| Chapter 8 Interior Finish, Decorative Materials and Furnishings | |
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| 368. | 807.1 General. The following requirements shall apply to all occupancies:<br>1. Furnishings or decorative materials of an explosive or highly flammable character shall not be used.<br>2. Fire-retardant coatings in existing buildings shall be maintained so as to retain the effectiveness of the treatment under service conditions encountered in actual use.<br>3. Furnishings or other objects shall not be placed to obstruct exits, access thereto, egress therefrom or visibility thereof.<br>4. The permissible amount of noncombustible decorative materials shall not be limited.<br>Upon request by the *fire code official*, the business owner or designee shall provide proof of flame retardancy. The procedure for conducting field flame tests on combustible decorative materials and decorative vegetation shall be in accordance with Section 806 and 807 and the provisions of NFPA 701 and 705. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Codifies standard operating procedures found in NFPA 701 and 705 for field testing flame treated fabric. |
| 369. | 807.3.1 Proof of retardancy. Proof of flame retardancy shall be in the form of a certificate from the decorative material manufacturer, or the business owner or designee shall submit documentation showing that the decorative material has been treated with a sufficiently effective amount of flame retardant. Where documentation/certification is not provided, a field flame test shall be conducted in accordance with NFPA 705, Recommended Practice for a Field Flame Test for Textiles and Films. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Codifies standard operating procedures found in NFPA 701 and 705 for field testing flame treated fabric. |
| 370. | 807.3.2 Match flame test. A match flame test shall be conducted as follows:<br>1. The test shall be performed in a draft-free, safe location.<br>2. Test samples shall be dry and shall be at least $1^1/_2$ inches (38 mm) wide and 4 inches (102 mm) long.<br>3. The sample shall be held in a vertical position with the flame from a wood match applied to the center of the bottom edge, $^1/_2$ inch (12.7 mm) above the bottom of the flame.<br>4. After 12 seconds of flame exposure, the match shall be removed from the sample. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Codifies standard operating procedures found in NFPA 701 and 705 for field testing flame treated fabric.. |
| 371. | 807.3.3 Passing field flame test. A combustible decorative material may be deemed flame resistant when all the following criteria are met:<br>1. The flame does not spread over the complete length of the sample or more than 4 inches (102 mm) from the bottom of the sample.<br>2. When the fire is removed, there is no more than 2 seconds of after-flame.<br>3. The material does not break or drip flaming particles. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC). |

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| | **Reason:** Codifies standard operating procedures found in NFPA 701 and 705 for field testing flame treated fabric.. |
| 372. | 807.3.4 Failing field flame test. The *fire code official* shall require that combustible decorative materials that do not meet the field flame test be removed from the building or structure. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Codifies standard operating procedures found in NFPA 701 and 705 for field testing flame treated fabric. |

| Chapter 9 Fire Protection and Life Safety Systems | |
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| 373. | 901.2 Construction documents. The *fire code official* shall have the authority to require *construction documents* and calculations for all *fire protection systems* and to require permits be issued for the installation, rehabilitation or modification of any *fire protection system*. All work done on new and existing systems shall meet the requirements of the current adopted codes and standards. *Construction documents* for *fire protection systems* shall be submitted for review and approval prior to system installation. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Reiterates Section 102 language. |
| 374. | 901.4.7.3 Environment. Automatic sprinkler system riser rooms and fire pump rooms shall be maintained at a temperature of not less than 40ºF (4ºC) and not more than 100ºF (37ºC). All fire protection equipment in the room/space shall be listed for the temperatures anticipated in the space/room. If equipment listing temperatures and/or manufacture specifications fall below the anticipated maximum room/space temperatures, then cooling shall be provided to meet equipment listing. Heating and cooling units shall be permanently installed. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Accommodates City of Phoenix permits. |
| 375. | 901.5.2 Stocking and loading. No portion of a building or structure shall be stocked or loaded with combustible fixtures or furnishings or regular stock until the required *automatic* fire sprinkler system has been tested and *approved* and a temporary certificate of occupancy issued. Where a *fire alarm system* is required, it shall be *approved* and monitored or fire watch shall be provided, prior to stocking and loading. No hazardous materials or processes shall be introduced until all required fire protections systems or process piping systems are installed and *approved*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5898 April 18, 2014 (2012 IFC amendment package).<br>**Reason:** Addresses what actions are permitted prior to full TCO issuance. Added to assist businesses and opening dates. |
| 376. | 901.6 Inspection, testing and maintenance. Fire protection and life safety systems listed in Table 901.6.1 shall be maintained in an operative condition at all times, and shall be replaced or repaired where defective. Nonrequired fire protection and life safety systems and equipment shall be inspected, tested and maintained or removed in accordance with Section 901.8. Appendix I is adopted as part of the *Phoenix Fire Code*. This appendix is not intended to provide comprehensive inspection, testing and maintenance requirements. Rather, it is intended to identify problems that are readily observable during fire inspections.<br>All fire protection systems shall be inspected and tested by a contractor licensed by the State of Arizona who is a current qualified contractor by the Phoenix Fire Department to work on the particular fire protection system being inspected or tested in accordance with NFPA standards (see Section 110.1). It shall be the responsibility of the owner to ensure that these requirements are met. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC). |

<table>
<tr><td></td><td>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>Reason: New to 2024. 901.6 has changed in base IFC, PFD has amended table 901.6.1 to include systems previous amended in 901.6in the 2018 edition of PFC. The remainder of existing amendments were brought forward to ensure a qualified party is conducting inspections and providing maintenance on life safety systems.</td></tr>
<tr><td>377.</td><td>901.6.1 Standards. Fire protection systems shall be inspected, tested and maintained in accordance with the referenced standards listed in Table 901.6.1.<br>Where no minimum maintenance standards exist, inspections shall be not less than annually.<br><table><tr><th colspan="2">TABLE 901.6.1 FIRE PROTECTION SYSTEM MAINTENANCE STANDARDS</th></tr><tr><th>SYSTEM</th><th>STANDARD</th></tr><tr><td>Smoke control systems</td><td>NFPA 92</td></tr><tr><td>Standard on Breathing Air Quality for Emergency Services Respiratory Protection</td><td>NFPA 1989</td></tr><tr><td>Emergency Responder Communication Enhancement Systems</td><td>NFPA 1225</td></tr></table></td></tr>
<tr><td></td><td>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Reason: Adding NFPA standards as refences for the testing inspection and maintenance of the life safety systems they are associated with.</td></tr>
<tr><td>378.</td><td>901.6.3.1 Records information. Initial records shall include the name of the installation contractor, type of components installed, manufacturer of the components, location and number of components installed per floor. Records shall include the manufacturers’ operation and maintenance instruction manuals. Such records shall be maintained for the life of the installation.<br>Inspection and test reports and records shall include the name of the company performing the inspection or test, the qualified contractor contact information, and the printed name and signature of the company representative performing the inspection and tests.<br>Exception: In Group R-3 occupancies, other than R-3 Arizona licensed care facilities, the owner or a licensed contractor shall be responsible for inspecting and testing all fire protection and detection systems.<br>All required inspection reports shall be sent to the fire code official upon completion of inspection. If the system is found to be noncompliant, a brief description and corresponding code shall be listed. A copy shall be signed by the building owner or representative. For systems out of service see Section 901.7.</td></tr>
<tr><td></td><td>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Reason: Added to increase accountability of those conducting inspections and maintenance and includes the requirement to submit reports to the fire code official.</td></tr>
<tr><td>379.</td><td>901.6.3.2 Inspection and testing tags. Upon completion of the inspection and testing of fire protection systems, a tag shall be attached to the system in a</td></tr>
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| | conspicuous location. The tag shall document the date of inspection or test, the name of the qualified contractor company, the name of the individual performing the inspection or tests and whether the system has deficiencies. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** Added to increase accountability of those conducting inspections and maintenance and provide leverage to when repairs are not being made. |
| 380. | 901.6.3.3 Inspection forms. Inspection and test records shall be documented on forms that comply with the appropriate inspection standard. The forms shall clearly identify type and quantities of all components inspected or tested and identify all deficiencies found. Deficiencies shall be identified by the appropriate code or standard referenced. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** Added to increase accountability of those conducting inspections and maintenance and provide leverage to owners when repairs are not being made. |
| 381. | 901.7 Systems out of service. Where a required *fire protection system* is out of service and, where required by the *fire code official*, the building shall be either evacuated and/or an *approved* fire watch shall be provided for until the *fire protection system* has been returned to service. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC). Last sentence added.<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** Identifies proper contacts during system service. Allows operations to make alternative choices on response. |
| 382. | 901.7.4 Preplanned impairment programs. Preplanned impairments shall be authorized by the impairment coordinator. Before authorization is given, a designated individual shall be responsible for verifying that all of the following procedures have been implemented:<br>1. The extent and expected duration of the impairment have been determined.<br>2. The areas or buildings involved have been inspected and the increased risks determined.<br>3. Recommendations have been submitted to management or the building *owner*/manager.<br>4. The Phoenix Fire Department at 602-495-5555 has been notified.<br>5. The insurance carrier, the alarm company, the building *owner*/manager and other authorities having jurisdiction have been notified.<br>6. Occupants in the areas to be affected have been notified.<br>7. A tag impairment system has been implemented.<br>8. Necessary tools and materials have been assembled on the impairment site. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), #9 added.<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). |

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| | **Reason:** Identifies proper contacts during system service. Allows operations to make alternative choices on response. #6 amended to provides specific contact info and direct instructions to be provided to occupants not just Supervisors. Provides specific contact info and direct instructions to be provided to occupants not just Supervisors. |
| 383. | 901.7.6 Restoring systems to service. Where impaired equipment is restored to normal working order, the impairment coordinator shall verify that all of the following procedures have been implemented:<br>1. Necessary inspections and tests have been conducted to verify that affected systems are operational.<br>2. Occupants in the areas affected have been advised that protection is restored.<br>3. The Phoenix Fire Department Alarm Room 602-495-5555 has been advised that protection is restored.<br>4. The building *owner*/manager, insurance carrier, alarm company and other involved parties have been advised that protection is restored.<br>5. The impairment tag has been removed. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Identifies proper contacts during system service. Allows operations to make alternative choices on response. |
| 384. | 901.8.1 Removal of or tampering with appurtenances. Locks, gates, key boxes, key switches, preemption devices, doors, barricades, chains, enclosures, signs, tags or seals that have been installed by or at the direction of the *fire code official* shall not be removed, unlocked, destroyed, tampered with or otherwise vandalized in any manner. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added to address unscrupulous gate vendors who were removing and reusing equipment, leaving operations locked out of facilities noted to have key boxes. |
| 385. | 901.11 Clearance around fire-protection systems and equipment. A minimum 3-foot (914 mm) clear space, on a minimum of two sides, shall be maintained for ready access to fire protection equipment, including control valves and control panels. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations and give fire protection the same access requirements as electrical equipment. |
| 386. | 901.12 Protection of exterior exposed sprinkler system components. Protection for exterior exposed sprinkler system components shall be as follows: |

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| | 1. Steel sprinkler pipe and components located on the exterior of a building shall be either galvanized or painted to protect from corrosion. There is no restriction on size for freezing protection.<br>2. Non-steel sprinkler pipe smaller than 2 inches (51 mm) in diameter shall be insulated to protect from freezing.<br>3. Hydraulic design information signs shall be metal with the information maintained clearly and permanently stamped onto the sign. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** More lenient that national code provides minimum consistent outcomes for enduring life safety systems in the Phoenix climate. |
| 387. | 902.1 Definitions. The following terms are defined in Chapter 2:<br>COMMON AREA.<br>MAINTENANCE.<br>MODIFICATION.<br>SHELL BUILDINGS. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC, maintenance and modification added.<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), common area added.<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC) common area added.<br>**Reason:** Added to define the scope of required systems and permittable actions.<br>Common area added as a combination of fire code, building codes and ADA definitions to provide guidance for audio/visual alarms. |
| 388. | 903.1 General. *Automatic sprinkler systems* shall comply with the Bret Tarver Sprinkler Ordinance. An *approved automatic sprinkler system* shall be installed throughout all levels of all new Group A, B, E, F, H, I, M, R-1, R-2, R-4 and S occupancies of any size and throughout all Group R-3 occupancies including one- and two-family dwellings built under the *International Residential Code*, and Group U occupancies of more than 5,000 square feet (464 $m^2$).<br>The calculated area of Group R-3 occupancies shall include all livable space and the area of any attached garage and carports or areas located under living spaces.<br>*Automatic sprinkler systems* shall be installed in accordance with NFPA 13 for Group A, B, E, F, H, I, M, R-1, R-2, R-4 and S occupancies. *Automatic sprinkler systems* shall be installed in accordance with NFPA 13R for residential occupancies up to and including four stories in height, in Groups R-1, R-2, R-4 occupancies and NFPA 13D for one- and two-family dwellings and mobile homes in Group R-3 and R-4 occupancies with six to 10 licensed beds. Exceptions to or reductions in code requirements are not allowed for the installation of residential sprinkler systems installed in accordance with NFPA 13R and NFPA 13D unless specifically allowed by the *International Building Code*. Exceptions to or reductions in code requirements for NFPA 13 systems allowed in the *International Building Code* are allowed. |

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| | Exceptions:<br>1. Detached gazebos, temporary tents and ramadas for residential and public use.<br>2. Independent building of any construction or occupancy, other than Group E or H, of 700 square feet (65 $m^2$) or less.<br>3. Detached noncombustible carports or parking canopies, and detached noncombustible canopies used exclusively for automotive motor fuel dispensing station not exceeding 5,000 square feet (464 $m^2$).<br>4. Factory-built buildings utilized as temporary office buildings similar to real estate leasing offices and construction offices.<br>✦5. Playground equipment, carwashes and small canopies for shade that are less than 5,000 square feet (464 $m^2$) in area and constructed of limited or noncombustible material and are more than 5 feet (1524 mm) from the nearest structure. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), #2 increased from 600 square feet. #3 & 4 covered by #2 and #3 added. The last sentence of paragraph 2 edited after change in State law regarding residential sprinklers.<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4821 August 30, 2006 (2003 amendment package), deletes #3<br>Adopted by Ordinance G-4795 May 3, 2006 (2003 amendment package), item #5 adopted [#5 in blue]<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC), exceptions 1-8 adopted.<br>Adopted by Ordinance G-4669 January 12, 2005 (1997 UFC amendment), adds Occupancy Hazards Table, changes zero square footage requirement to 2,500 and higher hazard.<br>Adopted by Ordinance G-4771 November 13, 2002– (1997 UFC amendment), increase equipment/storage bld. Size, adds additions in 3-year period, R-3 50% increase in size = >5,000, change of occupancy or 50% increase or > 10,000 commercial.<br>Adopted by Ordinance G-4432 June 15, 2002 – (1997 UFC amendment).<br>**Reason:** Added as a response to the death of firefighter Bret Tarver, to ensure a minimum life safety and property protection in line with other jurisdictions in the Valley. |
| 389. | ~~903.1.1 Alternative protection. Alternative automatic fire-extinguishing systems complying with Section 904 shall be permitted instead of automatic sprinkler system protection where recognized by the applicable standard and approved by the fire code official.~~<br>903.1.1 Retrofit. Existing buildings are required to comply with the provisions of Sections 903.1.2 through 903.1.7. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** New to 2024. 903.1.1 changed in 2024 to Alternative protection, previously 903.1.9. PFD will keep Alternative protection section 903.1.9 as to not resection more of base code. Added as a response to the death of firefighter Bret Tarver, to ensure a minimum life safety and property protection in line with other |

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| | jurisdictions in the Valley. Southwest Super Market had had many renovations creating combustible concealed spaces. |
| 390. | 903.1.2 Retrofit in Group R-3 occupancies. One or more additions within any 3-year period are made to a Group R3 occupancy and comply with all of the following:<br>1. The aggregate of the additions exceeds 50 percent of the square footage of the house as of June 17, 2002.<br>2. The new total area of the building is greater than 5,000 square feet (464 $m^2$).<br>The calculated area of Group R-3 occupancies shall include all livable space and the area of any attached garage, carports, aircraft hangar or basement. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Amended by Regulation 903.1.2 to add "all" back, due to change in State law regarding existing sprinkler code.<br>Amended by Ordinance G-5989 Effective April 18, 2014 (to remove all of).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>Added as a response to the death of firefighter Bret Tarver, to ensure a minimum life safety and property protection in line with other jurisdictions in the Valley. Southwest Super Market had had many renovations creating combustible concealed spaces.<br>**Reason:** This amendment represents a compromise with the Home Builders Association when the citizen Fire Safety Advisory Board wanted a zero-square footage requirement. It was agreed that the 5,000-square foot size was no longer "affordable" housing. This large structure behaves more like a commercial building when on fire. |
| 391. | 903.1.3 Building additions. Building additions in existing occupancies other than Group R-3 shall be protected by an automatic fire sprinkler where any of the following apply:<br>1. Building additions equal 50 percent or more of the existing building floor area, or exceed 10,000 square feet (929 $m^2$), whichever is less.<br>2. Two or more building permits related to increased square footage are issued over any three consecutive years where:<br>2.1. The aggregate of the additions exceeds 50 percent of the square footage of the building as of June 17, 2002.<br>2.2. The new total area of the building is greater than 10,000 square feet (929 $m^2$).<br>3. They are required to be protected in accordance with the *City of Phoenix Building Code* or *City of Phoenix Residential Code*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), fire area added.<br>Adopted by Ordinance G-5149 June 6, 2008 (2006 IFC amendment package).<br>Adopted by Ordinance G-5082 January 30, 2008 (2006 IFC amendment package). [903.2.1.3]<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). [903.2.1.3(4)<br>**Reason:** Added as a response to the death of firefighter Bret Tarver, to ensure a minimum life safety and property protection in line with other jurisdictions in the Valley. Southwest Super Market had had many renovations creating |

<table>
<tr><td></td><td>combustible concealed spaces.</td></tr>
<tr><td>392.</td><td>903.1.4 Building remodels. An automatic fire sprinkler system shall be installed where 50 percent or more of the roof structure is replaced or repaired or where the removal of existing fire-rated assemblies results in an increase of the original basic fire area.</td></tr>
<tr><td></td><td>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), fire area added.<br>Adopted by Ordinance G-5149 June 6, 2008 (2006 IFC amendment package).<br>Adopted by Ordinance G-5082 January 30, 2008 (2006 IFC amendment package). [903.2.1.3]<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). [903.2.1.3(4)<br>Reason: Added as a response to the death of firefighter Bret Tarver, to ensure a minimum life safety and property protection in line with other jurisdictions in the Valley. Southwest Super Market had had many renovations creating combustible concealed spaces. If half of the roof is in repair sprinklers can easily be installed.</td></tr>
<tr><td>393.</td><td>903.1.5 Change of occupancy within hazard level 1. An automatic fire sprinkler system shall be installed where a building, regardless of the building area, undergoes a change of occupancy within Hazard Level 1 as defined by Table 903.1.5.<br><br>✦TABLE 903.1.5<br>HAZARD LEVEL<br><table><tr><th>HAZARD LEVEL</th><th>1997 UBC OCCUPANCY TYPE</th><th>2018 IFC OCCUPANCY TYPE[2]</th><th>2024 IFC OCCUPANCY TYPE</th></tr><tr><td>1 (highest)</td><td>H, I, A, R-1, R-2</td><td>H, I, A, R-1, R-2, R-4 B-ACF[1]</td><td>H, I, A, R-1, R-2, R-4, B-ACF[1]</td></tr><tr><td>2</td><td>S-1, S-5, F-1</td><td>S-1, F-1</td><td>S-1, F-1</td></tr><tr><td>3</td><td>E, F-2, S-2, S-3, S-4</td><td>E, F-2, S-2</td><td>E, F-2, S-2</td></tr><tr><td>4 (lowest)</td><td>B, M, U, R-3</td><td>B, M, U, R-3</td><td>B, M, U, R-3</td></tr></table><br>1. Business, Ambulatory Care Facility.<br>2. Provided for guidance of equivalent occupancy types.</td></tr>
<tr><td></td><td>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). [903.2.1.3(5)]<br>Reason: Added as a response to the death of firefighter Bret Tarver, to ensure a minimum life safety and property protection in line with other jurisdictions in the Valley. Increases in hazard and life safety at risk and matched the requirements for a new build.</td></tr>
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| 394. | 903.1.6 Change of occupancy over 2,500 square feet (232 $m^2$). An *automatic* fire sprinkler system shall be installed in any building 2,500 square feet (232 $m^2$) or greater that undergoes a change of occupancy. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** This amendment represents a compromise with the development community when the citizen Fire Safety Advisory Board wanted a zero-square footage requirement. |
| 395. | 903.1.7 Change of occupancy under 2,500 square feet (232 $m^2$). An *automatic* fire sprinkler system shall be installed in any building 2,500 square feet (232 $m^2$) or less that undergoes a change of occupancy to a higher hazard level as defined by Table 903.1.5.<br>Exceptions: An *automatic* fire sprinkler system is not required where the following requirements are met:<br>1. The occupancy is 1,500 square feet (139 $m^2$) or less.<br>2. There are openings entirely above the adjoining ground level totaling not less than 20 square feet (1.85 $m^2$) in each 50 linear feet (15 240 mm), or fraction thereof, of exterior wall in the story on at least one side. Openings shall have a minimum dimension of not less than 30 inches (762 mm). Such openings shall be accessible to the fire department from the exterior and shall not be obstructed in a manner that firefighting or rescue cannot be accomplished from the exterior; and the occupancy is not classified as Group H. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5308 March 6, 2009 (2006 IFC amendment package)<br>**Reason:** This amendment represents a compromise with the development community when the citizen Fire Safety Advisory Board wanted a zero-square footage requirement. |
| 396. | 903.1.8 Sprinkler systems—partially sprinklered buildings. When existing non-sprinklered buildings of mixed occupancy are required to install sprinklers based on a change of occupancy classification, sprinklers shall be installed throughout the *fire area* that includes the new occupancy. *Fire barriers* or *horizontal assemblies* separating sprinklered and non-sprinklered *fire areas* shall have a fire-resistance rating of not less than 2 hours. Fire department connection signage shall be in accordance with Section 912.4. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), exception added.<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** Compromise for change of occupancies within strip malls and other divided occupancies. Ensures new occupancy is not responsible for installing sprinklers in the entire structure. The R occupancy exception ensures life safety of occupancies where people are sleeping and not occupying businesses. Provides for entire areas being upgraded at the same time. |
| 397. | 903.1.9 Alternative protection. Alternative automatic fire-extinguishing systems complying with Section 904 shall be permitted instead of automatic sprinkler |

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| | protection where recognized by the applicable standard and *approved* by the *fire code official.* Alternative fire suppression systems intended for prevention of business interruption and equipment protection shall not substitute for full automatic sprinkler coverage installed for structural and life safety protection. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** Ensures documentation through the appeals process for non-sprinklered buildings. |
| 398. | 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~~. Where there is a conflict between a general requirement and an occupancy specific requirement, the most restrictive requirement shall be applicable. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Ensures special hazards are adequately protected through the proper application of life safety. |
| 399. | 903.2.13 Shell buildings. Automatic sprinkler systems shall be installed in shell buildings, other than Group M, F or S occupancies, of light and ordinary hazards per Section 903.3.1.1 and NFPA 13. All of the following requirements shall be applied to the design and installation of these systems.<br>1. Only nominal inch orifice, 5.6K, standard spray upright and pendent sprinkler shall be used in shell building fire sprinkler system designs and installations.<br>2. Reduction in remote areas of operation for hydraulically designed systems shall be prohibited when utilizing quick response sprinklers in shell building fire sprinkler system designs and installations.<br>3. Extended coverage sprinkler shall be prohibited in the design and installation of shell building fire sprinkler systems. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Added at the request of the Fire Safety Advisory Board to ensure that shell buildings can be adapted to office use without starting over with new piping & design. Not otherwise addressed in the code. |
| 400. | 903.3 Installation requirements. *Automatic sprinkler systems* shall be designed and installed in accordance with the following and Sections 903.3.1 through 903.3.8.<br>Design documents. For fire sprinkler systems, the following are considered to be Registered Design Professional activities in accordance with the requirements of the Arizona Board of Technical Registration.<br>1. Consider the range of hazards of the project.<br>1.1. Automatic sprinkler system design shall be based on the hazard classification of the building or area in accordance with NFPA 13.<br>1.2. Automatic sprinkler system designs for high-piled storage shall be in accordance with Chapter 32, High-piled Combustible Storage, and Chapter 57, Flammable and Combustible Liquids. |

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| | 2. Prepare hazard analysis; identify the hazard classification of the intended occupancy, including any special hazards.<br>3. Determine the applicable codes and standards and appropriate engineering practices.<br>4. Ascertain the availability and adequacy of the water supply for the project.<br>5. Determine the appropriate design density and area of operation for each hazard area.<br>These activities shall be completed prior to development of construction documents to be submitted for permit.<br>Exception: Automatic sprinkler systems installed in accordance with NFPA 13D.<br>Where Items 1 through 5 are addressed in a stamped narrative or single page, the remaining fire sprinkler shop drawings may be prepared by a NICET 3 or 4.<br>Non-registrants may lay out automatic fire sprinkler systems and their related hydraulic calculations for installation or permit.<br>Owner responsibilities. The owner of a building or structure where the fire sprinkler system is going to be installed, or their authorized agent, shall provide the design professional with the following information prior to preparation of design documents in accordance with NFPA 13:<br>1. The intended use of the building.<br>2. A description of the materials to be used or stored within the building.<br>3. A description of how the materials are to be used in the building.<br>4. A description of the commodity stored and proposed storage configuration including the maximum height.<br>5. A preliminary plan of the building or structure along with the design concepts necessary to prepare the design documents listed in Section 903.1.9.<br>6. Speculative buildings with high-piled storage capability shall be in accordance with Chapter 32.<br>These activities shall be completed prior to developing construction documents to be submitted for permit.<br>Exception: Automatic sprinkler systems installed in accordance with NFPA 13D.<br>Shop drawings shall be prepared by a designer in accordance with the Arizona Board of Technical Registration. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), item #6 added<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** Added to delegate responsibilities for actual occupant hazard classification to the owner so that engineers and architects could design appropriately. |
| 401. | 903.3.1.1.1 Exempt locations. 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. |

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| | 1. A room or space where sprinklers constitute a serious life or fire hazard because of the nature of the contents, as determined by a technical opinion and report prepared in accordance with Section 104.7.2 and where approved by the *fire code official*.<br>2. Generator and transformer rooms 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.<br>3. Rooms or areas that are of noncombustible construction with wholly noncombustible contents.<br>4. Fire service access elevator machine rooms and machinery spaces.<br>5. Machine rooms, machinery spaces, control rooms and control spaces associated with occupant evacuation elevators designed in accordance with Section 3008 of the *International Building Code*.<br>6. Sprinklers may be omitted from electrical vaults where access to the vault is under control of the electrical utility company and the vaults are separated from the rest of the building by fire-resistant construction in accordance with the NFPA 70.<br>7. Linen closets or pantries that have multiple-level shelving and cannot be walked into shall be considered cabinetry and shall not require sprinkler protection.<br>8. Dedicated pedestrian walkways of noncombustible construction meeting the criteria of NFPA 13. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), added item #9.<br>Adopted by Amendment Errata Items #7 & 8.<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>Reason: #1 & 3 edited to involve appeals process in the decision making/documenting process. #7 added from NFPA 70 to help with consistent installation. #8 added because it is not adequately addressed in NFPA 13 or the IFC. #9 added in reference to NFPA 13. |
| 402. | 903.3.1.1.4 Industrial shade canopies. Industrial shade canopies shall be protected by an *automatic sprinkler system*.<br>Exceptions:<br>1. Industrial shade awnings and canopies attached to buildings that are not otherwise required to be protected by an *automatic sprinkler system*.<br>2. Detached industrial awnings and shade canopies that do not exceed 1,000 square feet (93 $m^2$) in area.<br>3. Detached industrial shade awnings and canopies that are made of noncombustible material with a flame spread index not greater than 25 when tested in accordance with ASME E84 which does not exceed 5,000 square feet (372 $m^2$).<br>4. Where slatted, lattice or louvered awnings or a canopy roof system is not less than 50 percent open to the sky. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Language brought in from Phoenix Building Code for clarity. |

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| 403. | 903.3.1.1.5 Mercantile shade awnings and canopies. Mercantile shade awnings and canopies shall be protected by an automatic sprinkler system.<br>Exceptions:<br>1. Where a slatted, lattice or louvered awning or canopy roof system is not less than 50 percent open to the sky.<br>2. Where the shade membrane fabric used to cover garden, greenhouse, landscaping or plant nursery products or materials does not exceed 5,000 square feet (372 $m^2$).<br>3. Mercantile shade awnings and canopies attached to buildings that are not otherwise required to be protected by an *automatic sprinkler system*.<br>4. Mercantile shade awnings and canopies that are made of noncombustible material with a flame spread index not greater than 25 when tested in accordance with ASME E84, not exceeding 10,000 square feet (93 $m^2$).<br>5. Where sprinklers are permitted to be omitted for noncombustible shaded walkway or pedestrian entry areas. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Language brought in from Phoenix Building Code for clarity. |
| 404. | ✦ 903.3.1.1.6 Nonresidential shade canopies. Nonresidential awnings, canopies and patio covers shall be protected by an *automatic sprinkler system*.<br>Areas used for storage, seating and assembly shall be sprinklered. Structures over 5,000 square feet (372 $m^2$) that receive an occupancy classification are subject to the sprinkler requirements of the Bret Tarver Ordinance.<br>Exceptions:<br>1. Awnings, canopies and patio covers that do not exceed 400 square feet (37 $m^2$) in area.<br>2. Awnings, canopies and patio covers attached to buildings that are not otherwise required to be protected by an *automatic sprinkler system*, and the combined awing and building area do not exceed 2,500 square feet, in accordance with Section 903.1.7.<br>3. Where a slatted, lattice or louvered awning, canopy and patio roof system is not less than 50 percent open to the sky.<br>4. Where sprinklers are permitted to be omitted for noncombustible shaded walkway or pedestrian entry areas.<br>5. Nonresidential awnings, canopies and patio covers that are made of noncombustible material with a flame spread index not greater than 25 when tested in accordance with ASME E84, not exceeding 1,000 square feet (93 $m^2$).<br>6. Nonresidential awnings, canopies and patio covers that are used for covering playground equipment and made of material with a flame spread index not greater than 25 when tested in accordance with ASME E84. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Language brought in from Phoenix Building Code for clarity. |

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| 405. | 903.3.1.2.1 Balconies and decks. Sprinkler protection shall be provided for exterior balconies, decks and ground floor patios of *dwelling units* and *sleeping units* where any of the following conditions exists:<br>1. The building is of Type V construction, provided that there is a roof or deck above.<br>2. Exterior balconies, decks and ground floor patios of dwelling units and sleeping units are constructed in accordance with Section 705.2.3.1, Exception 3 of the *International Building Code*.<br>3. Patios with living spaces directly above.<br>Sidewall sprinklers that are used to protect such areas shall be permitted to be located such that their deflectors are within 1 inch (25 mm) to 6 inches (152 mm) below the structural members and a maximum distance of 14 inches (356 mm) below the deck of the exterior balconies and decks that are constructed of open wood joist construction. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added due to loss history in Phoenix and to protect living spaces not clearly addressed in NFPA 13R |
| 406. | 903.3.1.2.4 Exterior storage closets. Sprinkler protection shall be extended into attached exterior storage closets in Group R-1 and R-2 occupancies protected by *automatic sprinkler systems* installed in accordance with NFPA 13R. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added to address loss history in Phoenix. |
| 407. | 903.3.1.2.5. Attached garages and carports. Attached garages and carports shall be provided with sprinkler protection. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added due to loss history in Phoenix and to protect living spaces not clearly addressed in NFPA 13R. |
| 408. | 903.3.1.2.6 Residential combination services. With prior Water Services Department approval, a single combination water supply shall be permitted, provided that the domestic demand is added to the sprinkler demand as required by NFPA 13R. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Clarifies requirement for Water Services Department approval in order to use combination supply. |

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| 409. | 903.3.1.3.1 Attached garages and carports. Attached garages and carports with living space directly above shall be provided with sprinkler protection. Open patios or balconies with living spaces directly above shall be provided with sprinkler protection. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added due to loss history in Phoenix and to protect living spaces not clearly addressed in NFPA 13D. |
| 410. | 903.3.1.3.2 Domestic services. Where the domestic service provides the water supply for the automatic sprinkler system, the supply shall be in accordance with Section 903.3.1.3.3 and NFPA 13D. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added for guidance as Phoenix water meters do not supply the same amount of flow as the national code assumes. |
| 411. | 903.3.1.3.3 Residential combination services. A single combination water supply shall be permitted, provided that the domestic demand is added to the sprinkler demand as required by NFPA 13D. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added for guidance as Phoenix water meters do not supply the same amount of flow as the national code assumes. |
| 412. | 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 or the Uniform Plumbing Code. For connections to public waterworks systems, the water supply test used for design of fire protection systems shall be adjusted to account for seasonal and daily pressure fluctuations based on information from the water supply authority and as approved by the fire code official. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added for guidance as Phoenix water meters do not supply the same amount of flow as the national code assumes. |
| 413. | 903.3.5.3 Water supply tests. Hydrant flow tests used to design sprinkler systems, standpipe systems, and fire supply mains shall be performed on public hydrants by the City of Phoenix Water Services Department within 1 year of fire plans submittal. |

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| | A copy of the city's hydrant flow test report shall be submitted with the construction documents and calculations. When conducting a hydrant flow test for the design of *automatic* fire sprinkler systems, the minimum flow volume of the test shall meet or exceed the system demand. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**2018:** Change flow test to be completed within one year, in accordance with historic data.<br>**Reason:** Amendment ensures fire flow for sprinkler systems. |
| 414. | 903.3.5.4 Water supply tests on private hydrants. Hydrant flow tests performed on private hydrants by the property owner or his representative to be used in the design of *fire protection systems* shall be witnessed by the Phoenix Fire Department. When conducting a hydrant flow test for the design of *automatic* fire sprinkler systems, the minimum flow volume of the test shall meet or exceed the system demand. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Ensures water supplies are adequate on private systems and adequate for sprinkler system fire flow with the same integrity as public water tests are subject to. |
| 415. | 903.3.5.5 Sprinkler design safety factor. Sprinkler systems for NFPA 13, 13R and 13D systems shall be designed with a minimum safety factor as follows:<br>1. When the static pressure exceeds 90 psi (621 kPa), the maximum design static pressure shall be 80 psi (552 kPa) regardless of actual test pressure. The slope of the original water supply curve shall be used even though the design pressure is reduced to 80 psi (552 kPa).<br>The actual flow test pressures shall be used to determine the need for sizing fire pumps, pressure reducing valves, and hanger requirements in accordance with NFPA 13, 13D and 13R.<br>2. When the static pressure is less than 90 psi (621 kPa), a minimum 10 psi (69 kPa) safety factor shall be provided between the available water supply and the system flow and pressure demand and shall include hose stream allowances required by NFPA 13, 13D and 13R. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Ensures water supplies will be available on new development areas when the area is developed to the full extent of the Water Dept. area design. Allows for seasonal and daily fluctuations**.** |

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| 416. | 903.3.9 High-rise building floor control valves/water flow switches. *Approved* supervised indicating control valves/water flow shall be provided at the point of connection to the riser on each floor in high-rise buildings.<br>Mezzanines that cover more than one-third of the entire interior building footprint shall be provided with sectional floor control valves as outlined in this section.<br>Exceptions:<br>1. Residential occupancies three stories or fewer with a total building square footage less than 52,000 square feet (4831 $m^2$).<br>2. All other occupancies two stories or fewer with a total building square footage less than 22,000 square feet (2044 $m^2$).<br>3. Buildings up to three stories, above or below grade, that are not classified as high-rise buildings, may have the sectional floor control valves located in a manifold configuration in the dedicated fire riser room on the grade level of the building. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Added to address buildings other than high-rise for consistent outcomes. Allows for design of residential buildings with a single riser. |
| 417. | 903.4.1 Electronic supervision. Valves controlling the water supply for *automatic sprinkler systems*, pumps, tanks, water levels and temperatures, critical air pressures and waterflow switches on all sprinkler systems shall be electrically supervised by a *listed* fire alarm control unit.<br>Exceptions:<br>1. *Automatic sprinkler systems* protecting one- and two-family *dwellings*, other than assisted living Group R-4 occupancies.<br>2. Limited area sprinkler systems in accordance with Section 903.3.8, provided that backflow prevention device test valves located in limited area sprinkler system supply piping shall be locked in the open position unless supplying an occupancy required to be equipped with a fire alarm system, in which case the backflow preventer valves shall be electrically supervised by a tamper switch installed in accordance with NFPA 72 and separately annunciated.<br>3. *Automatic sprinkler systems* installed in accordance with NFPA 13R where a common supply main is used to supply both domestic water and the *automatic sprinkler system*, and a separate shutoff valve for the *automatic sprinkler system* is not provided.<br>4. Jockey pump control valves that are sealed or locked in the open position.<br>5. Control valves to commercial kitchen hoods, paint spray booths or dip tanks that are sealed or locked in the open position.<br>6. Valves controlling the fuel supply to fire pump engines that are sealed or locked in the open position.<br>7. Trim valves to pressure switches in dry, pre-action and deluge sprinkler systems that are sealed or locked in the open position.<br>8. Underground key or hub gate valves in roadway boxes.<br>9. Backflow-preventer or post indicator valves shall be supervised by one of the following methods: |

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| | 9.1. A local signaling service that will initiate an audible signal at a *constantly attended location*.<br>9.2. Valves locked in the open position and inspected monthly in accordance with an *approved* procedure. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Adds language to address requirement not addressed elsewhere. |
| 418. | 903.4.2 Monitoring. Alarm, supervisory and trouble signals shall be distinctly different and shall be automatically transmitted to an *approved* supervising station or, where *approved* by the *fire code official*, shall sound an audible signal at a constantly attended location.<br>Exceptions:<br>1. Underground key or hub valves in roadway boxes provided by the municipality or public utility are not required to be monitored.<br>2. Backflow prevention device test valves located in limited area sprinkler system supply piping shall be locked in the open position.<br>3. Building occupancies in Group A-2 less than 5,000 square feet (465 $m^2$).<br>4. Group H and E shall be monitored at 0 square feet.<br>5. All other building occupancies less than 12,000 square feet (1115 $m^2$). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Amended Items #4 & 8 by Ordinance G-5898 effective April 18, 2014, exceptions 1-6 added.<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC), exception #7 only.<br>**Reason:** #1-2 were added to line up with the sprinkler requirements in the national code with triggered monitoring. #3-5 were removed to align with national standard for monitoring. |
| 419. | 903.4.4 Monitoring at a constantly attended location. Where monitoring of the sprinkler system is required per Section 903.4.1, the facility's owner may request to monitor the system(s) at the facility site using facility personnel. Where the alarm monitoring station does not strictly comply with the NFPA 72 requirements for a proprietary supervising station, the following minimum provisions shall be met and approved by the *fire code official*:<br>1. The policies and procedures for monitoring the sprinkler system shall be written and submitted to the *fire code official* for approval prior to occupancy or terminating central station service or remote service. A copy of the approved fire alarm policies and procedures shall be maintained at the constantly attended location.<br>2. The alarm monitoring station shall be constantly attended by competent, trained personnel. At least one person shall monitor the fire alarm panel at all times. Provisions shall be made to relieve the alarm monitor prior to shift changes, during breaks, or during performance of other assigned duties outside of the alarm monitoring room. |

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| | 3. A list of trained personnel qualified to monitor the sprinkler system shall be maintained at the alarm monitoring station. Documentation of the alarm monitoring training shall be approved by the *fire code official,* and maintained at the alarm monitoring station and made available to the *fire code official* on request.<br>4. The policies and procedures shall address the dispensation of the various fire alarm signals. The fire department shall be immediately notified upon the activation of a fire alarm signal (smoke or heat detector, sprinkler water flow, manual pull station, special extinguishing system, etc.). Any investigation by the facility staff shall occur after or concurrent to notification of the fire department. If the investigation by facility staff determines that there is no emergency condition at the facility, the fire department shall be immediately notified to allow them to modify their response.<br>5. The fire department shall not be summoned for emergency response upon receipt of a supervisory or trouble signal, but procedures shall address dispensation of those signals by facility personnel.<br>6. A log shall be maintained at the monitoring station, noting all of the signals received and the dispensation of those signals. The log sheet shall be made available to the Phoenix Fire Department on request. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides clear guidelines for self-monitoring of fire and life safety systems. Providing the same level of reliability and professionalism that 3rd party monitoring is required to maintain. |
| 420. | 903.4.4.1 Location. In buildings greater than one story or 22,500 square feet (2090 m2), the fire alarm panel or a fire alarm annunciator panel shall be installed in a location that is visible from the lobby or area adjacent to the primary fire department response entrance. It shall be permissible to locate the fire alarm panel in a room immediately adjacent to this lobby, provided that the door to this room is accessible to the fire department, visible from the lobby and is provided with a permanent visible placard identifying the location of the fire alarm control panel. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Added to support operations and C99 in larger facilities. |
| 421. | 904.1 General. Automatic fire-extinguishing systems, other than *automatic sprinkler systems*, shall be designed, installed, inspected, tested and maintained in accordance with the provisions of this section and the applicable referenced standards. Alternative automatic fire-extinguishing systems designed to prevent business interruption and protect equipment shall not replace the requirement for full automatic sprinkler coverage. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Maintain overall building sprinkler systems when supplemental systems are installed for equipment and business interruption purposes. |
| 422. | 904.14.2 System interconnection. The actuation of the fire-extinguishing system shall automatically shut down the fuel and electrical power supply to the cooking |

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| | equipment. The fuel and electrical supply reset shall be manual. If the fire extinguishing system is *listed* to be effective with the commercial cooking exhaust system on or off, the system shall remain on. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Ensures all equipment shuts down upon activation. |
| 423. | ✦ 905.1 General. Standpipe systems shall be provided in new buildings and structures in accordance with Sections 905.2 through 905.11. In buildings used for *high-piled combustible storage*, fire protection shall be in accordance with Chapter 32. Temporary standpipes shall be installed during construction in accordance with Chapter 33. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides chapter reference for applicable requirement. |
| 424. | 905.2.1 Pressure-reducing valves on standpipes. All pressure-reducing valves on standpipes shall be required to be field adjustable on the system without special tools. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Operational imperative to supply proper pressure to hose valves under varying fire conditions. |
| 425. | 905.2.1.1 Testing. All pressure-reducing valves shall be tested annually in accordance with NFPA 25 and the manufacturer's instructions. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** To meet national standards educating the public. |
| 426. | 905.2.1.2 Minimum gpm. Pressure-reducing valves shall be set to provide a minimum 250 gpm at 100 psi when installed. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Ideal operating pressures and flow for Phoenix equipment. |
| 427. | 905.2.1.3 Standpipe outlets. Standpipe outlets on the roof shall be designed to provide a minimum 500 gpm at 100 psi for the first standpipe and up to a total of 1,000 gpm at 100 psi for all standpipe outlet water supplies. Testing standpipe outlet pressure and flow shall include the friction loss through 150 feet of hose on the roof. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Operational imperative to supply proper pressure to hose valves under varying fire conditions. Provides for consistent outcomes. |
| 428. | 905.2.1.4 Signage. Pressure-reducing valves shall be provided with signage indicating static pressure, residual pressure and flow on both sides of the valve. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Vital information under fire conditions. |
| 429. | 905.3.1 Height. Class III standpipe systems shall be installed throughout buildings where any of the following conditions exist:<br>1. Four or more stories are above or below grade plane.<br>2. The floor level of the highest story is located more than 30 feet (9144 mm) above the lowest level of the fire department vehicle access. |

<table>
<tr><td></td><td>3. The floor level of the lowest story is located more than 30 feet (9144 mm) below the highest level of fire department vehicle access.<br>Exceptions:<br>3. Class I manual standpipes are allowed in parking garages where the highest floor is located not more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.</td></tr>
<tr><td></td><td>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Reason: 75’ is the classification for high-rise in the building code.</td></tr>
<tr><td>430.</td><td>TABLE 906.1ADDITIONAL REQUIRED PORTABLE FIRE EXTINGUISHERS<br><table><tr><th>SECTION</th><th>SUBJECT</th></tr><tr><td>6303.1.4</td><td>Oxidizers (pool chemicals)</td></tr></table></td></tr>
<tr><td></td><td>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Reason: Added to 6303.1.4 Oxidizer general requirements.</td></tr>
<tr><td>431.</td><td>906.1.2 Extinguishers near oxidizers. Minimum 2A water portable fire extinguishers shall be provided in areas where oxidizers that can release chlorine are stored. The placement and use of dry chemical extinguishers containing ammonium compounds (Class A:B:C) is prohibited in areas where oxidizers that can release chlorine are stored. Halon extinguishers shall not be used in areas where oxidizers are stored.</td></tr>
<tr><td></td><td>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), item #7 added.<br>Reason: This is item #7 and is moved to its own section in 2018 amendment.</td></tr>
<tr><td>432.</td><td>907.1.1 Construction documents. Construction documents for fire alarm systems shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code, the International Building Code and relevant laws, ordinances, rules and regulations, as determined by the fire code official.<br>For fire alarm and other code-regulated alarm systems, the following are considered to be Registered Design Professional activities in accordance with the requirements of the Arizona Board of Technical Registration:<br>1. Determine the system type.<br>2. Determine the applicable codes and standards and appropriate engineering practices.<br>3. Determine device types and locations.<br>4. Prepare generalized riser diagram.<br>5. Coordinate and interface with other systems.<br>6. Develop system specifications.<br>Exceptions:<br>1. Where the modification of fire alarm systems does not require mathematical calculations or hazard analysis.</td></tr>
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| | 2. Where Items 1-6 are addressed in a stamped narrative or single page, the remaining fire alarm shop drawings may be prepared by a NICET 3 or 4. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** Specifies what activities require an engineer. |
| 433. | 907.1.2 Fire alarm shop drawings. Shop drawings for fire alarm systems shall be prepared in accordance with NFPA 72 and submitted for review and approval prior to system installation and shall include, but not be limited to, all of the following:<br>1. A floor plan that indicates the use of all rooms.<br>2. Locations of alarm-initiating devices.<br>3. Locations of alarm notification appliances, including candela ratings for visible alarm notification appliances.<br>4. Location of fire alarm control unit, transponders and notification power supplies.<br>5. Annunciators.<br>6. Power connection.<br>7. Battery calculations.<br>8. Conductor type and sizes.<br>9. Voltage drop calculations. The two predominant methods of voltage drop calculation are point-to-point and end-of-line lump sum. Center loading of the circuits is also an acceptable method.<br>10. Manufacturers' data sheets indicating model numbers and listing information for equipment, devices and materials.<br>11. Details of ceiling height and construction.<br>12. The interface of fire safety control functions.<br>13. Classification of the supervising station.<br>14. Identification of the communications methodology<br>15. Design minimum audibility level for occupant notification.<br>16. Emergency voice alarm communication plans, which shall include the following:<br>16.1. A graphic depiction of acoustically designed spaces.<br>16.2. A written description of acoustically designed spaces.<br>16.3. A graphic depiction of areas that require intelligibility testing and areas that do not require intelligibility testing.<br>16.4. A written description of areas that require intelligibility testing and areas that do not require intelligibility testing. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Specifies what is required to submit shop drawings. |
| 434. | ✦ 907.1.4 Monitoring. Fire alarm systems shall be monitored by an approved supervising station in accordance with Section 903.4.1. Annunciator panel shall be in accordance with 903.4.4.<br>Exceptions:<br>1. Single and multiple station smoke alarms required by Section 907.2.10. |

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| | 2. Smoke detectors in Group R-3 and I-3 occupancies.<br>3. Supervisory service is not required for *automatic sprinkler systems* in one- and two-family dwellings other than Group R-4 occupancies.<br>4. Proprietary service that will initiate an audible signal at a constantly attended location in accordance with Section 903.4.1.4. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** This provides consistency between monitoring between sprinklered and non-sprinklered systems. |
| 435. | ✦ 907.2 Where required—new buildings and structures. An *approved* fire alarm system installed in accordance with the provisions of this code and NFPA 72 shall be provided in new buildings and structures in accordance with Sections 907.2.1 through 907.2.23 and provide occupant notification in accordance with Section 907.5, unless other requirements are provided by another section of this code. Not fewer than one manual fire alarm box shall be provided in an approved location to initiate a fire alarm signal for fire alarm systems employing automatic fire detectors or waterflow detection devices. Where other sections of this code allow elimination of fire alarm boxes due to sprinklers, a single fire alarm box shall be installed.<br>For guidance on when required by Phoenix Fire Department in NFPA 72, see the NFPA 72 Authority Having Jurisdiction Policy.<br>Exceptions:<br>1. The manual fire alarm box is not required for fire alarm systems dedicated to elevator recall control and supervisory service.<br>2. The manual fire alarm box is not required for Group R-2 occupancies unless required by the fire code official to provide a means for fire watch personnel to initiate an alarm during a sprinkler system impairment event. Where provided, the manual fire alarm box shall not be located in an area that is open to the public. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Policy as NFPA 72 lessened its authority and moved it to the Authority Having Jurisdiction. The policy outlines when NFPA 72 is required in Phoenix**.** |
| 436. | 907.2.13.2 Fire department communication system. Two-way hardwired fire department communication system is required in high-rise buildings. In other buildings where a wired communication system is *approved* in lieu of an emergency responder radio coverage system in accordance with Section 510, the wired fire department communication system shall be designed and installed in accordance with NFPA 72 and shall operate between a *fire command center* complying with Section 508, elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, areas of refuge and inside *interior exit stairways*. The fire department communication device shall be provided at each floor level within the *interior exit stairway*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Base International Fire Code language assumes that in building emergency radio coverage is provided for fire fighter use and removed this wired system requirement. Amendment specifies high-rise are required to have hard-wired communication systems. This was added to address industry confusion |

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| | over the requirement to have both hard-wired and wireless fire department communication systems in high-rise buildings. |
| 437. | 907.3.5 Kitchen hood systems. Where kitchen hood systems are installed in buildings equipped with a fire alarm system designed to notify the building occupants, actuation of the hood system shall initiate the fire alarm system. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Not otherwise addressed in the base code. |
| 438. | 907.5.2.1 Audible alarms. Audible alarm notification appliances shall be provided and emit a distinctive sound that is not to be used for any purpose other than that of a fire alarm. Group A, B, E, F, H, I, M, R, S and U occupancies shall meet the Public Mode Audible Requirements of NFPA 72.<br>Exceptions:<br>1. Audible alarm notification appliances are not required in critical care areas of Group I-2, Condition 2 occupancies that are in compliance with Section 907.2.6, Exception 2.<br>2. A visible alarm notification appliance installed in a nurses' control station or other continuously attended staff location in a Group I-2, Condition 2 suite shall be an acceptable alternative to the installation of audible alarm notification appliances throughout the suite in Group I-2, Condition 2 occupancies that are in compliance with Section 907.2.6, Exception 2.<br>3. Where provided, audible notification appliances located in each enclosed occupant evacuation elevator lobby in accordance with Section 3008.9.1 of the *International Building Code* shall be connected to a separate notification zone for manual paging only.<br>4. Group I occupancies shall be allowed to use the Private Mode Audible Requirements of NFPA 72, where *approved* by appeal to the Fire Marshal. Registered design professionals shall specify on plans and in construction documents the mode for each area of the occupancy.<br>5. Where the private mode is specified, the designer shall provide written documentation for the use of this mode when *approved* by appeal to the Fire Marshal. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** This provides guidance for Group I-2 facilities to accommodate their operational needs and still provide adequate notification to essential staff, at stakeholders request. |
| 439. | ✦907.5.2.1.1 Average sound pressure. The audible alarm notification appliances shall provide and maintain a sound pressure level of 15 decibels (dBA) above the average ambient sound level or 5 dBA above the maximum sound level having a duration of not less than 60 seconds, whichever is greater, in every occupiable space within the building. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Added for clarity where devices do not maintain the sound pressure level for the duration. |

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| 440. | 907.5.2.2 Emergency voice/alarm communication systems. Emergency voice/alarm communication systems required by this code shall be designed and installed in accordance with NFPA 72. The operation of any automatic fire detector, sprinkler waterflow device or manual fire alarm box shall automatically sound an alert tone followed by voice instructions giving approved information and directions for a general or staged evacuation in accordance with the building's fire safety and evacuation plans required by Section 404. In high-rise buildings, the system shall operate on at least the alarming floor, the floor above and ~~the~~ two floors below. Speakers shall be provided throughout the building by paging zones. At a minimum, paging zones shall be provided as follows:<br>1. Elevator groups.<br>2. Interior exit stairways.<br>3. Each floor.<br>4. Areas of refuge as defined in Chapter 2.<br>Exception: In Group I-1 and I-2 occupancies, the alarm shall sound in a constantly attended area and a general occupant notification shall be broadcast over the overhead page. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Supports emergency operations standard operating procedures. |
| 441. | 907.5.2.3 Visible alarms. Visible alarm notification appliances shall be provided in accordance with Sections 907.5.2.3.1 through 907.5.2.3.3.<br>Exceptions:<br>1. Visible alarm notification appliances are not required in *alterations* that do not involve:<br>1.1. Changing the floor plan by the addition, removal, or relocation of walls.<br>1.2. A change in occupancy classification.<br>1.3. The modification, upgrade or replacement of an existing fire alarm system.<br>1.4. The installation of a new fire alarm system.<br>2. Visible alarm notification appliances shall not be required in *exits* as defined in Chapter 2.<br>3. Visible alarm notification appliances shall not be required in elevator cars.<br>4. Visual alarms are not required in operating rooms or treatment rooms of Group I occupancies where patients are under direct supervision by trained facility personnel. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Supports emergency operations standard operating procedures. |
| 442. | 907.6 Installation and monitoring. A fire alarm system shall be installed and monitored in accordance with Sections 907.6.1 through 907.6.6.5 and NFPA 72. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Includes Phoenix Amendment (907.6.6.3) refence for installation and monitoring requirements. |

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| 443. | 907.6.3.2 Device labels. All field devices shall be labeled with the unique identifier that corresponds with the device address or label on the plans. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Field devices shall have labels so they can be identified in the field. |
| 444. | 907.6.6.4 Multi-tenant buildings with different addresses. The alarm monitoring station shall identify all addresses of buildings, floors or suites protected by a *fire protection system* and provide this information to the Phoenix Fire Department alarm room center. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Support operations to locate the location of the event. |
| 445. | 907.6.6.5 Monitoring communicator. There shall be no more than one Fire Alarm/ Sprinkler monitoring communicator in a building. |
| | **Reason:** New to 2024. Multiple disparate communicators with multiple central stations can cause confusion when responding to an alarm. |
| 446. | 907.8.1 Maintenance required. Where required for compliance with the provisions of this code, devices, equipment, systems, conditions, arrangements, levels of protection or other features shall thereafter be continuously maintained in accordance with applicable NFPA requirements ~~or as directed by the fire code official.~~ Maintenance shall be provided by qualified contractors to install, maintain, inspect and test *fire alarm systems* as directed by the *fire code official*.<br>The audible alarm notification appliances shall be maintained to provide a sound pressure level of 15 decibels (dBA) above the average ambient sound level or 5 dBA above the maximum sound level having a duration of at least 60 seconds, whichever is greater, in every occupied space within the building. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** To ensure minimum audibility requirements are met after tenant improvements or other alterations to the building. Provides consistent outcomes. |
| 447. | 907.8.4 Inspection, testing and maintenance. The building *owner* shall be responsible to maintain the fire and life safety systems in an operable condition at all times. Service personnel shall meet the qualification requirements of NFPA 72 for inspection, testing and maintenance ~~of such systems.~~ and shall be a qualified contractor to install, maintain, inspect and test *fire alarm systems*. Records of inspection, testing and maintenance shall be maintained. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports the Business Certificate program and provides for contractors to be trained in fire alarms. |
| 448. | 909.18.8 Testing for smoke control. Smoke control systems shall be tested by a special inspector prior to and separate from the final acceptance test. The City of Phoenix Fire Department shall witness and approve the final acceptance test of |

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| | the system after the special inspection is complete. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Ensures *approved agencies* for smoke control testing have expertise in fire protection engineering, mechanical engineering and certification as air balancers. |
| 449. | 910.3 Smoke and heat vents. The design and installation of smoke and heat vents shall be in accordance with Sections 910.3.1 through 910.3.3. Smoke and heat vents shall operate automatically by actuation of a heat-responsive device. The device shall be rated a minimum of 50°F (10°C) above the rating of the *automatic* sprinklers, but not more than 386°F (197°C). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Temperatures listed are from FM 4430. Newer technology has higher limits. |
| 450. | 910.4 Mechanical smoke removal systems. Mechanical smoke removal systems shall be designed and installed in accordance with Sections 910.4.1 through 910.4.7 in approved locations and shall be *listed* for the environmental conditions to which they will be exposed. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Provides survivability of crucial components under adverse circumstances. |
| 451. | 912.1 Installation. Fire department connections shall be installed in accordance with the NFPA standard applicable to the system design and shall comply with Sections 912.2 through 912.7. All fire department connection underground piping shall be installed as a minimum Class 200. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Codifies operations specific requirements. |
| 452. | 912.2 Location. With respect to hydrants, driveways, buildings and landscaping, fire department connections shall be so located that fire apparatus and hose connected to supply the system will not obstruct access to the buildings for other fire apparatus. The location of fire department connections shall be *approved* by the *fire code official* and within 200 feet of a usable hydrant. A site plan detail shall be submitted to the fire code official for approval as part of the construction documents. See Section 105. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Fire department connections are reviewed during the plan review process during the construction phase. |
| 453. | 912.2.1 Visible location. Fire department connections shall be located on the street side of buildings or facing *approved* fire apparatus access roads, fully visible and |

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| | recognizable from the street, fire apparatus access road or nearest point of fire department vehicle access or as otherwise *approved* by the *fire code official*.<br>The location of fire department connections shall be approved and installed:<br>1. Within 50 feet (15 240 mm) of an approved roadway or driveway, and arranged so that hose lines can be readily attached to the inlets without interference from any nearby objects including buildings, fences, posts, plantings, or other fire department connections.<br>Hose lines shall not lie across a median. Connections shall not be designated maintenance black cap hydrants. Hydrant shall not be on the same supply loop that the FDC supplies.<br>2. Within 200 feet (60 960 mm), as the firefighter and apparatus can travel, of an approved hydrant arranged so that hose lines can be readily attached to the inlets without interference from any nearby objects including buildings, fences and posts.<br>3. So that the inlet height shall not be less than 18 inches (457 mm) nor more than 48 inches (1219 mm) above grade.<br>A site plan detail shall be submitted to the *fire code official* for approval as part of the construction documents. See Section 105.<br>A 3-foot (914 mm) minimum clearance shall be maintained at all times and without obstruction in the approach path. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Codifies operations specific requirements. |
| 454. | 912.2.2 Existing buildings. On existing buildings, wherever the fire department connection is not visible to approaching fire apparatus, the fire department connection shall be indicated by an *approved* sign mounted on the street front or on the side of the building. Such sign shall have the letters "FDC" not less than 6 inches (152 mm) high and words in letters not less than 2 inches (51 mm) high or an arrow to indicate the location. Such signs shall be subject to the approval of the *fire code official*. Signs shall be in accordance with Section 912.5. See Appendix D. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations. |
| 455. | 912.3 Fire hose threads. Fire hose threads used in connection with standpipe systems shall be *approved* and shall be compatible with Phoenix hose threads. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** Codifies operations specific requirements. |
| 456. | 912.3.1 Inlet connections. The minimum size of a fire department inlet connection shall be $2^1/_2$ inches (64 mm) with Phoenix threads. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** Codifies operations specific requirements. |
| 457. | 912.4 Access. Immediate access to fire department connections shall be maintained at all times and without obstruction by fences, bushes, trees, walls, mechanical |

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| | equipment, retention ponds or any other fixed or moveable object. Access to fire department connections shall be *approved* by the *fire code official*.<br>Exception: Fences, where provided with an access gate equipped with a sign complying with the legend requirements of Section 912.5 and a means of emergency operation. The gate and the means of emergency operation shall be *approved* by the *fire code official* and maintained operational at all times. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), added in the approach path.<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations. |
| 458. | 912.4.1 Locking fire department connection caps. The *fire code official* is authorized to require locking caps on fire department connections for new and tampered-with water-based *fire protection systems* where the responding fire department carries appropriate key wrenches for removal. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). [caps required different language]<br>**Reason:** Supports operations. |
| 459. | 912.5 Signs. A metal sign with raised letters not less than 1 inch (25 mm) in size shall be mounted on all fire department connections serving automatic sprinklers, standpipes or fire pump connections. Such signs shall read: AUTOMATIC SPRINKLERS or STANDPIPES or TEST CONNECTION or a combination thereof as applicable. Where the fire department connection does not serve the entire building, a sign shall be provided indicating the portions of the building served.<br>Each fire department connection (FDC) shall be identified by a permanent weather resistant sign. The sign face shall be not less than 12 inches by 12 inches (309 × 309 mm) and fabricated from .080-inch (2.032 mm) aluminum sheet or equivalent. The sign face shall have a white 3M diamond grade sheeting or equivalent applied as background. See Appendix D.<br>Where the system supplied by the FDC does not supply the entire building or supplies multiple buildings, the sign shall identify the buildings or areas of the building supplied by the FDC. The FDC sign shall identify the building address or area, where necessary, and type of systems the FDC supplies. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Supports operations. |
| 460. | 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 or Uniform Plumbing Code*. |
| | **Reason:** New to 2024. Change made to UPC to align with Planning and Development. |
| 461. | 912.6.1 Backflow inspection, testing and maintenance. All backflow connections |

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| | shall be periodically inspected, tested and maintained in accordance with NFPA 25. Private hydrants may be used for backflow testing.<br>For systems without private hydrants, the valve test connection may be made with an accessible connection. The valve and capped outlet shall be a hose thread connection so that fire hose with standard female Phoenix thread can be easily connected and shall be sufficiently sized to allow testing at the highest anticipated flow rate. For testing, the provided hose shall be of sufficient diameter and length to be run outside the building to a location that will mitigate the potential for injury or damage to property. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Water supply tests are covered in Section 903.5.3; backflow testing is required by the Planning & Development Dept. |
| 462. | 913.2 Protection against interruption of service. The fire pump, driver and controller shall be protected in accordance with NFPA 20 against possible interruption of service through damage caused by explosion, fire, flood, earthquake, rodents, insects, windstorm, freezing, vandalism and other adverse conditions.<br>Where a required or optional electrical emergency or standby power system is installed and an electric fire pump is installed, the fire pump shall be connected to both the normal electrical service and the standby power system. A UL-*listed automatic* transfer switch is required to be installed on the power supply to this pump.<br>Where the building, or a portion of the building, served by the fire pump is intended to remain occupied during a utility power outage, the electric fire pump shall be connected to both the normal electrical service and emergency or standby power system. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), second sentence, where required… added.<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Ensures the fire pump will work to protect the building in all circumstances. |
| 463. | 913.5.1 Acceptance test. Acceptance testing shall be done in accordance with the requirements of NFPA 20. The pump suction pressure shall not drop below 20 psi. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** The 20 psi (1.4 bar) limitation is used as a precaution to avoid possible cavitation of the underground piping. |
| 464. | 914.3.5 Emergency voice/alarm communication system. An emergency voice/alarm communication system shall be provided in accordance with Section 907.5.2.2. Two-way hardwired fire department communication system is required in high-rise buildings. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Amendment clarifies both wired and wireless emergency responder radio systems are required in High-Rise buildings as found elsewhere in the code. |
| 465. | ~~916.1 Gas detection systems. Gas detection systems required by this code shall comply with Sections 916.2 through 916.11.~~<br>~~916.2 Permits. Permits shall be required as set forth in Section 105.6.11.~~<br>~~916.2.1 Construction documents. Documentation of the gas detection system design and equipment to be used that demonstrates compliance with the~~ |

~~requirements of this code shall be provided with the application for permit.~~
~~916.3 Equipment. Gas detection system equipment shall be designed for use with the gases being detected and shall be installed in accordance with manufacturer's instructions.~~
~~916.4 Power connections. Gas detection systems shall be permanently connected to the building electrical power supply or shall be permitted to be cord connected to an unswitched receptacle using an approved restraining means that secures the plug to the receptacle.~~
~~916.5 Emergency and standby power. Standby or emergency power shall be provided or the gas detection system shall initiate a trouble signal at an approved location if the power supply is interrupted.~~
~~916.6 Sensor locations. Sensors shall be installed in approved locations where leaking gases are expected to accumulate.~~
~~916.7 Gas sampling. Gas sampling shall be performed continuously. Sample analysis shall be processed immediately after sampling, except as follows:~~
~~1. For HPM gases, sample analysis shall be performed at intervals not exceeding 30 minutes.~~
~~2. For toxic gases that are not HPM, sample analysis shall be performed at intervals not exceeding 5 minutes, in accordance with Section 6004.2.2.7.~~
~~3. Where a less frequent or delayed sampling interval is approved.~~
~~916.8 System activation. A gas detection alarm shall be initiated where any sensor detects a concentration of gas exceeding the following thresholds:~~
~~1. For flammable gases, a gas concentration exceeding 25 percent of the lower flammability limit (LFL).~~
~~2. For nonflammable gases, a gas concentration exceeding one-half of the IDLH, unless a different threshold is specified by the section of this code requiring a gas detection system.~~
~~Upon activation of a gas detection alarm, alarm signals or other required responses shall be as specified by the section of this code requiring a gas detection system. Audible and visible alarm signals associated with a gas detection alarm shall be distinct from fire alarm and carbon monoxide alarm signals.~~
~~916.9 Signage. Signs shall be provided adjacent to gas detection system alarm signaling devices that advise occupants of the nature of the signals and actions to take in response to the signal.~~
~~916.10 Fire alarm system connections. Gas sensors and gas detection systems shall not be connected to fire alarm systems unless approved and connected in accordance with the fire alarm equipment manufacturer's instructions.~~
~~916.11 Inspection, testing and sensor calibration. Inspection and testing of gas detection systems shall be conducted not less than annually. Sensor calibration shall be confirmed at the time of sensor installation and calibration shall be performed at the frequency specified by the sensor manufacturer.~~

**Reason:** Removal and reworking of Section 916 includes changing base code as it is written. All gas detection requirements found throughout the IFC have been consolidated to Section 916, and as such they are now an amendment to base IFC.

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| 466. | 916.1 General. Gas detection systems shall comply with Sections 916.2 through 916.6. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 467. | 916.2 Permits. Permits shall be required in accordance with Section 105.6.11. The permit application shall include gas detection system design documents that fully demonstrate code compliance and are signed and sealed by an Arizona registered design professional. Permits shall only be issued to contractors with a valid Phoenix Fire Department Business Certificate in accordance with Section 105.8. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 468. | 916.3 Where Required. Gas detection systems shall be provided where specified in this section. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 469. | 916.3.1 Hazardous Materials. A gas detection system shall be provided for:<br>1. Systems containing inert cryogenic fluids in quantities exceeding the amount listed in Table 105.5.11.<br>2. Areas containing the following types of systems containing gas quantities exceeding the amounts listed in Table 105.5.9:<br>2.1 Carbon dioxide enrichment systems.<br>2.2 Insulated liquid carbon dioxide beverage dispensing systems.<br>2.3 Systems containing carbon dioxide for an application not listed above.<br>2.4 Systems containing asphyxiant gases.<br>3. Areas containing storage or use of the any of the following in quantities exceeding the maximum allowable quantity per control area in accordance with Section 5003.1.1:<br>3.1 Corrosive gases.<br>3.2 Flammable gases or cryogenic fluids.<br>3.3 Toxic or highly toxic gases.<br>3.4 Oxidizing gases or cryogenic fluids.<br>3.5 Unstable reactive gases.<br>Exceptions:<br>1. Insulated liquid carbon dioxide beverage dispensing systems where ventilation is provided in accordance with Section 5307.3.1.<br>2. Group H-5 occupancies shall have gas detection for HPM gases where the physiological warning threshold level of the gas is at a higher level than the accepted permissible exposure limit (PEL), and for flammable gases.<br>3. Where a technical report prepared in accordance with Section 104.2.2, and subject to approval through an Appeal to the Fire Marshal, demonstrates that a reasonable worst-case release scenario does not result in any of the following:<br>3.1 An asphyxiation hazard for systems using asphyxiant gases.<br>3.2 Flammable gas accumulation exceeding 25 percent of the lower flammable limit (LFL) for systems using flammable gases. |

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| | 3. Toxic or highly toxic gas accumulation exceeding 50 percent of the Immediately Dangerous to Life and Health (IDLH) limit for systems using toxic or highly toxic gases. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 470. | 916.3.2 Specific Applications. A gas detection system shall be provided for:<br>1. Machinery rooms for mechanical refrigeration systems in the scope of Section 608.<br>2. Stationary fuel cell power systems in the scope of Section 1206.<br>3. Energy storage systems in the scope of Section 1207.<br>4. Repair garages in the scope of Section 2311.8.<br>5. Semiconductor fabrication facilities and comparable research and development areas<br>classified as Group H-5 in the scope of Chapter 27.<br>6. Processing and extraction facilities in the scope of Chapter 39.<br>7. Hydrogen fuel gas rooms in the scope of Section 5808.<br>8. Ozone-gas-generator rooms in the scope of Section 6005. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 471. | 916.3.3 Existing Buildings and Structures. The provisions of Section 916 shall be applicable to existing structures, facilities, and conditions as specified in Section 102.1. In addition, a gas detection system shall be provided in existing buildings and structures where the following occurs:<br>1. A new hazardous materials system requiring a gas detection system in accordance with Section 916.3.1 is installed.<br>2. An existing permitted hazardous materials system is modified with an increased capacity, such that the post-modification quantity of hazardous materials is within a threshold specified in Section 916.3.1.<br>3. A new application listed in Section 916.3.2 is introduced in a building or structure.<br>4. An existing permitted application listed in Section 916.3.2 undergoes a modification that results in an increased quantity of hazardous materials, or a different type of hazardous material. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 472. | 916.4 Installation. Gas detection system installation shall comply with this section. All gas detection system equipment shall be installed in accordance with the manufacturer's instructions. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 473. | 916.4.1 Controllers. Controllers used as part of a gas detection system shall be listed, and shall be compatible with all connected gas detection system |

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| | components in accordance with the manufacturer's specifications. Controllers shall be capable of being supervised by a listed fire alarm control unit, and the means of connection shall comply with NFPA 72. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 474. | 916.4.2 Detectors. Detectors used as part of a gas detection system shall have manufacturer-prescribed means for calibration, shall be listed for use with the specific gas intended to be detected at the setpoints identified in Section 916.4.4.1, and shall perform sampling continuously.<br>Exceptions:<br>1. Detectors intended for asphyxiant gas detection can be listed for use with oxygen.<br>2. Less frequent sampling intervals are subject to approval through an Appeal to the Fire Marshal. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 475. | 916.4.2.1 Locations. Selection and placement of gas detectors shall be based on an engineering evaluation. Among other factors, this evaluation shall consider the effects of gas expansion after initial release on detector mounting height. Detection shall be provided at the following locations:<br>1. Approved storage and use locations where gas is expected to accumulate or leaks are most likely to occur.<br>2. The discharge of treatment systems provided for toxic or highly toxic gases.<br>3. In machinery rooms for mechanical refrigeration systems.<br>4. In enclosures, exhaust systems, and rooms for fuel cell power systems.<br>5. In rooms where carbon dioxide enrichment occurs.<br>6. In lubrication or chassis-service pits in garages used for repairing nonodorized LNG-fueled vehicles.<br>7. For semiconductor facilities:<br>7.1 In fabrication areas where HPM gas is used in the fabrication area.<br>7.2 In HPM rooms where HPM gas is used in the room.<br>7.3 In gas cabinets and exhausted enclosures for HPM gas.<br>7.4 In gas rooms where HPM gases are not located in gas cabinets or exhausted enclosures.<br>7.5 In the space defined by the walls of a corridor and the floor or roof above the corridor where HPM gas piping is contained in the space.<br>Exception: Not required for occasional transverse crossings of corridors by supply piping enclosed in ferrous pipe or tube for the width of the corridor. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 476. | 916.4.3 Notification Appliances. Notification appliances used as part of a gas detection system shall meet the public mode audible and visible requirements of NFPA 72, and the audible and visible signals shall be distinctly different from those used for fire alarm and carbon monoxide. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being |

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| | proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 477. | 916.4.3.1 Locations. Audible and visible notification appliances shall provide approved coverage in the following locations:<br>1. In the hazard area.<br>2. Immediately outside doors leading to the hazard area.<br>3. As otherwise required by the fire code official. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 478. | 916.4.4 Sequence of Operations. Initiation and activation of gas detection systems shall comply with this section. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 479. | 916.4.4.1 Initiation. Detector setpoints for gas detection system initiation shall be as follows:<br>1. Carbon dioxide:<br>1.1 Supervisory: 5,000 ppm.<br>1.2. Alarm: 30,000 ppm.<br>2. Asphyxiants:<br>2.1 Supervisory: 19.5 percent oxygen.<br>2.2 Alarm: 18 percent oxygen.<br>3. Oxidizers:<br>3.1 Supervisory: 22 percent oxygen.<br>3.2 Alarm: 23.5 percent oxygen.<br>4. Toxics and Highly Toxics:<br>4.1 Supervisory: 25 percent of the Immediately Dangerous to Life and Health (IDLH) limit.<br>4.2 Alarm: 50 percent of the IDLH.<br>5. Flammables:<br>5.1 Supervisory: 12.5 percent of the lower flammable limit (LFL).<br>5.2 Alarm: 25 percent of the LFL.<br>6. Group A2L and B2L Refrigerants:<br>6.1 Supervisory: Occupational Exposure Limit (OEL) in Table 1103.1 of the International<br>Mechanical Code.<br>6.2 Alarm: Refrigerant Concentration Level (RCL) in Table 1103.1 of the International Mechanical Code or 25 percent of the LFL, whichever is less.<br>Exception: For toxics and highly toxics, where a gas does not have a published IDLH, the Permissible Exposure Limit (PEL), ceiling limit, or TLV-TWA of the gas can be used in lieu of the IDLH where approved by the fire code official. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 480. | 916.4.4.1.1 Semiconductor Facilities. For semiconductor facilities in the scope of Chapter 27, the setpoints listed in Section 916.4.4.1 |

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| | apply with the following modifications:<br>Toxics and Highly Toxics:<br>1. Supervisory:<br>1.1 50 percent of the IDLH for detectors located inside an exhausted enclosure, ventilated enclosure, or gas cabinet.<br>1.2 50 percent of the PEL for detectors located outside an exhausted enclosure, ventilated enclosure, or gas cabinet.<br>2. Alarm:<br>2.1 100 percent of the IDLH for detectors located inside an exhausted enclosure, ventilated enclosure, or gas cabinet.<br>2.2 100 percent of the PEL for detectors located outside an exhausted enclosure, ventilated enclosure, or gas cabinet.<br>Exception: For toxics and highly toxics, where a gas does not have a published IDLH, the Permissible Exposure Limit (PEL), ceiling limit, or TLV-TWA of the gas can be used in lieu of the IDLH where approved by the fire code official. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 481. | 916.4.4.2 Supervisory Response. Gas detection at the supervisory setpoints specified in Section 916.4.4.1 shall result in the following sequence of operations:<br>1. A gas-specific supervisory signal shall be transmitted to an approved monitoring station in accordance with NFPA 72.<br>2. For mechanical refrigeration systems using Group A2L and B2L refrigerant, mechanical ventilation systems shall activate at the OEL level in accordance with Table 608.18.2.<br>3. Mechanical ventilation systems required for carbon dioxide enrichment systems shall activate. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 482. | 916.4.4.2.1 Alarm Response.<br>Gas detection at the alarm setpoints specified in Section 916.4.4.1 shall result in the following sequence of operations:<br>1. The audible and visible notification appliances required by Section 916.4.3 shall activate.<br>2. A gas-specific alarm signal shall be transmitted to an approved monitoring station in accordance with NFPA 72. For semiconductor facilities, the signal shall also be transmitted to the emergency control station.<br>3. For mechanical refrigeration systems using Group A2L and B2L refrigerant, mechanical ventilation systems shall activate at the RCL level in accordance with Table 608.18.2.<br>4. Mechanical ventilation systems required by other sections of this code to be connected to the gas detection system shall activate at the required performance levels.<br>5. For mechanical refrigeration systems, the refrigerant compressors, pumps, and normally closed automatic valves located in the machinery room shall automatically shut off.<br>6. Stationary fuel cell power systems shall be shut down.<br>7. For systems in semiconductor facilities, systems containing toxic or highly toxic gases, carbon dioxide enrichment systems, and stationary fuel cell power |

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| | systems, valve closure in accordance with 916.4.4.3 shall occur.<br>Exception: Automatic shutdown is not required for reactors utilized for the production of toxic or highly toxic gases where such reactors are:<br>7.1 Operated at pressures less than 15 psig.<br>7.2 Constantly attended.<br>7.3 Provided with emergency shutoff valves that have ready access.<br>8. Heating systems located in repair garages or extraction rooms shall be deactivated.<br>9. Light switches and electrical outlets in extraction rooms shall be de-energized.<br>10. Ozone-gas-generators shall shut off. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 483. | 916.4.4.3 Valve Closure. When required as a response by Section 916.4.4.2, valve closure shall occur as follows:<br>1. Where the activated gas detector is in a gas cabinet or exhausted enclosure, the shutoff valve in the gas cabinet or exhausted enclosure for the specific gas detected shall automatically close.<br>2. Where the activated gas detector is in a gas room and gas containers are not in gas cabinets or exhausted enclosures, the shutoff valves in all gas piping for the specific gas detected shall automatically close.<br>3. Where the activated gas detector is in a piping distribution manifold enclosure, the shutoff valve for the container of specific gas detected supplying the manifold shall automatically close.<br>4. Where the activated gas detector is at a use location, or within a gas valve enclosure of a branch line downstream of a piping distribution manifold, the shutoff valve in the gas valve enclosure for the branch line located in the piping distribution manifold enclosure shall automatically close.<br>5. Where the activated gas detector is part of a gas detection system for carbon dioxide enrichment systems or stationary fuel cell power systems, the flow of gas shall be stopped by an approved automatic fail-safe emergency shutoff valve located as close as practical to the source of gas. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 484. | 916.4.4.4 Gas Detection System Failure. Failure of gas detection system controllers, detectors, or the supervising fire alarm control unit shall initiate the same response as an alarm setpoint, except notification appliances shall not be required to activate. Gas detection systems shall be maintained in an operational condition at all times, and shall be immediately repaired or replaced when failure occurs. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 485. | 916.4.5 Wiring. All gas detection system electrical wiring shall be in accordance with the applicable provisions of NFPA 70 and NFPA 72. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout |

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| | the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 486. | 916.4.6 Power. Gas detection systems shall be permanently connected to the building's normal electrical power supply and shall be circuit locked and labeled. Emergency power shall be provided for gas detection systems used in semiconductor applications, and in toxic or highly toxic gas applications. Standby power shall be provided for gas detection systems in all other applications. Standby and emergency power systems shall be in accordance with Chapter 12. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 487. | 916.4.7 Monitoring. Gas detection systems shall be electrically supervised by a listed fire alarm control unit, and monitored by an approved supervising station in accordance with NFPA 72. All gas detection system signals received by the supervising station shall be gas-specific and distinct from other types of alarm signals. Connections between gas detection systems and fire alarm systems shall be installed by a contractor with a valid Phoenix Fire Department Business Certificate in accordance with Section 105.8. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 488. | 916.4.8 Signage. Approved signs shall be provided immediately adjacent to gas detection system notification appliances that advise occupants of the nature of the signals and actions to take in response to the signal. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 489. | 916.5 Acceptance Testing. Acceptance testing shall be in accordance with Section 901.5 and shall be conducted in the presence of the fire code official. Acceptance testing for gas detection systems shall consist of testing every detector with an approved certified test gas and verifying the correct sequence of operations occurs.<br>Exception: Where approved and as specified by the fire code official, acceptance testing may be conducted through special inspection in accordance with Section 104.7.3. |
| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 490. | 916.6 Inspection, Testing, and Maintenance. Inspection, testing, maintenance, and detector calibration for gas detection systems shall be conducted as specified by the system manufacturer, but not less than annually. Periodic detector calibration shall be performed at the frequency specified by the sensor manufacturer. Detector setpoint testing and calibration shall be performed with an approved test gas. All test gases shall have a recognized certification that documents the type and percentage of gas. Inspection, testing, and maintenance shall be conducted by a contractor with a valid Phoenix Fire Department Business Certificate in accordance with Section 105.8. |

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| | **Reason:** New to 2024. Changes to Section 916 for gas detection are being proposed in an effort to consolidate all gas detection requirements throughout the fire code to section 916. This effort will assist designers, engineers, and users of the code by way of pointing all gas detection requirements to Section 916. |
| 491. | SECTION 918<br>FIRE-FIGHTER AIR SYSTEMS<br>918.1 Scope. The design, installation and maintenance of fire-fighter air systems shall be in accordance with this section. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 492. | 918.2 Required installations. Effective May 2, 2004, a firefighter air system shall be installed in the following buildings:<br>1. Buildings classified as high-rise in accordance with the building code.<br>2. Underground structures that are two or more floors below grade with an area greater than 10,000 square feet (929 $m^2$). |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 493. | 918.3 Plans and contractor qualifications.<br>918.3.1 Plans. Prior to the installation of a fire-fighter air system, a minimum of two sets of plans and specifications shall be submitted to the Phoenix Fire Department for review and approval. Plans shall demonstrate compliance with the requirements of this section and shall include calculations prepared by a Registered Design Professional demonstrating that the design criteria for all pressure-containing components is satisfied plus a minimum safety factor of 25 percent.<br>The plans submittal shall also include specifications for the tubing, fittings and manufacturer data sheets for valves, pressure regulators, pressure relief devices, gauges, RIC universal air connections and cylinder filling hoses. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 494. | 918.3.2 Contractor qualification. The fire-fighter air system shall be installed by Arizona state-licensed contractors. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 495. | 918.4 Design criteria. |

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| | 918.4.1 Fill. The system shall be designed to fill, at each interior cylinder filling panel, one 66-standard-cubic-foot compressed breathing air cylinder to a maximum pressure of 4,500 psig (31 028 kPa). |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 496. | 918.4.2 Filling operation. The filling operation shall be completed in not more than two minutes upon connection of the cylinder to the fill hose. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 497. | 918.4.3 Flow of breathing air. The minimum design flow of the breathing air piping system shall be calculated using two interior cylinder filling panels operating simultaneously and located at the highest level above the most remote location from the base station exterior fire department connection panel and enclosure base. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 498. | 918.5 Operating pressure. All components used in the system shall be rated to operate at a minimum pressure of 5,000 psig (34 475 kPa) at 70°F (21°C). |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 499. | 918.6 Marking. System piping, gauges, valves and air outlets shall be clearly marked by means of steel or plastic labels or tags indicating their function. Markings used for piping systems shall consist of the content's name and include a direction of flow arrow. Markings shall be provided at each valve; at wall, floor or ceiling penetrations; at each change of direction; and not more than 20 feet (6096 mm) throughout the piping system. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 500. | 918.7 Base station exterior Fire Department connection panel and enclosure. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |

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| 501. | 918.7.1 Location. A Fire Department connection panel shall be attached to the building or on a remote monument at the exterior of the building. The panel shall be secured inside of a weather-resistant enclosure. The panel shall be within 50 feet (15 240 mm) of an *approved* roadway or driveway, or other location *approved* by the Phoenix Fire Department. The enclosure shall be visible and accessible on approach to the building. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 502. | 918.7.2 Construction. The Fire Department connection panel shall be installed in a cabinet constructed of minimum 18-gauge carbon steel. Where constructed of steel, the cabinet shall be provided with coating to protect the cabinet from corrosion. Where the enclosure is constructed of nonmetallic materials, the enclosure shall be resistant to ultraviolet and infrared solar radiation. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 503. | 918.7.3 Vehicle protection. Where the panel is located in an area subject to vehicle traffic, impact protection shall be provided in accordance with this code. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 504. | 918.7.4 Base station enclosure marking. The front of the enclosure shall be marked "FIRE-FIGHTER AIR SYSTEM" on a securely attached steel, plastic engraved or painted plate. The lettering shall be in a color that contrasts with the enclosure front and in letters that are not less than 2 inches (51 mm) high with a $^{3}/_{4}$-inch (9053 mm) brush stroke. The marking of the enclosure shall be visible. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 505. | 918.7.5 Base station enclosure components. The components in the base station panel shall consist of the necessary components to provide air to the air substations located on upper or lower building levels, or both. The fire department air supply source shall be designed to connect to the base station panel. The following components shall be installed in the base station enclosure:<br>1. One (1) CGA-347 adapter. When connected to a female fitting, the assembled CGA-347 adapter shall meet the construction, performance and dimensional requirements of NFPA 1981, *Standard on Open Circuit Self-Contained Breathing Apparatus for Fire and Emergency Services*. |

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| | 2. One (1) downstream shutoff valve.<br>3. One (1) pressure gauge to check pressure of the piping distribution to air substations located on upper and lower building levels.<br>4. One (1) pressure relief valve designed for 1.25 times the design discharge of the fire department air supply or air supply trucks. All fittings, hoses and hard piping in the base station supply panel and distribution piping to air substation supply panels shall be designed for an air pressure of 1.5 times the pressure of the fire department air delivery system.<br>5. The base station can be designed so that an air pressure supply piping system supplies air-to-air substations.<br>The air supply lines require an intermediate regulator to provide air pressure for a 5,000 psi (34 473 kPa) 4.5 air pack system. The air supply lines will be fitted with separate pressure relief valves set at 1.25 times the working pressure of the air supply line and the operating pressure of the pressurized lines.<br>6. The relief valve, piping, pressure regulator, pressure gauges, fittings and connection hoses shall meet the requirements of the ASME *Boiler and Pressure Vessel Code*, 7 Section VIII, *Unified Pressure Vessel Code*. The installation of the piping system, as a minimum, will be based on ASME B31.3.<br>7. Mechanical supports for piping, hoses, gauges and pressure components will be designed and built to provide a solid rigid structure. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 506. | 918.7.6 Security. To prevent unauthorized access to or tampering with the system, the fire department connection panel enclosure shall remain locked by an *approved* means. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 507. | 918.7.6.1 Door Tamper Switch. Each fill panel door shall have a tamper switch that is monitored by the fire alarm system. |
| 508. | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 509. | 918.7.7 Fire department key box. A fire department *key box* shall be provided within 15 feet (4572mm) and on the same side of the building as the fire department connection panel and enclosure. A key for the enclosure shall be provided in the *key box*. |
| 510. | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). |

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| | **Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 511. | 918.8 Interior cylinder fill panels and enclosure—air substation.<br>918.8.1 Location. Cylinder fill panels shall be installed in the interior of buildings as follows:<br>1. Above-ground structure. An interior air substation cylinder fill panel and enclosure shall be installed on floor landings. Regardless of height, buildings classified as high-rise shall have an interior air substation cylinder fill panel and enclosure installed in all stairwells, commencing on the second floor landing, and every other floor thereafter.<br>2. Underground structure. An interior air substation cylinder fill panel and enclosure shall be installed in all stairwells on the floor landing on the first level below grade and every other below-grade level thereafter. The panel shall be located not less than 36 inches (914 mm) but not more than 60 inches (1524 mm) above the finished floor or a stairway landing. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 512. | 918.8.2 Cabinet requirements. Each air substation cylinder fill panel shall be installed in a cabinet constructed of minimum 18-gauge carbon steel. The depth of the cabinet shall not create an exit obstruction when installed in building stairways. All components with the exception of the shutoff valve, pressure gauges, fill hoses and ancillary components shall be contained behind a minimum 18-gauge interior panel. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 513. | 918.8.3 Door. Hinges for the cabinet door shall be located inside of the cabinet. The door shall be arranged such that when the door is open, it does not reduce the required exit width or create an obstruction in the path of egress. A minimum of 80 percent of the door surface area shall be constructed of tempered glass. The thickness of the glass shall not be greater than $^1/_2$ inch (3.17 mm). |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 514. | 918.8.4 Cabinet marking. The front of each cylinder fill panel shall be marked "FIRE-FIGHTER AIR SYSTEM." The lettering shall be in a color that contrasts with the cabinet front and in letters that are not less than 2 inches (50 mm) high with $^3/_8$-inch (5 mm) brush stroke. The marking of the cabinet shall be visible to emergency response personnel. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). |

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| | **Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 515. | 918.8.5 Air substation cabinet components. The cabinet shall be of sufficient size to allow for the installation of the following components:<br>1. One (1) isolation valve located between the air discharge line to the next air substation and the downstream line to the air base station supply or the air substation immediately below to the next substation above the air base station.<br>2. Fill hoses and isolation valves installed between the air bottle connection line and the fresh air supply.<br>3. Excess bleed valves located between the air bottle fill hose and the next air substation.<br>4. Four (4) SCBA fill hoses. These hoses are required at a single air substation, shall have air supply lines identified as 4,500 psig (31 028 kPa) pressure and shall be controlled by a single valve between the air supply and air bottle. The SCBA fill hoses shall be designed with RIC UAC fittings. A protective cap shall be provided for each hose.<br>5. Mechanical supports for piping, hoses, gauges and pressure components, designed and built to provide a solid rigid structure. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 516. | 918.8.6 Cylinder filling hose. The design of the cabinet shall provide a means for storing the hose to prevent kinking. When the hose is coiled, the brackets shall be installed so that the hose bend radius is maintained at 4 inches (102 mm) or greater.<br>The discharge outlet of each cylinder filling hose shall have a female RIC UAC. The female fitting shall be designed to connect to a male RIC UAC. The assembled RIC UAC shall meet the construction, performance and dimensional requirements of NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire and Emergency Services*. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 517. | 918.8.7 Security. To prevent unauthorized access to or tampering with the system, each panel cover shall remain locked by an *approved* means. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 518. | 918.9 Installation of components.<br>918.9.1 Pressure monitoring switch. An electric low-pressure monitoring switch shall be installed in the piping system to monitor the air pressure. The pressure switch shall be connected to the building's *fire alarm system*. The pressure switch shall transmit a supervisory signal when the pressure of the breathing-air system is less |

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| | than 3,000 psig (20 685 kPa) at 70°F (21°C). If the building is not equipped with a *fire alarm system*, activation of the pressure switch shall activate an audible alarm located at the building's main entrance. A weather-resistant sign shall be provided adjacent to the audible alarm stating: "FIRE-FIGHTER AIR SYSTEM LOW AIR PRESSURE ALARM." The lettering shall be in a contrasting color and the letters shall be not less than 2 inches (51 mm) high with $^3/_4$-inch (9.53 mm) brush strokes. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 519. | 918.9.2 Tubing. Piping shall be constructed of stainless steel or other *approved* materials that are compatible with breathing air. The use of nonmetallic materials shall be compatible with breathing air. Where stainless steel tubing is used, it shall meet ASTM A269, Grade 316 or an equal standard. Stainless steel fittings shall be Grade 316 and be not less than 0.375 inch (9.5 mm) outside diameter by .065 inch (1.6 mm) fully annealed seamless. Stainless steel fittings shall be at least Grade 316 and meet the requirements of ASTM A479 or equal. Routing of tubing and bends shall be such as to protect the tubing from mechanical damage. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 520. | 918.9.3 Support. Piping shall be supported at maximum intervals of 5 feet (1524 mm). Individual tubing clamps and mounting components shall be mechanically secured to the building support members in accordance with the manufacturer's specifications. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 521. | 918.9.4 Fittings. Fittings shall be constructed of stainless steel or other *approved* materials that are compatible with breathing air. The use of nonmetallic materials shall be compatible with breathing air. Stainless steel fittings shall be at least Grade 316 and meet the requirements of ASTM A479 or an equal standard. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 522. | 918.9.5 Prohibition. The use of carbon steel, iron pipe, malleable iron, high-strength gray iron or alloy steel is prohibited. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |

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| 523. | 918.10 System assembly requirements. The system shall be welded except where the tubing joints are readily accessible and at the individual air fill panels. When mechanical high pressure tube fittings are used, they shall be *approved* for the type of materials to be joined and rated for the maximum pressure of the system. Welding procedures shall meet ASME B31.1, Part 4 and Chapter V (Exhibit VI). Prior to and during the welding of sections of tubing, a continuous, regulated dry nitrogen or argon purge at 3 psig (20.68 kPa) shall be maintained to eliminate contamination with products of the oxidation or welding flux. The purge shall commence a minimum of 2 minutes prior to welding operations and continue until the welded joint is at an ambient temperature between 60°F and 80°F (15.5°C to 26.6°C). |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 524. | 918.11 Prevention of contamination. The installing contractor shall ensure that, at all times, the system components are not exposed to contaminants including, but not limited to, oils, solvents, dirt and construction materials. When contamination of system components has occurred, the effected component shall not be installed in the system. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 525. | 918.12 Testing and inspection.<br>918.12.1 Testing. Following fabrication, assembly, and installation of the piping distribution system, exterior connection panel and interior cylinder fill panels, the Phoenix Fire Department shall witness the pneumatic testing of the complete system at a minimum test pressure of 5,500 psi (37 923 kPa) using oil-free dry air, nitrogen or argon. A minimum 24-hour pneumatic or hydrostatic test shall be performed. During this test, all fittings, joints and system components shall be inspected for leaks. A solution compatible with the system component materials shall be used on each joint and fitting. Any defects in the system or leaks detected shall be documented on an inspection report, repaired or replaced. As an alternate, a pressure decay test in accordance with ASME B31.3 is allowed. A test of the low-pressure monitoring switch shall be performed. Each air fill panel shall be tested for compatibility with the fire department's CGA-347 adapter. The pipe or tubing manufacturer mill report shall be provided to the Phoenix Fire Department. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 526. | 918.12.2 Air samples. Not fewer than two samples shall be taken from separate air fill panels and submitted to an independent, certified gas analysis laboratory to verify the system's cleanliness and that the air is certified as breathing air. The laboratory shall submit a written report of the analysis to the Phoenix Fire |

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| | Department documenting that the breathing air complies with this section. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 527. | 918.12.3 Quality analysis. During the period of air quality analysis, the air fill panel inlet shall be secured so that no air can be introduced into the system and each air fill panel shall be provided with a sign stating: "AIR QUALITY ANALYSIS IN PROGRESS, DO NOT FILL OR USE ANY AIR FROM THIS SYSTEM." This sign shall be a minimum of $8^1/_2$ inches by 11 inches (215 mm by 279 mm) with a minimum of 1-inch (25 mm) lettering. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 528. | 918.12.4 Inspection. Annually, the breathing air within the system shall be inspected and one air sample shall be taken and certified as breathing air in accordance with the section. The laboratory test results shall be available for review by the Phoenix Fire Department. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 529. | 918.13 System acceptance and certification. Prior to the final acceptance of the air system, the building owner shall provide for the testing and certification of the system. This testing shall include verifying the system's compatibility with the fire department's SCBA apparatus; the system's ability to maintain 5,000 psi (34 475 kPa) working pressure; the operability of the low-pressure monitoring switch; and that the system's air quality complies with the requirements of Section 918.12. Prior to final acceptance, the building owner shall provide the Phoenix Fire Department with written verification of a testing and certification contract. Upon satisfactory completion of all tests and verification of air quality, the system shall be considered complete. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not provided for in base code until 2018 where it is an appendix. |
| 530. | SECTION 919<br>HIGH-RISE SMOKE<br>REMOVAL SYSTEMS<br>✦919.1 Smoke removal.<br>To facilitate smoke removal in post-fire salvage and overhaul operations, buildings and structures shall be equipped with natural or mechanical ventilation for removal of products of combustion in accordance with one of the following:<br>1.Easily identifiable, manually operable windows or panels shall be distributed around the perimeter of each floor at not more than 50-foot (15 240 mm) intervals. The area of operable windows or panels shall be not less than 40 |

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| | square feet (3.7 m2) per 50 linear feet (15 240 mm) of perimeter.<br>Exception: In Group R-1 occupancies, each sleeping unit or suite having an exterior wall shall be permitted to be provided with 2 square feet (0.19 m2) of venting area in lieu of the area specified in Item 1.<br>2. Mechanical air-handling equipment providing one exhaust air change every 15 minutes for the area involved. Return and exhaust air shall be moved directly to the outside without recirculation to other portions of the building.<br>3. Any other design that will produce equivalent results approved by the fire code official, through the appeals process. The City of Phoenix Fire Department does not allow breaking of windows for post fire smoke removal |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Ensures fire customers are aware of IBC requirement. |

| Chapter 10 Means of Egress | |
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| 531. | 1001.1 General. Buildings or portions thereof shall be provided with a *means of egress* system as required by this chapter. The provisions of this chapter shall control the design, construction and arrangement of *means of egress* components required to provide an *approved means of egress* from structures and portions thereof. Sections 1003 through 1030 shall apply to new construction. Section 1031 shall apply to existing buildings. See *International Building Code* Chapter 10, Means of Egress, for all City of Phoenix amendments to the means of egress. |
| | New in 2018<br>**Reason:** This is a cooperative agreement between the departments. The Fire Code defers to the Building Code for means of egress issues, the Building code defers to the Fire Code for Fire Protection and Life Safety Systems. |

| Chapter 11 Construction Requirement for Existing Buildings | |
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| 532. | 1101.1 Scope. The provisions of this chapter shall apply to existing buildings constructed prior to the adoption of this code. Unless specifically indicated in this chapter, all work done on new and existing systems shall meet the requirements of the current adopted codes and standards. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Eliminates confusion for work in existing buildings to provide consistent code compliant outcomes with system compatibility. |
| 533. | 1103.1 Required construction. Existing buildings shall comply with not less than the minimum provisions specified in Table 1103.1 and as further enumerated in Sections 1103.2 through 1103.10.<br>The provisions of this chapter shall not be construed to allow the elimination of *fire protection systems* or a reduction in the level of fire safety provided in buildings constructed in accordance with previously adopted codes.<br>A modification that increases the area protected by a fire protection system by 50 percent or a fire alarm control panel replacement shall be considered a new installation. When the fire alarm control panel is replaced, the entire fire alarm system shall be brought to the current performance and installation standards in accordance with Section 907.5. When fees for modifications exceed the fees for new systems, fees for new systems shall apply. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Clarifies when a modification is considered a new installation |
| 534. | 1103.1.1 Historic buildings. Facilities designated as historic buildings shall develop a fire protection plan in accordance with NFPA 914. The fire protection plans shall comply with the maintenance and availability provisions in Sections 404.3 and 404.4. When a buildings fire alarm control panel is replaced, the entire fire alarm system shall be brought to the current performance and installation standards in accordance with section 907.5. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Amendment addresses when a building is required to replace antiquated equipment in existing buildings provide consistent code compliant outcomes with system compatibility. |
| 535. | 1103.3.2.1 Elevator emergency exit. Elevator cars with a total travel distance of 75 feet (22 860 mm) or more shall include a locked emergency exit lock that can be opened from outside the car. The key or combination to the lock shall be kept in the Fire Command Center. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations in elevator rescue. Word lock added for clarity. |
| 536. | 1103.3.2.2 Emergency door release. Elevator doors shall provide a hoistway access escutcheon hole (drop-key hole) on the outside for emergency door release. The key shall be kept in the Fire Command Center, or an approved location. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations in elevator rescue. |

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| 537. | 1103.4 Vertical openings. Interior vertical openings, including but not limited to *stairways*, elevator hoistways, service and utility shafts, that connect two or more stories of a building, shall be enclosed or protected as specified in Sections 1103.4.1 through 1103.4.10. Modification to an existing smoke control system shall be in accordance with Sections 901.6.2.1 and 901.6.2.2. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations in smoke management and emergency operations. |
| 538. | 1103.4.1 Group I-2 and I-3 occupancies. In Group I-2 and I-3 occupancies, interior vertical openings connecting two or more stories shall be protected with 1-hour fire-resistance-rated construction.<br>Exceptions:<br>1. In Group I-2, unenclosed vertical openings not exceeding two connected stories and not concealed within the building construction shall be permitted as follows:<br>1.1. The unenclosed vertical openings shall be separated from other unenclosed vertical openings serving other floors by a smoke barrier.<br>1.2. The unenclosed vertical openings shall be separated from corridors by smoke partitions.<br>1.3. The unenclosed vertical openings shall be separated from other fire or smoke compartments on the same floors by a smoke barrier.<br>1.4. On other than the lowest level, the unenclosed vertical openings shall not serve as a required means of egress.<br>2. In Group I-2, atriums connecting three or more stories shall not require 1-hour fire-resistance-rated construction where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3, and all of the following conditions are met:<br>2.1. For other than existing approved atriums with a smoke control system, where the atrium was constructed and is maintained in accordance with the code in effect at the time the atrium was created, the atrium shall have a smoke control system that is in compliance with Section 909. Modification to an existing smoke control system shall be in accordance with Sections 901.6.2.1 and 901.6.2.2. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason: Ensures** modifications are to new installation requirements found in Ch 9. Supports operations in smoke management and emergency operations |
| 539. | 1103.5.3 Group I-2, Condition 2.<br>In addition to the requirements of Section 1103.5.2, existing buildings of Group I-2, Condition 2 occupancy shall be equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1. The automatic sprinkler system shall be installed as established by the adopting ordinance. Effective July 19, 2019. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Provides timeline for application of code section, backdates enforcement to July of 2019. |
| 540. | 1103.5.6 Bret Tarver sprinkler ordinance. An *approved automatic sprinkler system* shall be installed throughout all levels of all new Group A, B, E, F, H, I, M, R-1, R-2, R-4 and S occupancies of any size and throughout all Group R-3 occupancies including one-and |

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| | two-family dwellings built under the *International Residential Code*, and Group U occupancies of more than 5,000 square feet.<br>The calculated area of Group R-3 occupancies shall include all livable space and the area of any attached garage and carports or areas located under living spaces.<br>*Automatic sprinkler systems* shall be installed in accordance with NFPA 13 for Group A, B, E, F, H, I, M, R-1, R-2, R-4 and S occupancies. *Automatic sprinkler systems* shall be installed in accordance with NFPA 13R for residential occupancies up to and including four stories in height, in Groups R-1, R-2, R-4 occupancies and NFPA 13D for one and two family dwellings and mobile homes in Group R-3 and R-4 occupancies with six to ten licensed beds. Exceptions to or reductions in code requirements are not allowed for the installation of residential sprinkler systems installed in accordance with NFPA 13R and NFPA 13D unless specifically allowed by the *International Building Code*. Exceptions to or reductions in code requirements for NFPA 13 systems allowed in the *International Building Code* are allowed.<br>Exceptions:<br>1. Detached gazebos, temporary tents and ramadas for residential and public use.\<br>2. Independent building of any construction or occupancy, other than Group E or H, of 700 square feet (65 $m^2$) or less.<br>3. Detached noncombustible carports or parking canopies, and detached noncombustible canopies used exclusively for automotive motor fuel dispensing station not exceeding 5,000 square feet (464 $m^2$).<br>4. Factory -built buildings utilized as temporary office buildings similar to real estate leasing offices and construction offices.<br>✦5. Playground equipment, carwashes and small canopies for shade that are less than 5,000 square feet (464 $m^2$) in area, and constructed of limited or noncombustible material and are more than 5 feet (1524 mm) from the nearest structure. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Retrofit requirements copied to construction requirements for existing buildings chapter (Chapter 11) when it was added to base code in 2012. Leads to consistent outcomes for existing structures. |
| 541. | 1103.5.5.1 Retrofit. Existing buildings are required to comply with the provisions of Sections 903.1.2 to 903.1.7. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Amended in Ordinance G-5898 effective April 18, 2014, removes "all of" from 1103.5.5.2.<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Retrofit requirements copied to construction requirements for existing buildings chapter (Chapter 11) when it was added to base code in 2012. |
| 542. | 1103.5.5.2 Retrofit in Group R-3 occupancies. One or more additions within any 3-year period are made to a Group R3 occupancy and comply with all of the following:<br>1. The aggregate of the additions exceeds 50 percent of the square footage of the house as of June 17, 2002.<br>2. The new total area of the building is greater than 5,000 square feet (464 $m^2$).<br>The calculated area of Group R-3 occupancies shall include all livable space and the area of any attached garage, carport, aircraft hangar or basement. |

<table>
<tr><td></td><td>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Reason: Retrofit requirements copied to Construction Requirements for Existing Buildings chapter when it was added to base code.</td></tr>
<tr><td rowspan="2">543.</td><td>1103.5.5.3 Building additions. Building additions in existing occupancies other than Group R-3 shall be protected by an automatic fire sprinkler when any of the following apply:<br>1. Building additions that equal 50 percent or more of the existing building floor area, or exceed 10,000 square feet (929 $m^2$), whichever is less.<br>2. Two or more building permits related to increased square footage are issued over any three consecutive years where:<br>2.1. The aggregate of the additions exceeds 50 percent of the square footage of the building as of June 17, 2002.<br>2.2. The new total area of the building is greater than 10,000 square feet (929 $m^2$).<br>3. Are required to be protected in accordance with the City of Phoenix Building Code or City of Phoenix Residential Code.</td></tr>
<tr><td>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Reason: Retrofit requirements copied to construction requirements for existing buildings chapter (Chapter 11) when it was added to base code in 2012. Added as a response to the death of firefighter Bret Tarver, to ensure a minimum life safety and property protection in line with other jurisdictions in the Valley. Southwest Super Market had had many renovations creating combustible concealed spaces. If half of the roof is in repair sprinklers can easily be installed. Retrofit requirements copied to construction requirements for existing buildings chapter when it was adopted.</td></tr>
<tr><td rowspan="2">544.</td><td>1103.5.5.4 Building remodels. An automatic fire sprinkler system shall be installed when 50 percent or more of the roof structure is replaced or repaired or when the removal of existing fire-rated assemblies results in an increase of the original basic fire area.</td></tr>
<tr><td>Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Reason: Retrofit requirements copied to construction requirements for existing buildings chapter (Chapter 11) when it was added to base code in 2012. Added as a response to the death of firefighter Bret Tarver, to ensure a minimum life safety and property protection in line with other jurisdictions in the Valley. Southwest Super Market had had many renovations creating combustible concealed spaces. If half of the roof is in repair sprinklers can easily be installed. Retrofit requirements copied to construction requirements for existing buildings chapter when it was adopted.</td></tr>
<tr><td>545.</td><td>1103.5.5.5 Change of occupancy within Hazard Level 1. An automatic fire sprinkler system shall be installed when a building, regardless of the building area, undergoes a change of occupancy within Hazard Level 1 as defined by Table 1103.5.5.<br>✦TABLE 1103.5.5.5 HAZARD LEVEL
<table>
<tr><th>HAZARD LEVEL</th><th>1997 UBC OCCUPANCY TYPE</th><th>2018 IFC OCCUPANCY TYPE[2]</th><th>2024 IFC OCCUPANCY TYPE</th></tr>
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| 1 (highest) | H, I, A, R-1, R-2 | H, I, A, R-1, R-2, R-4 S-3, B-ACF[1] | H, I, A, R-1, R-2, R-4, B-ACF[1] |
| 2 | S-1, S-5, F-1 | S-1, F-1 | S-1, F-1 |
| 3 | E, F-2, S-2, S-3, S-4 | E, F-2, S-2 | E, F-2, S-2 |
| 4 (lowest) | B, M, U, R-3 | B, M, U, R-3 | B, M, U, R-3 |

1. Business, Ambulatory Care Facility.
2. Provided for guidance of equivalent occupancy types.

Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).
Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).
**Reason:** Retrofit requirements copied to construction requirements for existing buildings chapter (Chapter 11) when it was added to base code in 2012. Increases in hazard and life safety at risk and match the requirements for a new build. This amendment represents a compromise with the development community when the citizen Fire Safety Advisory Board wanted a zero square footage requirement.

546. 1103.5.5.6 Change of occupancy over 2,500 square feet (232 $m^2$). An *automatic* fire sprinkler system shall be installed in any building 2,500 square feet (232 $m^2$) or greater that undergoes a change of occupancy.

Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).
Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).
**Reason:** Retrofit requirements copied to construction requirements for existing buildings chapter (Chapter 11) when it was added to base code in 2012. Increases in hazard and life safety at risk and match the requirements for a new build. This amendment represents a compromise with the development community when the citizen Fire Safety Advisory Board wanted a zero square footage requirement.

547. 1103.5.5.7 Change of occupancy under 2,500 square feet (232 $m^2$). An automatic fire sprinkler system shall be installed in any building 2,500 square feet (232 $m^2$) or less that undergoes a change of occupancy to a higher hazard level as defined by Table 903.1.7.

Exceptions: An *automatic* fire sprinkler system is not required when:

1. The occupancy is 1,500 square feet (139 $m^2$) or less; and
2. There are openings entirely above the adjoining ground level totaling at least 20 square feet (1.85 $m^2$) in each 50 linear feet (15 240 mm) or fraction thereof, of exterior wall in the story on at least one side. Openings shall have a minimum dimension of not less than 30 inches (762 mm). Such openings shall be accessible to the fire department from the exterior and shall not be obstructed in a manner that firefighting or rescue cannot be accomplished from the exterior; and
3. The occupancy is not classified as Group H.

Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).
Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).
**Reason:** Retrofit requirements copied to construction requirements for existing

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| | buildings chapter (Chapter 11) when it was added to base code in 2012. Increases in hazard and life safety at risk and match the requirements for a new build. This amendment represents a compromise with the development community when the citizen Fire Safety Advisory Board wanted a zero square footage requirement. |
| 548. | 1103.5.6 Sprinkler systems—partially sprinklered buildings. Where existing non-sprinklered buildings of mixed occupancy are required to have sprinklers based on a change of occupancy classification, sprinklers shall be installed throughout the fire area that includes the new occupancy. The fire-resistance rating of fire barriers or horizontal assemblies separating sprinklered and non-sprinklered fire areas shall be a minimum of 2 hours. Fire department connection signage shall be in accordance with Section 912.<br>Exception: Group R-1, R-2, R-4 occupancies and multistory buildings shall be sprinklered throughout regardless of separation. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Retrofit requirements copied to construction requirements for existing buildings chapter (Chapter 11) when it was added to base code in 2012. Compromise for change of occupancies within strip malls and other divided occupancies. Ensures new occupancy is not responsible for installing sprinklers in the entire structure. The R occupancy exception ensures life safety of occupancies where people are sleeping and not occupying businesses. Provides for entire areas to be upgraded at the same time. |
| 549. | 1103.5.6.1 Change of occupancy to Group B or M under the Building Department Adaptive Reuse Interpretation. Where an occupancy undergoes a change of occupancy to a Group B or M from a Group B or M, an automatic fire sprinkler system shall be installed.<br>Exception: Changed occupancies need not install an automatic fire sprinkler system where all of the following criteria are met:<br>1. Where the fire area containing the occupancy has a total area of 5,000 square feet (464.515 $m^2$) or less.<br>2. Where the fire areas are separated by a minimum 2-hour fire resistance rated assemblies.<br>3. Where the occupancy does not store, handle or use hazardous materials over the exempt amount.<br>4. Where only one control area is allowed for the building. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Added to accommodate changes of occupancy under Planning & Development's Adaptive Reuse Interpretation. |
| 550. | 1103.5.6.2 Changes in commodity hazard. Changes of commodity to a higher hazard classification or storage configuration that exceeds the capabilities of the existing sprinkler system design shall require the sprinkler system to be modified. The sprinkler system shall be modified to provide an *approved* design in accordance with NFPA 13, or other applicable design standard, for the commodity present in the building or area. In existing non-sprinklered buildings, storage above the ordinary hazard class shall require *automatic fire sprinkler* installation throughout the building. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC). |

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| | Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>Referenced in NFPA 13 2016, not otherwise addressed in the IFC.<br>**Reason:** Retrofit requirements copied to construction requirements for existing buildings chapter (Chapter 11) when it was added to base code in 2012. |
| 551. | 1103.5.7 Installation of quick-response sprinklers in existing light hazard occupancy sprinkler systems being modified. Where existing occupancies and sprinkler systems are being remodeled or renovated, existing standard-response sprinklers shall be replaced with quick-response sprinklers as follows:<br>1. Where any tenant improvement, system repair or replacement is made to an existing fire area, existing standard-response sprinklers shall be replaced with quick-response sprinklers.<br>2. Where an existing system with standard-response sprinklers is being modified, the standard-response sprinklers shall be replaced with quick-response sprinklers throughout the tenant space, floor or suite. Where 50 percent of the floor sprinklers are replaced, all sprinklers on the entire floor shall be replaced with quick-response sprinklers. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Allows for consistent outcomes and improved life safety in light hazard occupancies. The national code has varied in its interpretation and requirements in the last 4 code cycles. Retrofit requirements copied to construction requirements for existing buildings chapter (Chapter 11) when it was added to base code in 2012, previously found in Section 903.3.2.1. |
| 552. | 1103.6.3 Pressure reducing valve settings. Where a new or replacement fire pump serving an automatic standpipe is installed, existing standpipes shall be designed in accordance with NFPA 14 and the following requirements:<br>1. Pressure-reducing valves shall be set to provide a minimum 250 gpm at 100 psi where installed inside a structure.<br>2. Standpipe outlets on the roof shall be designed to provide a minimum 500 gpm at 100 psi for the first standpipe and up to a total of 1,000 gpm at 100 psi for all standpipe water supplies. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Supports operations. Ensuring adequate water pressure is available throughout. |
| 553. | ✦1103.7 Fire alarm systems. An *approved* fire alarm system shall be installed in existing buildings and structures in accordance with Sections 1103.7.1 through 1103.7.6 and provide occupant notification in accordance with Section 907.5 unless other requirements are provided by other sections of this code.<br>Where *automatic* sprinkler protection is provided in accordance with Section 903.3.1.1 or 903.3.1.2 and connected to the building *fire alarm system, automatic* fire detection system shall not be required, unless specifically required based on the occupancy classification. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC). |

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| | **Reason:** Retrofit requirements copied from 907.5.2.1 to Construction Requirements for Existing Buildings Chapter 11 when it was added to base code. Strikethrough clarifies automatic fire detection is not required which aligns with the national standard. |
| 554. | 1103.7.1.1 Fire alarm devices. When an existing building is required to install a fire alarm, devices, combinations of devices, appliances and equipment shall be approved. The automatic fire detectors shall be smoke detectors.<br>Exception: An approved alternative type of detector shall be installed in spaces such as boiler rooms where, during normal operation, products of combustion are present in sufficient quantity to actuate a smoke detector. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Triggers fire alarm installation throughout an existing area. |
| 555. | 1103.7.1.1.1 Occupancy requirements. A fire alarm system shall be installed in accordance with Sections 1103.7.2 through 1103.8.1.<br>Exception: Occupancies with an existing, previously approved fire alarm system in compliance with 907.5.2.1. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Amendment added to ensure full replacements and upgrade occur upon equipment failure. |
| 556. | 1103.7.1.1.2 Visible alarms in existing facilities. Visual fire alarm devices shall be installed in public and common areas of existing facilities in accordance with Sections 907.5.2.3 through 907.5.2.3.4. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5082 January 30, 2008 (2006 IFC amendment package), edits in blue.<br>**Reason:** Retrofit requirements copied from 907.5.2.1 to Construction Requirements for Existing Buildings Chapter 11 when it was added to base code |
| 557. | 1103.7.1.1.3 Visual alarms in Groups I-1 and R-1. Shall be in accordance with Sections 1103.7.2 and 1103.7.5.2. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5082 January 30, 2008 (2006 IFC amendment package), edits in blue.<br>**Reason:** Retrofit requirements copied from 907.5.2.1 to Construction Requirements for Existing Buildings Chapter 11 when it was added to base code |
| 558. | 1103.7.1.1.4 Changes in occupancy. Where a building undergoes a change in occupancy classification, the fire alarm system shall comply with the requirements of Section 907.2 for that occupancy. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5082 January 30, 2008 (2006 IFC amendment package.<br>**Reason:** Retrofit requirements copied from 907.5.2.1 to Construction Requirements for Existing Buildings Chapter 11 when it was added to base code |
| 559. | 1103.7.1.1.5 Building renovations. Buildings undergoing structural renovations, alterations or modifications, including but not limited to the addition, removal or |

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| | relocation of walls and partitions, shall have visual alarm devices installed in any new public or common area created by the renovations. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5082 January 30, 2008 (2006 IFC amendment package), edits in blue.<br>**Reason:** Retrofit requirements copied from 907.5.2.1 to Construction Requirements for Existing Buildings Chapter 11 when it was added to base code |
| 560**.** | 1103.7.1.1.6 Fire alarm panel replacement. Visual alarm devices shall be installed in public and common areas, including elevator lobbies, restrooms, and corridors of building core areas when an existing fire alarm control panel is replaced. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5082 January 30, 2008 (2006 IFC amendment package), edits in blue.<br>**Reason:** Retrofit requirements copied from 907.5.2.1 to Construction Requirements for Existing Buildings Chapter 11 when it was added to base code. |
| 561. | 1103.7.1.1.7 Pre-signal system. Pre-signal systems shall not be installed unless approved by the *fire code official*. Where a presignal system is installed, 24-hour personnel supervision shall be provided at a location approved by the fire department, in order that the alarm signal can be actuated in the event of fire or other emergency. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Gives personnel onsite the opportunity to review th alarm prior to dispatch. |
| 562**.** | 1103.7.1.1.8 Protected areas in buildings with partial fire alarm systems. In buildings with partial fire alarm systems, fire-alarm protected areas and nonprotected areas shall be separated by fire-resistance-rated fire barriers or horizontal assemblies with not less than 2 hours of nonautomatic sprinkler protection or not less than 1 hour of automatic sprinkler protection. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Gives credit for automatic sprinklers for partially sprinklered buildings. |
| 563**.** | 1103.7.1.2 Audible alarms. Audible alarm notification appliances shall be provided and emit a distinctive sound that is not to be used for any purpose other than that of a fire alarm. Group A, B, E, F, H, I, M, R, S and U occupancies shall meet Public Mode Audible Requirements of NFPA 72.<br>Exceptions:<br>1. Visible alarm notification appliances shall be allowed in lieu of audible alarm notification appliances in critical care areas of Group I-2 occupancies.<br>2. Where provided, audible notification appliances located in each occupant evacuation elevator lobby in accordance with Section 3008.10.1 of the *International Building Code* shall be connected to a separate notification zone for manual paging only.<br>3. Group I occupancies shall be allowed to use Private Mode Audible Requirements of NFPA 72 where approved. Registered design professionals shall specify on plans and in construction documents the specific mode for each area of the occupancy. Where |

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| | the private mode is specified, the designer shall provide written documentation for the use of this mode. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Retrofit requirements copied from 907.5.2.1 to Construction Requirements for Existing Buildings Chapter 11 when it was added to base code. 907.5.2.1 |
| 564. | 1103.7.1.2.1 Average sound pressure. The audible alarm notification appliances shall provide and be maintained to provide a sound pressure level of 15 decibels (dB) above the average ambient sound level or 5 dB above the maximum sound level having a duration of at least 60 seconds, whichever is greater, in every occupiable space within the building. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Retrofit requirements copied from 907.5.2.1 to Construction Requirements for Existing Buildings Chapter 11 when it was added to base code. Ensures the sound level is maintained. |
| 565. | 1103.7.1.2.2 Maximum sound pressure. The maximum sound pressure level for audible alarm notification appliances shall be 110 dB at the minimum hearing distance from the audible appliance. Where the average ambient noise is greater than 95 dB, visible alarm notification appliances shall be provided in accordance with NFPA 72 and audible alarm notification appliances shall not be required.<br>Exception: Group I occupancies shall be allowed to use Private Mode Audible Requirements of NFPA 72, when approved by appeal to the Fire Marshal.<br>Registered design professionals shall specify on plans and in construction documents the mode for each area of the occupancy. Where the private mode is specified, the designer shall provide written documentation for the use of this mode. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** |
| 566. | ◆1103.7.1.2.3 Zones. Each floor shall be zoned separately and a zone shall not exceed 22,500 square feet (2090 $m^2$). The length of any zone shall not exceed 300 feet (91 440 mm) in any direction.<br>Exception: Automatic sprinkler system zones shall not exceed the area permitted by NFPA 13. See Section 903.4.1 for sprinkler alarm monitoring requirements. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Added to contractors using loop holes provided by NFPA 13 and not otherwise supported in NFPA 72. Helps to coordinate alarm reporting. |
| 567. | 1103.7.1.2.4 Zoning indicator panel (fire alarm annunciator panel). A zoning indicator panel and the associated controls shall be provided in an approved location. The visual zone indication shall lock in until the system is reset and shall not be canceled by the operation of an audible alarm silencing switch. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC). |

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| | **Reason:** Added to support operations and C99 to determine the location of the alarm and nature when arriving on-site. Not otherwise addressed in the code. Retrofit requirements copied to Construction Requirements for Existing Buildings chapter when it was added to base code. |
| 568. | 1103.7.1.2.5 Location. In buildings greater than one story or 22,500 square feet (2090 $m^2$), the fire alarm panel or a fire alarm annunciator panel shall be installed in a location that is visible from the lobby or area adjacent to the primary fire department response entrance. It shall be permissible to locate the fire alarm panel in a room immediately adjacent to this lobby, provided that the door to this room is accessible to the fire department, visible from the lobby and is provided with a permanent, visible placard noting the location of the fire alarm control panel.<br>Exception: A zone indicator panel is not required for single-story buildings protected by a fire alarm system where the initiating devices consist of automatic sprinklers supplied by a single sprinkler system |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Added to support operations and C99 to determine the location of the alarm and nature when arriving on-site. Not otherwise addressed in the code. Retrofit requirements copied to Construction Requirements for Existing Buildings chapter when it was added to base code. |
| 569. | 1103.7.5.2 Group R-1 boarding and rooming houses manual fire alarm system. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in existing Group R-1 boarding and rooming houses.<br>Exception: Buildings less than two stories in height equipped with single-station smoke alarms meeting or exceeding the requirements of Section 907.2.10.1 and where all *sleeping units,* attics and crawl spaces are separated by 1-hour fire-resistance-rated construction and each *sleeping unit* has direct access to a *public way, egress court* or yard. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Ensures that smoke alarms are installed wherever sleeping units are. |
| 570. | 1104.7.3 Groups R-3 and R-4. In Group R-3 or R-4 occupancies, a keyed locking device on the main entrance door in state licensed facilities classified and designated as "directed care" shall be allowed when the following stipulations are complied with:<br>1. The facility's state license states "directed care."<br>2. At all times they are in the facility, each employee has on their person a key that will open the door from the inside.<br>Failure to maintain compliance with these requirements shall require immediate removal of the keyed locking device and replacement with an approved locking device that does not require a key or special knowledge to open the door from the inside. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Added to allow state license facilities to maintain locked doors provided employees maintain keys on person to unlock the doors from the inside. |
| 571. | ✦1104.25 Egress path markings. Existing high-rise buildings ~~of Group A, B, E, I-1, M and R-1 occupancies~~ shall be provided with luminous *egress* path markings in accordance with Section 1025. It shall be up to the owners to install egress path |

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| | markings. In the event of a power outage, any liability for injury would fall upon the owner. All existing facilities shall have egress paths marked by January 1, 2023. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Retroactivity included in this section to include existing building requirements for luminous egress markings. Strikethrough added to align with PDD amendment. |
| 572**.** | SECTION 1107<br>EXISTING HIGH-RISE SMOKE<br>REMOVAL SYSTEMS<br>✦1107.1 Smoke removal. To facilitate smoke removal in post-fire salvage and overhaul operations, buildings and structures shall be equipped with natural or mechanical ventilation for removal of products of combustion in accordance with one of the following:<br>1. Easily identifiable, manually operable windows or panels shall be distributed around the perimeter of each floor at not more than 50-foot (15 240 mm) intervals. The area of operable windows or panels shall be not less than 40 square feet (3.7 $m^2$) per 50 linear feet (15 240 mm) of perimeter.<br>Exception: In Group R-1 occupancies, each sleeping unit or suite having an exterior wall shall be permitted to be provided with 2 square feet (0.19 $m^2$) of venting area in lieu of the area specified in Item 1.<br>2. Mechanical air-handling equipment providing one exhaust air change every 15 minutes for the area involved. Return and exhaust air shall be moved directly to the outside without recirculation to other portions of the building.<br>3. Any other design that will produce equivalent results approved by the *fire code official*, through the appeals process. The City of Phoenix Fire Department does not allow breaking of windows for post fire smoke removal. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** This amendment reinforces requirements found in section 919 for high-rise smoke removal systems. |

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| 573. | 1203.1.1 Stationary generators. Stationary emergency and standby power generators required by this code shall be listed in accordance with UL 2200. Associated flammable or combustible liquid tanks shall also comply with Chapters 50 and 57. |
| | Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Ensures permits and compliance with specific code requirements. |
| 574. | 1203.2.5 Exhaust ventilation. Standby power shall be provided for mechanical exhaust ventilation systems as required in Section 1207.6.1.2.1. The system shall be capable of powering the required load for a duration of not less than 6 hours. |
| | Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** New in 2018, carried into 2024 and incorporated into Section 1203.2.5 as appropriate. |
| 575. | 1205.1.1 Permits. Permits shall be obtained for solar photovoltaic power systems in accordance with Section 105.7.21.<br>Exception: Solar photovoltaic systems with less than 3 kW alternating current nameplate rating. |
| | Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Provides for tracking of system installations. |
| 576. | 1205.1.2 Marking. Marking is required on interior and exterior direct-current (DC) conduit, enclosures, raceways, cable assemblies, junction boxes, combiner boxes and disconnects. |
| | Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Provides clarification. This is base code language is from 2012 Chapter 6. |
| 577. | 1205.1.2.1 Materials. The materials used for marking shall be reflective, weather resistant and suitable for the environment. Markings shall have all letters capitalized with a minimum height of 3/8 inch (9.5 mm) white on red background. |
| | Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Provides clarification. This is base code language is from 2012 Chapter 6. |
| 578. | 1205.1.2.2 Marking content. The marking shall contain the words "WARNING: PHOTOVOLTAIC POWER SOURCE." |
| | Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Provides clarification. This is base code language is from 2012 Chapter 6. |
| 579. | 1205.1.2.3 Main service disconnect. The marking shall be placed adjacent to the main service disconnect in a location clearly visible from the location where the disconnect is operated. |
| | Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC). |

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| | Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Provides clarification. This is base code language is from 2012 Chapter 6. |
| 580. | 1205.1.3 Location of markings. Markings shall be placed on interior and exterior DC conduit, raceways, enclosures and cable assemblies every 10 feet (3048 mm), within 1 foot (305 mm) of turns or bends and within 1 foot (305 mm) above and below penetrations of roof/ceiling assemblies, walls or barriers. |
| | Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Provides clarification. This is base code language is from 2012 Chapter 6. |
| 581. | 1205.2 Access and pathways. Roof access, pathways, and spacing requirements shall be provided in accordance with Sections 1205.2.1 through 1205.3.3. Pathways shall be over areas capable of supporting fire fighters accessing the roof. Pathways shall be located in areas with minimal obstructions, such as vent pipes, conduit or mechanical equipment.<br>Residential structures shall be designed so that each photovoltaic array is not greater than 150 feet (45 720 mm) by 150 feet (45 720 mm) in either axis.<br>Exceptions:<br>1. Detached, nonhabitable Group U structures including, but not limited to, detached garages serving R-3 buildings, parking shade structures, carports, solar trellises and similar structures.<br>2. ~~Roof access, pathways and spacing requirements need not be provided where the fire code official has determined that rooftop operations will not be employed.~~<br>2. Building-integrated photovoltaic (BIPV) systems where the BIPV systems are approved, integrated into the finished roof surface and are listed in accordance with UL 3741. The removal or cutting away of portions of the BIPV system during firefighting operations shall not expose a firefighter to electrical shock hazards. |
| | Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Supports operations and provides clarification. This is base code language is from 2012 Chapter 6. |
| 582. | 1205.2.1 Solar photovoltaic systems for Group R-3 buildings. Solar photovoltaic systems for Group R-3 buildings shall comply with Sections 1204.2.1.1 through 1204.2.1.3.<br>~~Exceptions:~~<br>~~1. These requirements shall not apply to structures designed and constructed in accordance with the International Residential Code.~~<br>~~2. These requirements shall not apply to roofs with slopes of 2 units vertical in 12 units horizontal or less.~~ |
| | Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Supports operations and provides clarification. This is base code language is from 2012 Chapter 6. Strikethrough of exceptions necessary as R-3 buildings are required to comply with sections 1204.2.1.1 – 1204.2.1.3 regardless of roof slope or IRC. |
| 583. | 1205.3.2 Interior pathways. Interior pathways shall be provided between array sections to meet the following requirements:<br>1. Pathways shall be provided at intervals not greater than 150 feet (45720 mm) throughout the length and width of the roof. |

<table>
<tr><td></td><td>2. A pathway not less than 4 feet (1219 mm) wide in a straight line to roof standpipes or ventilation hatches.<br>3. A pathway not less than 4 feet (1219 mm) wide around roof access hatches, with not fewer than one such pathway to a parapet or roof edge.<br>4. The pathway shall be over areas capable of supporting the live load of firefighters accessing the roof.<br>5. The centerline axis pathways shall be provided in both axes of the roof. Centerline axis pathways shall run where the roof structure is capable of supporting the live load of firefighters accessing the roof.</td></tr>
<tr><td></td><td>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>Reason: Supports operations and provides clarification. This is base code language is from 2012 Chapter 6.</td></tr>
<tr><td>584.</td><td>1205.3.3 Smoke ventilation. The solar installation shall be designed to meet the following requirements:<br>1. Where nongravity-operated smoke and heat vents occur, a pathway not less than 4 feet (1219 mm) wide shall be provided bordering all sides.<br>2. Smoke ventilation options between array sections shall be one of the following:<br>2.1. A pathway not less than 8 feet (2438 mm) wide.<br>2.2. Where gravity-operated dropout smoke and heat vents occur, a pathway not less than 4 feet (1219 mm) wide on not fewer than one side.<br>2.3. A pathway not less than 4 feet (1219 mm) wide bordering 4-foot by 8-foot (1219 mm by 2438 mm) venting cutouts every 20 feet (6096 mm) on alternating sides of the pathway.<br>3. Arrays shall be not greater than 150 feet (45720 mm) by 150 feet (45720 mm) in distance in either axis in order to create opportunities for fire department smoke ventilation operations.</td></tr>
<tr><td></td><td>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>Reason: Supports operations and provides clarification. This is base code language is from 2012 Chapter 6.</td></tr>
<tr><td>585.</td><td>1207.1.3 Scope. ESS having capacities exceeding the values shown in Table 1207.1.3 shall comply with this section. Approved signage is required for all installations.</td></tr>
<tr><td></td><td>Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>Reason: New in 2018. Supports operations and provides clarification. This is base code language is from 2012 Chapter 6.</td></tr>
<tr><td>586.</td><td>Table 1207.1.3 ENERGY STORAGE SYSTEM (ESS) THRESHOLD QUANTITIES
<table>
<tr><td>Technology</td><td>Energy Capacity[a]</td></tr>
<tr><td>Capacitor ESS</td><td>3 kWh</td></tr>
<tr><td>Flow batteries[b]</td><td>20 kWh</td></tr>
<tr><td>Lead-acid batteries, all types</td><td>70 kWh[c]</td></tr>
</table></td></tr>
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| | | |
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| | Lithium-ion batteries | 20 kWh |
| | Nickel-cadmium (Ni-Cd), nickel metal hydride (Ni-MH) and nickel zinc (Ni-Zn) batteries | 70 kWh |
| | Nonelectrochemical ESS[d] | 70 kWh |
| | Other battery technologies | 10 kWh |
| | Sodium nickel chloride batteries | 70 kWh |
| | Zinc manganese dioxide batteries ($Zn-MnO_2$) | 70 kWh |
| | Stationary ESS in R-3 and R-4 occupancies | 3 kWh |

a. Energy capacity is the total energy capable of being stored (nameplate rating), not the usable energy rating. For units rated in amp-hours, kWh shall equal rated voltage times amp-hour rating divided by 1,000.
b. Shall include vanadium, zinc-bromine, polysulfide-bromide and other flowing electrolyte-type technologies.

c. Fifty gallons of lead-acid battery electrolyte shall be considered equivalent to 70 kWh.

d. Covers nonelectrochemical technologies such as flywheel and thermal ESS.

Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).
**Reason:** The row added to this table serves only to better articulate the size of energy storage system that would be regulated and permitted by this section.

587. 1207.1.6.1 Fault condition. The hazard mitigation analysis shall evaluate the consequences of the following failure modes. Only single failure modes shall be considered.
1. A thermal runaway condition in a single electrochemical ESS unit.
2. A mechanical failure of a nonelectrochemical ESS unit.
3. Failure of any battery (energy) management system or fire protection system within the ESS equipment that is not covered by the product listing failure mode effects analysis (FMEA).
4. Failure of any required protection system external to the ESS, including but not limited to ventilation (HVAC), exhaust ventilation, smoke detection, fire detection, gas detection, temperature control or fire suppression system.

Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).
Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).
Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).
Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).
**Reason:** New in 2018, carried into 2024.

588. 1207.1.8 Fire remediation. Where a fire or other event has damaged the ESS and ignition or re-ignition of the ESS is possible, the system owner, agent or lessee shall take the following actions, at their expense, to mitigate the hazard or remove damaged equipment from the premises to a safe location. The fire code official may also require a forensic analysis of the cause of failure by an independent laboratory approved by the fire code official, in accordance with Section 104.10.2.

Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).
Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).
Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).
Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).
**Reason:** New in 2018, carried into 2024.

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| 589. | 1207.3.4 Energy storage management system. Where required by the ESS listing, an approved energy storage management system that monitors and balances cell voltages, currents and temperatures within the manufacturer's specifications shall be provided. If potentially hazardous temperatures or other conditions such as short circuits, over voltage or under voltage are detected, the system shall disconnect electrical connections to the ESS or otherwise place it in a safe condition and shall transmit an alarm signal to an approved location and to an approved annunciator panel. |
| | Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** New in 2018, language incorporated into 2024 IFC Section 1207.3.4 where appropriate. |
| 590. | 1207.3.4.1 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. |
| | Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** New in 2018, retained in 2024. |
| 591. | 1207.4.8.1 NFPA 704 diamond. Where NFPA 704 diamonds are provided near entrances to areas containing ESS, they shall incorporate additional symbols as shown in the Appendix D, and as required by the fire code official. |
| | **Reason:** New in 2024. The new version of the detail manual is planned to include a template for an NFPA 704 diamond including a battery symbol in the bottom quadrant. |
| 592. | 1207.6.1.2.1 Standby power. Mechanical exhaust ventilation shall be provided with a minimum of 6 hours of standby power in accordance with Section 1203.2.5. |
| | Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** New in 2018, carried into 2024 and incorporated into Section 1203.2.5 as appropriate. |
| 593. | ~~1207.6.1.2.4 Gas detection system. Where required by Section 1207.6.1.2, rooms, areas and walk-in units containing ESS shall be protected by an approved continuous gas detection system that complies with Section 916 and the following:~~<br>~~1. The gas detection system shall be designed to activate the mechanical ventilation system when the level of flammable gas in the room, area or walk-in unit exceeds 25 percent of the LFL.~~<br>~~2. The mechanical ventilation system shall remain on until the flammable gas detected is less than 25 percent of the LFL.~~<br>~~3. The gas detection system shall be provided with a minimum of 2 hours of standby power in accordance with Section 1203.2.5.~~<br>~~4. Failure of the gas detection system shall annunciate a trouble signal at an approved central station, proprietary or remote station service in accordance with NFPA 72, or shall initiate an audible and visible trouble signal at an approved constantly attended on-site location.~~ |

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| | 1207.6.1.2.4 Gas detection system. Gas detection systems provided for ESS shall be in accordance with Section 916. |
| | Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Modification to align with newly rewritten Section 916. |
| 594. | 1207.11.3 Location. ESS shall be installed only in the following locations:<br>1. Detached garages and detached accessory structures.<br>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.<br>3. Outdoors or on the exterior side of exterior walls located a minimum of 3 feet (914 mm) from doors and windows directly entering the dwelling unit.<br>4. ~~Enclosed utility closets, basements, and storage or utility spaces within dwelling units and sleeping units with finished or noncombustible walls and ceilings. Walls and ceilings of unfinished wood-framed construction shall be provided with not less than 5/8-inch Type X gypsum wallboard.~~<br><br>ESS shall not be installed in sleeping rooms, or in closets or spaces opening directly into sleeping rooms. |
| | Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Not allowed in closets, carried forward from 2018 to 2024. |
| 595. | 1207.11.2 Installation. ESS shall be installed in accordance with the manufacturer's instructions and their listing. ESS 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. |
| | Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** New in 2018, carried forward into 2024, incorporated where sensible in Section 1207.11.2. |
| 596. | 1207.11.10 Signage. Approved signs warning of the presence of an ESS shall be provided on or adjacent to the main electrical panel. The signage shall be in accordance with the Phoenix Fire Department Access and Identification Detail Manual including the following or equivalent:<br>1. WARNING: ESS INSIDE GARAGE<br>2. WARNING: ESS ON HOUSE EXTERIOR WALL |
| | **Reason:** Provides emergency responders with concise advance warning of the presence of a residential ESS. |

| Chapters 13-19 Reserved | |
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| | These chapters remain reserved and unchanged. |
| | **Reason:** |

| Chapter 20 Aviation Facilities | |
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| 597. | 2001.1 Scope. Airports, heliports, helistops and aircraft hangars shall be in accordance with this chapter, and the most current version of other nationally recognized standards. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason**: Compliance with other standards is required by other governing agencies. NFPA is the Standard on Aircraft Hangars. |
| 598. | 2007.6 Foam protection. Foam fire-protection capabilities shall be provided for rooftop heliports. Such systems shall be designed, installed and maintained in accordance with the applicable provisions of Sections 903 through 905 and NFPA 11 and NFPA 418. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason**: Compliance with other standards is required by other governing agencies. Correction made for NFPA 418 is the Standard on Aircraft Hangars. |

| Chapter 21 Dry Cleaning | |
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| **1.** | Amendments to this chapter are not applicable, no new amendments are proposed at this time. |
| | **Reason:** |

| CH 22 Combustible Dust-Producing Operations | |
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| 1. | 2201.2 Permits. Permits shall be required for combustible dust-producing operations as set forth in Sections 105.5 and 105.6. |
| | Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Construction permits are now required. |

| CH 23 Motor Fuel-Dispensing Facilities and Repair Garages | |
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| 599. | 2301.1 Scope. Automotive motor fuel-dispensing facilities, marine motor fuel-dispensing facilities, fleet vehicle motor fuel-dispensing facilities, aircraft motor fuel-dispensing facilities and repair garages shall be in accordance with this chapter and the International Building Code, International Fuel Gas Code and International Mechanical Code and NFPA 52 and 30A. Such operations shall include both those that are open to the public and private operations. |
| | Adopted by Ordinance G-5808 July 1, 2013 - (2012 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>**Reason:** Incorporates additional nationally-recognized reference standards from NFPA. |
| 600. | 2304.3.6 Communications. A telephone not requiring a coin or card to operate or other approved, clearly identified means to notify the fire department shall be provided on the site in a location approved by the fire code official.<br>Exception: An approved mobile or cellular communication device can be used to notify the fire department. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** New to 2024. Exception allows for a mobile or cellular device to be used. |
| 601. | 2304.5 Fleet Vehicle Motor Fuel Dispensing Facilities. Fleet vehicle motor fuel-dispensing facilities shall comply with Sections 2304.5.1 through 2304.5.6. |
| | **Reason:** New to 2024. Add a section to the IFC to include Fleet vehicle motor fuel facilities. These proprietary facilities have greater controls than the attended or non-attended facilities. |
| 602. | 2304.5.1 The dispensing of motor fuels shall be conducted only by employees or other authorized affiliates of the business or operation. |
| | **Reason:** New to 2024. Add a section to the IFC to include Fleet vehicle motor fuel facilities. These proprietary facilities have greater controls than the attended or non-attended facilities. |
| 603. | 2304.5.2 If dispensing is conducted after normal working hours of the facility or when normal facility telecommunications are not available for use, then a telephone or other approved, clearly identified means to notify the fire department shall be provided on the site in a location approved by the authority having jurisdiction. |
| | **Reason:** New to 2024. Add a section to the IFC to include Fleet vehicle motor fuel facilities. These proprietary facilities have greater controls than the attended or non-attended facilities. |
| 604. | 2304.5.3 Dispensers Dispensing devices shall comply with Section 2306.7. |
| | **Reason:** New to 2024. Add a section to the IFC to include Fleet vehicle motor fuel facilities. These proprietary facilities have greater controls than the attended or non-attended facilities. |
| 605. | 2304.5.4 Emergency controls. Approved emergency controls shall be provided in accordance with Section 2303.2. Emergency controls shall be of a type that is only manually resettable. |
| | **Reason:** New to 2024. Add a section to the IFC to include Fleet vehicle motor fuel facilities. These proprietary facilities have greater controls than the attended or non-attended facilities. |
| 606. | 2304.5.5 Operating instructions. Dispenser operating instructions shall be conspicuously posted in approved locations on every dispenser. |
| | **Reason:** New to 2024. Add a section to the IFC to include Fleet vehicle motor fuel facilities. These proprietary facilities have greater controls than the attended or non-attended facilities. |

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| 607. | 2304.5.5.1 The instructions in 2304.5.5 shall include the location of emergency controls and a requirement that the user stay outside of their vehicle and in view of the fueling nozzle during dispensing. |
| | **Reason:** New to 2024. Add a section to the IFC to include Fleet vehicle motor fuel facilities. These proprietary facilities have greater controls than the attended or non-attended facilities. |
| 608. | 2304.5.6 Emergency procedures. An approved emergency procedures sign, in addition to the signs required by Section 2305.6, shall be posted in a conspicuous location and shall read:<br>IN CASE OF FIRE, SPILL OR RELEASE<br>1. USE EMERGENCY PUMP SHUTOFF<br>2. REPORT THE ACCIDENT!<br>FIRE DEPARTMENT TELEPHONE NO. _____<br>FACILITY ADDRESS _____ |
| | **Reason:** New to 2024. Add a section to the IFC to include Fleet vehicle motor fuel facilities. These proprietary facilities have greater controls than the attended or non-attended facilities. |
| 609. | 2307.2.3 Breakaway protection. Breakaway protection shall be provided in a manner that, in the event of a pull away, LP-gas ceases to flow at any separation. |
| | Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Provides protection not otherwise provided for in the base code. |
| 610. | 2307.2.4 Breakaway devices. A breakaway device shall be installed at every dispensing point. A breakaway device shall be arranged to separate using a force not greater than 150 pounds (68 kg) when applied in any direction that the vehicle would move.<br>An emergency breakaway device shall be installed and shall be listed, in compliance with NFPA 58 and UL 567, *Standard for Emergency Breakaway Fittings, Swivel Connectors, and Pipe-Connection Fittings for Petroleum Products and LP-Gas* and designed to retain liquids on both sides of the breakaway point, or shall be a device approved by the fire code official affording equivalent protection.<br>Exception: Where approved by the fire code official, an alternative breakaway device shall be used where equivalency can be justified through an appeal to the Fire Marshal. |
| | Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Provides protection not otherwise provided for in the base code. |
| 611. | 2308.2.5 Breakaway devices. Breakaway devices shall comply with ANSI/IAS NGV 4.4, *Breakaway Devices for Natural Gas Dispensing Hoses and Systems*.<br>A breakaway device shall be installed at every dispensing point. A breakaway device shall be arranged to separate using a force not greater than 150 pounds (68 kg) when applied in any direction that the vehicle would move. |
| | Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Provides protection not otherwise provided for in the base code. |
| 612. | 2308.2.6 Breakaway protection. Breakaway protection shall be provided in a manner that, in the event of a pull away, natural gas ceases to flow at any separation. |
| | Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC). |

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| | **Reason:** Provides protection not otherwise provided for in the base code. |
| 613**.** | 2311.8.9 Gas detection system. Gas detection systems provided for repair garages shall comply with Section 916. |
| | **Reason:** Modification to align with newly rewritten Section 916. |
| 614**.** | ~~2311.8.9.1 System activation. Activation of the gas detection alarm shall result in all of the following:~~<br>~~1. Initiation of local audible and visual alarms in approved locations.~~<br>~~2. Deactivation of heating systems located in the repair garage.~~<br>~~3. Activation of the mechanical exhaust ventilation system, where the ventilation system is interlocked with gas detection.~~ |
| | **Reason:** Modification to align with newly rewritten Section 916. |
| 615**.** | ~~2311.8.9.2 Failure of the gas detection system. Failure of the gas detection system shall automatically deactivate the heating system, activate the mechanical exhaust ventilation system where the system is interlocked with the gas detection system and cause a trouble signal to sound in an approved location.~~ |
| | **Reason:** Modification to align with newly rewritten Section 916. |

| CH 24 FLAMMABLE FINISHES | |
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| **617.** | 2401.3 Permits. Permits shall be required as set forth in Sections 105.5 and 105.6.<br>Exception: Buildings under construction or renovation with a valid construction permit do not require a permit to conduct this activity. The activity shall be performed in accordance with Section 2410 and all applicable standards. |
| | Adopted by Ordinance G-5808 July 1, 2013 - (2012 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Added to ensure customers are not charged twice for the same activity. |

| Chapter 25 Fruit and Crop Ripening | |
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| 1. | Amendments to this chapter are not applicable, no new amendments are proposed at this time. |
| | **Reason:** |

| Chapter 26 Fumigation and Insecticidal Fogging | |
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| **1.** | Amendments to this chapter are not applicable, no new amendments are proposed at this time. |
| | **Reason:** |

| Chapter 27 Semiconductor Fabrication Facilities | |
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| 618. | 2701.5 Permits. Permits shall be required as set forth in Sections 105.5 and 105.6. |
| | **Reason:** Amended to include requirement of an operational permit |
| 619. | 2703.13 Gas detection systems. A gas detection system complying with Section 916 shall be provided. ~~for HPM gases where the physiological warning threshold level of the gas is at a higher level than the permissible exposure limit (PEL) for the gas and for flammable gases in accordance with Sections 2703.13.1 through 2703.13.2.2.~~ |
| | **Reason:** Modification to align with newly rewritten Section 916. |
| 620. | ~~2703.13.1 Where required. A gas detection system shall be provided in the areas identified in Sections 2703.13.1.1 through 2703.13.1.4.~~ |
| | **Reason:** Modification to align with newly rewritten Section 916. |
| 621. | ~~2703.13.1.1 Fabrication areas. A gas detection system shall be provided in fabrication areas where HPM gas is used in the fabrication area.~~ |
| | **Reason:** Modification to align with newly rewritten Section 916. |
| 622. | ~~2703.13.1.2 HPM rooms. A gas detection system shall be provided in HPM rooms where HPM gas is used in the room.~~ |
| | **Reason:** Modification to align with newly rewritten Section 916. |
| 623. | ~~2703.13.1.3 Gas cabinets, exhausted enclosures and gas rooms. A gas detection system shall be provided in gas cabinets and exhausted enclosures for HPM gas. A gas detection system shall be provided in gas rooms where HPM gases are not located in gas cabinets or exhausted enclosures.~~ |
| | **Reason:** Modification to align with newly rewritten Section 916. |
| 624. | ~~2703.13.1.4 Corridors. Where HPM gases are transported in piping placed within the space defined by the walls of a corridor and the floor or roof above the corridor, a gas detection system shall be provided where piping is located and in the corridor.~~<br>~~Exception: A gas detection system is not required for occasional transverse crossings of the corridors by supply piping that is enclosed in a ferrous pipe or tube for the width of the corridor.~~ |
| | **Reason:** Modification to align with newly rewritten Section 916. |
| 625. | ~~2703.13.2 Gas detection system operation. The gas detection system shall be capable of monitoring the room, area or equipment in which the HPM gas is located at or below all the following gas concentrations:~~<br>~~1. Immediately dangerous to life and health (IDLH) values where the monitoring point is within an exhausted enclosure, ventilated enclosure or gas cabinet.~~<br>~~2. Permissible exposure limit (PEL) levels where the monitoring point is in an area outside an exhausted enclosure, ventilated enclosure or gas cabinet.~~<br>~~3. For flammable gases, the monitoring detection threshold level shall be vapor concentrations in excess of 25 percent of the lower flammable limit (LFL) where the monitoring is within or outside an exhausted enclosure, ventilated enclosure or gas cabinet.~~<br>~~4. Except as noted in this section, monitoring for highly toxic and toxic gases shall also comply with Chapter 60.~~ |
| | **Reason:** Modification to align with newly rewritten Section 916. |
| 626. | ~~2703.13.2.1 Alarms. The gas detection system shall initiate a local alarm and transmit a signal to the emergency control station when a short-term hazard condition is detected. The alarm shall be both visible and audible and shall provide warning both inside and~~ |

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| | ~~outside the area where the gas is detected. The audible alarm shall be distinct from all other alarms.~~ |
| | **Reason:** Modification to align with newly rewritten Section 916. |
| 627. | ~~2703.13.2.2 Shut off of gas supply. The gas detection system shall automatically close the shutoff valve at the source on gas supply piping and tubing related to the system being monitored for which gas is detected when a short-term hazard condition is detected. Automatic closure of shutoff valves shall comply with the following:~~<br>~~1. Where the gas-detection sampling point initiating the gas detection system alarm is within a gas cabinet or exhausted enclosure, the shutoff valve in the gas cabinet or exhausted enclosure for the specific gas detected shall automatically close.~~<br>~~2. Where the gas-detection sampling point initiating the gas detection system alarm is within a room and compressed gas containers are not in gas cabinets or exhausted enclosure, the shutoff valves on all gas lines for the specific gas detected shall automatically close.~~<br>~~3. Where the gas-detection sampling point initiating the gas detection system alarm is within a piping distribution manifold enclosure, the shutoff valve supplying the manifold for the compressed gas container of the specific gas detected shall automatically close.~~<br>~~Exception: Where the gas-detection sampling point initiating the gas detection system alarm is at the use location or within a gas valve enclosure of a branch line downstream of a piping distribution manifold, the shutoff valve for the branch line located in the piping distribution manifold enclosure shall automatically close.~~ |
| | **Reason:** Modification to align with newly rewritten Section 916. |

| Chapter 28 Lumber Yard and Agro-Industrial, Solid Biomass and Woodworking Facilities | |
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| 628. | 2801.1 Scope. The storage, manufacturing and processing of solid biomass feedstock, timber, lumber, plywood, veneers, mulch, and agro-industrial byproducts shall be in accordance with this chapter. |
| | **Reason:** Added mulch to include scope in of chapter 28. |
| 629. | 2802.1 Definitions. The following terms are defined in Chapter 2:<br>**AGRO-INDUSTRIAL.**<br>**BIOMASS.**<br>**COLD DECK.**<br>**FINES.**<br>**HOGGED MATERIALS.**<br>**PLYWOOD AND VENEER MILLS.**<br>**RAW PRODUCT.**<br>**SOLID BIOFUEL.**<br>**SOLID BIOMASS FEEDSTOCK.**<br>**STATIC PILES.**<br>**TIMBER AND LUMBER PRODUCTION FACILITIES.**<br>**TIPPING AREA.** |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason**: Added as it is an industry standard term. |
| 630. | 2803.8 Site identification. The facility's name and address shall be posted at main fire department entrance and clearly visible from the street. Twenty-four-hour emergency contact telephone numbers shall be posted at the main entrance and clearly visible from the street. Addresses shall be a minimum of 4 inches (102 mm) high, of contrasting color to the background and readily visible at night. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason**: Allows for operations to locate facility during emergency incident. |
| 631. | 2303.9 Material-handling equipment. *Approved* material handling equipment shall be available for moving stored materials. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Ensures the appropriate equipment is available onsite to handle emergency situations. |
| 632. | 2807.2.1 Pile height indicators. Indicator posts taller than the highest point of each pile shall be located at readily recognizable locations. The posts shall be marked at 5-foot (1524 mm) increments and shall be provided to give visual height references at or near the highest point(s) of each pile. The post(s) shall not be positioned so as to interfere with access to the piles. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason**: Ensures the appropriate equipment is available onsite to quickly and easily evaluate pile height. |

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| 633. | 2807.2.1.1 Clearance to property line. Piles shall not be stored within 0.75 times the stack height or 8 feet (2438 mm) of the property line, whichever is greater, or shall comply with Section 2807. |
| | **Reason**: New to 2024. Added requirements so that they could apply to hogged materials. |
| 634. | 2807.2.1.2 Clearance to important buildings. Piles shall not be stored within 0.75 times the stack height of any important building on site, or shall comply with Section 2807. |
| | **Reason**: New to 2024. Added to define separation requirements of piles to buildings. |
| 635. | 2807.4 Material-handling equipment. Approved material-handling equipment shall be readily available by contract to aid in the event of emergency for moving wood chips and hogged material.<br>Material-handling equipment shall include:<br>1. Equipment to move stored material during a fire.<br>2. Water trucks.<br>3. Water pumps if using pond for any piece of water source. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason**: Restores previous amendments ensuring enough space is provided to push burning piles around to put out fires. |
| 636. | 2807.6 Static Pile Protection. Static piles shall be monitored by an approved means to measure temperatures within the static piles. Internal pile temperatures shall be monitored and recorded weekly. Such records shall be maintained. An operational plan indicating procedures and schedules for the inspection, monitoring and restricting of excessive internal temperatures in static piles shall be submitted to the *fire code official* for review and approval. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason**: Ensures piles do not get too hot and possible begin to burn. |
| 637. | 2807.6.1 Internal temperature. If any location in a pile is found to have an internal temperature of 160°F (71°C) or greater, immediate action must be taken to reduce the temperature. If any location in a pile is found to have an internal temperature of 180ºF (82ºC) or greater, the following procedures must immediately be taken:<br>1. The area with the high temperature shall be dug out of the main pile. This overheated material shall be pushed out in the designated push-out area. The material shall be not greater than 3 feet (914 mm) in depth in the push-out area.<br>2. Water shall be stationed closely to the affected area, prior to digging out the hotspot, to immediately douse any flare-ups that may occur when air is added to overheated area.<br>3. Continual temperature probing and removal of material greater than 180°F (82°C) shall be conducted until all overheated material is separated into the push-out area. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason**: Ensures piles do not get too hot and possible begin to burn. |
| 638. | 2807.6.2 Delivery and tipping area. Feedstock and raw materials shall be placed into designated tipping areas or separated piles upon delivery and shall comply with all |

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| | storage requirements for compost and mulch. Tipping areas shall comply with all of the following:<br>1. Size. Tipping areas shall not exceed a maximum area of 50 feet (15 240 mm) by 50 (15 240 mm) feet.<br>2. Height. Material within a tipping area shall not exceed 12 feet (3658 mm) in height at any time.<br>3. Separation. Tipping areas shall be separated from all piles and other tipping areas by a fire access lane that is not less than 20 feet (6096 m) wide.<br>4. Raw Product. Raw product shall remain in tipping areas until deemed safe and no longer incendiary.<br>5. Water System. A water system shall be available to wet down/cool the raw product in case of fire within the tipping area.<br>6. Duration. Raw product shall be kept in tipping areas long enough to ensure no load was delivered that is already over-heated. Raw product shall be less than 160ºF before mixing with main pile. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason**: Ensures there enough room to properly work the piles. |
| 639**.** | 2807.6.3 Push-out or clear area. Approved push-out or clear areas shall be provided for pile storage. Any pile in place exceeding thirty (30) days and when piles are over 100 cubic yards (76.5 $m^3$) in size shall have a push out area. The intent is to provide areas to spread piles and move unburned material away from a pile in the event of fire or hotspot within the pile. Push-out/clear areas shall be located not more than 250 feet (76 200 mm) from the pile and shall be not located within 20 feet (6096 mm) of any building, or other combustibles. The push-out/clear area shall be sized to hold not less than a quarter of the size of the single largest pile it serves at a maximum depth of 3 feet (914 mm). Water shall be immediately available to aid in cooling. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason**: Ensures there enough room to properly work the piles. |
| 640**.** | 2807.6.4 Location. Exterior lumber storage shall not be located within 10 feet (3048 mm) of a property line.<br>Exceptions:<br>1. The separation distance is allowed to be reduced to 3 feet (914 mm) for storage not exceeding 6 feet (1828 mm) in height.<br>2. The separation distance is allowed to be reduced where the *fire code official* determines that no hazard to the adjoining property exists. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason**: Addresses location not otherwise address in the fire code. |
| 641**.** | 2807.6.5 Fire emergency protection plan. The owner or operator shall prepare a fire protection plan for any facilities processing and/or storing piles of combustible material in excess of 6 feet (1828 mm) in height or 12 feet (3657 mm) in width, and all commercial facilities. The fire protection plan shall address monitoring for, controlling |

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| | and extinguishing fires. The fire protection plan shall be submitted to the *fire code official.*<br>Fire protection plans shall include the following:<br>1. A scaled and dimensioned site plan indicating property lines, buildings, access roads, fire hydrants, location of tipping areas, salvage areas, pile height indicators, piles and push-out areas.<br>2. Pile contents (hogged material, compost, tipping, manure, etc.) and maximum pile dimensions of each pile.<br>3. Monitoring procedures and schedules for checking for pile temperature and moisture content.<br>4. Fire suppression methods and emergency plans.<br>5. Other procedures and methods to reduce fire within piles or stacks.<br>6. Employee training.<br>7. Equipment and resources available on site, and through contract, for fire prevention and suppression.<br>8. Thresholds for calling 911.<br>9. Location of fire alarm control panels.<br>10. Type of construction and presence of sprinkler protection for other buildings on the site.<br>Written plans, in support of the fire protection plan, shall be made available upon request by the *fire code official*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason**: Ensures a plan for emergencies is created and maintained. |
| 642**.** | 2808.1 General. The storage and processing of mulch, wood chips, hogged materials, fines, compost, solid biomass feedstock and raw product produced from yard waste, debris and agro-industrial and recycling facilities shall comply with Sections 2808.2 through 2808.10. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason**: Mulch is included in this category in Phoenix. |
| 643**.** | 2808.2.1 Delivery and tipping area. Feedstock and raw materials shall be placed into designated tipping areas or separated piles upon delivery and shall comply with all storage requirements for compost and mulch. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason**: Ensures there enough room to properly work the piles. |
| 644**.** | 2808.3.2 Pile height indicators. Indicator posts taller than the highest point of each pile shall be located at readily recognizable locations. The posts shall be marked at 5-foot (1524 mm) increments and shall give visual height references at or near the highest point(s) of each pile. The post(s) shall not interfere with access to the piles. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason**: Ensures ease of monitoring and spot checking by inspectors and Operations. |

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| 645. | 2808.6.1 Internal temperature. If any location in a pile is found to have an internal temperature of 160°F (71°C) or greater, immediate action must be taken to reduce the temperature. If any location in a pile is found to have an internal temperature of 180ºF (82ºC) or greater, the following procedures must immediately be taken:<br>1. The area with the high temperature shall be dug out of the main pile. This overheated material shall be pushed out in the designated push-out area. The material shall be not greater than 3 feet in depth in the push-out area.<br>2. Water shall be stationed closely to the affected area, prior to digging out the hotspot, to immediately douse any flare-ups that may occur when air is added to overheated area.<br>3. Continual temperature probing and removal of material greater than 180°F (82°C) shall be conducted until all overheated material is separated into the push-out area. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Correlation between pile internal temperature and thermodynamics of the decomposition of materials results in spontaneous combustion. Monitoring temperatures reduces potential for fires. |
| 646. | 2808.7.1 Delivery and tipping area. Delivery and tipping areas shall be shown on the approved facility site plan. Tipping areas shall comply with the following:<br>1. Size. Tipping areas shall not exceed a maximum area of 50 feet (15 240 mm) by 50 feet (15 240 mm).<br>2. Height. Material within a tipping area shall not exceed 5 feet (1524 mm) in height at any time.<br>3. Separation. Tipping areas shall be separated from all piles and other tipping areas by a fire access lane that is not less than 20 feet (6096 mm) wide.<br>4. Water system. A water system shall be available to wet down/cool the raw product in case of fire within the tipping area.<br>5. Duration. Raw product shall be kept in tipping areas long enough to ensure no load was delivered that is already over-heated. Raw product shall be less than 160°F before mixing with main pile. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason**: Ensures there enough room to properly work the piles. |
| 647. | 2808.7.2 Push-out/clear area. Approved push-out or clear areas shall be provided for temporary pile storage. Piles kept in place longer than 30 days or piles in excess of 100 cubic yards (76.5 $m^3$) in size shall have a push-out area. The intent is to provide areas to spread piles and move unburned material away from a pile in the event of fire or hotspot within the pile.<br>Push-out/clear areas shall be located not more than 250 feet (76 200 mm) from the pile and shall not be located within 20 feet (6096 mm) of any building or other combustibles. The push-out/clear area shall be sized to hold not less than one-quarter of the single largest pile it serves at a maximum depth of 3 feet (914 mm). Water shall be immediately available to aid in cooling. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason**: Provides fire protection not otherwise in the base code. |

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| 648. | 2808.7.3 Fire hydrants. The *fire code official* may increase the distance required to a fire hydrant as set forth in Section 507 where the conditions of this section are complied with. The omitting of an on-site hydrant or increased overall distance to the nearest hydrants will be evaluated with the application for permit. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason**: Supports Operations. |
| 649. | 2808.9 Material-handling equipment. *Approved* material-handling equipment shall be available by contract to aid in the event of emergency for moving wood chips and hogged material. Equipment available shall include:<br>1. Equipment to move stored material during a fire.<br>2. Water trucks.<br>3. Water pumps if using pond for any piece of water source. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Amendment clarifies requirements for businesses to have approved fire mitigation equipment available onsite. |
| 650. | 2808.10 Fire emergency protection plan. The owner or operator shall prepare a fire protection plan for any facilities processing and/or storing piles of combustible material in excess of 6 feet (1828 mm) in height or 12 feet (3657 mm) in width, and all commercial facilities. The fire protection plan shall address monitoring for, controlling and extinguishing fires. The fire protection plan shall be submitted to the *fire code official*.<br>Fire protection plans shall include the following:<br>1. A scaled and dimensioned site plan indicating property lines, buildings, access roads, fire hydrants, location of tipping areas, pile height indicators, piles and push-out areas.<br>2. Pile contents (hogged material, compost, tipping, manure, etc.) and maximum pile dimensions of each pile<br>3. Monitoring procedures and schedules for checking for pile temperature and moisture content.<br>4. Fire suppression methods and emergency plans.<br>5. Other procedures and methods to reduce fire within piles.<br>6. Employee training.<br>7. Equipment and resources available on site, and through contract, for fire prevention and suppression.<br>8. Thresholds for calling 911.<br>9. Reports and other justifications if requesting to exceed this standard. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason**: Base code is removed an amendment added. |
| 651. | 2809.6 Location. Exterior lumber storage shall not be located within 10 feet (3048 mm) of a property line.<br>Exception: The separation distance is allowed to be reduced to 3 feet (914 mm) for storage not exceeding 6 feet (1828 mm) in height. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC). |

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| | **Reason**: Coordinates with Zoning requirements. |

| Chapter 29 Manufacture of Organic Coatings | |
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| **1.** | 2901.2 Permits. Permits shall be required as set forth in Sections 105.5 and 105.6. |
| | **Reason:** Added the reference to the requirement for Operating permit. |

| Chapter 30 Industrial Ovens | |
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| 1. | Amendments to this chapter are not applicable, no new amendments are proposed at this time. |
| | **Reason:** |

| Chapter 31 Tents, Temporary Special Event Structures and other Membrane Structures | |
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| 652. | 3103.5 Construction documents. A detailed site and floor plan for tents or membrane structures with an *occupant load* of 50 or more shall be provided with each application for approval. The tent or membrane structure floor plan shall indicate details of the *means of egress* facilities, seating capacity, arrangement of the seating, location of illuminated exit signs, no smoking signs, emergency lighting, and location and type of heating and electrical equipment. The *construction documents* shall include an analysis of structural stability. Water-filled vessels used to anchor a *tent* or *membrane structure* shall be in accordance with Section 3103.8.1. |
| 653. | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** Provides direction not otherwise provided in the base code. |
| 654. | 3103.8 Structural stability and anchorage required. Tents or membrane structures and their appurtenances shall be designed and installed to withstand the elements of weather and prevent collapsing. Documentation of structural stability shall be furnished to the *fire code official* and demonstrate compliance with one of the following:<br>1. The tent staking or ballasting plan.<br>2. The manufacturer's specifications.<br>3. The current *IFAI Procedural Handbook for the Safe Installation & Maintenance of Tentage* and the *IFAI Pullout Capacity of Tent Stakes*.<br>4. Stamped engineering plans. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Policy June 15, 2002<br>**Reason:** Provides direction not otherwise provided in the base code. |
| 655. | 3107.1 Scope. Outdoor assembly events, concession stands, food booths and retail booths shall comply with this section. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Provides direction not otherwise provided in the base code. |
| 656. | 3107.2.3.2 Distances between booths. Not less than 20 feet (6096 mm) shall be provided between every 150 linear feet (45 720 mm) of booth space. Not less than 30 feet (9144 mm) shall be provided between booths used for cooking and the vehicles, generators, or any other internal combustion engines. Not less than 30 feet (9144 mm) shall be provided between booths used for cooking and amusement rides or devices.<br>Exception: Hot dog carts that are licensed by the city for use in right-of-ways. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), 1705.4.2.2 Protection and 1705.4.4 General/electrical added.<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides direction not otherwise provided in the base code. |

657. 3107.3 Occupancy and means of egress. The number and location of emergency egress and escape routes shall be *approved* by the *fire code official*. Exits shall comply with Chapter 10, be as remote from each other as practical and comply with Table 3107.3. The aggregate clear width of exits shall be not less than 36 inches (914 mm) in width for each 500 persons to be accommodated.

TABLE 3106.3
OUTDOOR EXITS TABLE

| OCCUPANT LOAD | MINIMUM NUMBER OF EXITS |
|---|---|
| 1 to 500 | 2 |
| 501 to 1,000 | 3 |
| 1,001 to 1,500 | 4 |
| Each additional 500 persons | 36 additional inches of exit width |

Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).
Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), 1705.4.2.2 Protection and 1705.4.4 General/electrical added.
Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).
Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).
**Reason:** Provides direction not otherwise provided in the base code.

658. 3107.3.3 Signs. Exits shall be identified with signs that read "EXIT." The signs shall be weather-resistant with lettering on a contrasting background. The lettering shall be of sufficient height and brush stroke to be immediately visible from 75 feet (22 860 mm). Placement of the exit signs shall be approved by the *fire code official*.

Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).
Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).
Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).
Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).
**Reason:** Provides direction not otherwise provided in the base code.

659. 3107.5.2 Protection. Cooking equipment using combustible oils or solids shall meet the following:

1. A noncombustible lid shall be immediately available. The lid shall be of sufficient size to cover the cooking well completely.
2. The equipment shall be placed on a noncombustible surface.
3. An *approved* portable fire extinguisher for protection from cooking grease fires shall be provided at a location *approved* by the *fire code official*.
4. The cooking surface shall not exceed 288 square inches (1858 $cm^2$).
5. The equipment shall be separated from each other by a horizontal distance of not less than 2 feet (609 mm).

Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).
Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).
Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).
Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).
**Reason:** Provides direction not otherwise provided in the base code.

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| 660. | 3107.5.3.1 Maximum number and quantity. A total aggregate water capacity of not more than 50 gallons (95 L) of LP-gas is permitted at one concession stand or booth used for cooking. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides direction not otherwise provided in the base code. |
| 661. | 3107.5.3.2 LP-gas low-pressure cylinder hoses. Hoses with a working pressure of 5 psig (34 kPa) shall be allowed where a fix regulator is set at 5 psi (34 kPa) and is connected directly to the LP-gas cylinder. The hose shall not exceed 12 feet (3658 mm) unless approved by the *fire code official*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides direction not otherwise provided in the base code. |
| 662. | 3107.5.3.3 LP-gas high-pressure cylinder hoses. Hoses shall be designed for a working pressure of 350 psig (2413 kPa) with a safety factor of 5 to 1 and shall be continuously marked with LP-gas, propane, 350 psi (2413 kPa) working pressure, and the manufacturer's name or trademark. Hose assemblies, after the application of couplings, shall have a design capability of 700 psig (4826 kPa). Hoses shall not exceed 12 feet (3638 mm) unless approved by the *fire code official*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides direction not otherwise provided in the base code. |
| 663. | 3107.5.4 Public isolation. Cooking appliances or devices shall be isolated from the public by not less than 4 feet (1219 mm) or by a noncombustible three-sided barrier between the equipment and devices and the public. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides direction not otherwise provided in the base code. |
| 664. | 3107.6.4 Temporary water stations. When outdoor temperatures are expected to exceed 90°F (35°C), the event sponsor shall provide and maintain a minimum of one staffed water station for each 1,000 in projected attendance, or as required by the *fire code official*. The water station shall include adequate water supply, cups, and a means for rapid replenishing of exhausted water. Each water station shall be located as far apart as practicable to allow ease of access for event attendees. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). |

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| | **Reason:** Provides direction not otherwise provided in the base code. |
| 665. | SECTION 3109<br>MAZES<br>3109 Mazes. Mazes including, but not limited to, corn stalk or hedge mazes, shall be in accordance with this section and Section 3106. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** New to 2024. Mazes relocated to 3109, previously 3103. Provides direction not otherwise provided in the base code. |
| 666. | 3109.1 Safe refuge areas. Safe refuge areas shall be established outside of the maze or building and structure, and shall not be closer than 50 feet (15 240 mm). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** New to 2024. Mazes relocated to 3109, previously 3103. Provides direction not otherwise provided in the base code. |
| 668. | 3109.2 Paths. Paths throughout the maze shall be a minimum of 36 inches (914 mm) clear and unobstructed width. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** New to 2024. Mazes relocated to 3109, previously 3103. Provides direction not otherwise provided in the base code. |
| 669. | 3109.3 Separation. Not less than 20 feet (6096 mm) shall be provided between mazes and buildings and structures. The 20-foot (6096 mm) clearance shall be free from vegetation and obstructions. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** New to 2024. Mazes relocated to 3109, previously 3103. Provides direction not otherwise provided in the base code. |
| 670. | 3109.4 Means of egress. Each exit shall be not less than 6 feet (1828 mm) wide. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** New to 2024. Mazes relocated to 3109, previously 3103. Provides direction not otherwise provided in the base code. |
| 671. | 3109.5 Travel distance. The maximum travel distance to reach an exit access shall not exceed 75 feet (22 860 mm). The travel distance shall be determined by using the maze path. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC). |

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| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** New to 2024. Mazes relocated to 3109, previously 3103. Provides direction not otherwise provided in the base code. |
| 672. | 3109.6 Number of exits. The travel distance required to reach an exit access shall determine the number of exits required. Locking devices shall remain unlocked on exits when the maze is occupied. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** New to 2024. Mazes relocated to 3109, previously 3103. Provides direction not otherwise provided in the base code. |
| 673. | 3109.7 Exit signs. Signs shall be provided next to or above each exit. The lettering shall be not less than 12 inches (305 mm) high with 2-inch (51 mm) brushstrokes. The signs shall read "EXIT" with lettering in a color contrasting to the sign's background. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** New to 2024. Mazes relocated to 3109, previously 3103. Provides direction not otherwise provided in the base code. |
| 674. | 3109.8 Security plan. The plan shall document who shall provide security (e.g., off-duty police officers, sheriff's posse, employees). All security personnel shall be provided with a two-way radio and flashlight. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** New to 2024. Mazes relocated to 3109, previously 3103. Provides direction not otherwise provided in the base code. |
| 675. | 3109.9 Evacuation plans. The plan shall document the responsibilities of all on-site employees. The plan shall also document how attendees will be evacuated and where they will be evacuated. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** New to 2024. Mazes relocated to 3109, previously 3103. Provides direction not otherwise provided in the base code. |
| 676. | 3109.10 Maze rules. Rules shall be posted at the maze entrance. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). |

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| | **Reason:** New to 2024. Mazes relocated to 3109, previously 3103. Provides direction not otherwise provided in the base code. |
| 677. | 3109.11 Employee responsibilities. Each employee shall be familiar with the evacuation plan and with fire extinguisher locations. Documentation of training shall be provided to the *fire code official*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** New to 2024. Mazes relocated to 3109, previously 3103. Provides direction not otherwise provided in the base code. |
| 678. | 3109.12 Employee guides. An employee shall be responsible for guiding a group of not more than 14 attendees through the maze. Each employee shall be provided with one flashlight and a two-way radio. The employees shall be responsible for detecting and reporting fire or smoke to a competent person posted at the maze main entrance and begin evacuation procedures. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** New to 2024. Mazes relocated to 3109, previously 3103. Provides direction not otherwise provided in the base code. |
| 679. | 3109.13 Main entrance employee. Each maze shall be manned by an employee at the entrance. The employee shall be capable of communicating with the employees and shall be provided with a cellular telephone. When the main entrance employee receives a report of smoke, fire or injury, the employee shall immediately call 911. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** New to 2024. Mazes relocated to 3109, previously 3103. Provides direction not otherwise provided in the base code. |
| 680. | 3109.14 Watering. Corn stalk and hedge mazes shall be provided with sufficient water and at a frequency that prevents the vegetation from becoming dry or brittle. Failure to comply with this provision creates an imminent hazard and the *fire code official* shall issue a stop order. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** New to 2024. Mazes relocated to 3109, previously 3103. Provides direction not otherwise provided in the base code. |
| 681. | 3109.15 Buildings and structures. Where buildings and structures are intended to be occupied by attendees, the building and structure shall comply with Section 905 regarding Class III standpipes. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC). |

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| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** New to 2024. Mazes relocated to 3109, previously 3103. Provides direction not otherwise provided in the base code. |

| Chapter 32 High-Pile Combustible Storage | |
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| 682. | 3201.1.1 Speculative building. Group S, F and M speculative buildings having an interior clear height greater than 12 feet (3658 mm) where high-pile storage may accrue shall comply with this chapter. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Added to clearly identify spaces being built without tenants and the requirements for life safety systems. |
| 683. | 3201.3.2 Approved storage layout. A floor plan, of legible size, shall be provided, mounted on a wall and protected from damage. The floor plan shall be mounted in an *approved* location and show the following:<br>1. Locations, dimensions and rack layout of *high-piled storage areas*.<br>2. Design storage height for each storage area.<br>3. Types of commodities.<br>4. Commodity clearance between top of storage and the sprinkler deflector for each storage arrangement.<br>5. Aisle dimensions between each storage array.<br>6. For palletized and solid-piled storage, the maximum pile volume for each storage array.<br>7. Location and classification of commodities in accordance with Section 3203.<br>8. Location of required fire department access doors.<br>9. Location of valves controlling the water supply of ceiling and in-rack sprinklers.<br>10. Design criteria of the sprinkler system. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Added to ensure the sprinkler system is designed to accommodate the storage. |
| 684. | 3206.2.2 Groups F-1 and S-1 with a storage area greater than 500,000 square feet (46 451 $m^2$). Where storage areas in Groups F-1 and S-1 are greater than 500,000 square feet (46 451 $m^2$), a technical report prepared by a professional registrant shall be submitted for review and approval by the *fire code official*. Additional fire protection and/or life safety systems may be required by the *fire code official*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Ensures life safety systems adequate for large spaces. |
| 685. | 3206.2.3 Storage height greater than 40 feet (12 192 mm). Where the designated storage height is greater than 40 feet (12 192 mm), a technical report shall be prepared by a professional registrant and shall be submitted to the Phoenix *fire code official* for approval. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Ensures life safety systems adequate for large spaces. |
| 686. | 3206.2.4 Additional hose connections. Additional fire department hose connections shall be provided where required by the *fire code official*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC). |

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| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Ensures Operations has connections where needed to suppress fire. |
| 687. | 3206.4.2 General. Automatic sprinkler systems in Group F, M and S occupancies that contain high-pile storage or high-challenge commodities over areas of not less than 2,500 square feet (232 $m^2$), or hazardous materials stored more than one pallet high, shall be in accordance with this section. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides the most fire protection for buildings when the final use is unknown at the time of construction. |
| 688. | 3206.4.2.1 Requirements for all plan submittals. See Design Documents in Section 903.3 for plan submittal requirements. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides the most fire protection for buildings when the final use is unknown at the time of construction. |
| 689. | 3206.4.2.2 Minimum design requirements for speculative warehouses. The design of automatic sprinkler systems for speculative Group M, S or F occupancies shall be based on storage of a cartoned Class A nonexpanded plastic to the available storage height. The storage height shall be determined by subtracting 48 inches (1219 mm) from the highest point of the roof above each system for ESFR and 30 inches (762 mm) for area density applications. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides the most fire protection for buildings when the final use is unknown at the time of construction. |
| 690. | 3206.4.2.3 Minimum requirements for client-leased or occupant-owned buildings. The design of an automatic sprinkler system for client-leased or occupant- owned buildings containing high-pile storage shall be based on the requirements of NFPA 13, Chapter 12. The responsible fire protection engineer shall perform a survey of the building to determine commodity classification, storage configuration, building height and other information related to the development of an appropriate sprinkler system design. The engineer shall also make reasonable efforts to meet with the building owner or operator to understand seasonal or customer- related fluctuations to the stored commodities, storage height and configuration.<br>The sprinkler design shall be based on the most demanding requirements determined through the on-site survey and discussions with the building owner or operator. A technical report shall clearly define the basis for determining the commodity and sprinkler design selection, how the commodities will be isolated or separated, and the |

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| | referenced design document(s), including NFPA 13. If a specific fire test is used as the basis of design, a copy of the fire test report shall be provided at the time of plan review. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides the most fire protection for buildings when the final use is unknown at the time of construction. |
| 691. | 3206.4.2.4 Required information at plan submittal. All plans, hydraulic calculations and technical reports shall be submitted with the plan submittal form. The individual submitting the design package shall ensure that all of the required information requested on the plan submittal form is included. The plan review fee shall be paid at the time the plans are submitted. If the required information is not provided, the Fire Department may charge a fee in accordance with the Fire Prevention Fee Schedule for the handling and preliminary review of the plans. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides the most fire protection for buildings when the final use is unknown at the time of construction. |
| 692. | 3206.4.2.5 Minimum plan information requirements. In addition to the requirements of NFPA 13, the information listed in Sections 3206.4.1.6.1 and 3206.4.1.6.2 shall be included in the plans or technical report. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides the most fire protection for buildings when the final use is unknown at the time of construction. |
| 693. | 3206.4.2.6 Class I-IV and Group A plastic commodities.<br>1. An owner's certificate in accordance with NFPA 13. The design criteria (e.g., NFPA 13, FM Global Data Sheet, or a specific fire test report).<br>2. A City of Phoenix Water Supply Flow & Pressure Test Report performed within 90 days of the plan submittal.<br>3. The type of design (e.g., Control Mode Density/Design Area Method; Specific Application Control Mode Method; Suppression Mode Method), including appropriate code references.<br>4. A description of the stored commodities and how the commodity classification was determined.<br>5. A layout of the proposed storage arrangement. If the storage is in racks, a plan and elevation detail illustrating rack heights, flue dimensions and arrangement. This detail is not required for speculation warehouses.<br>6. The aisle dimensions between each storage array. |

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| | 7. If a high-challenge commodity is separated using fire-resistive construction, the boundary of the fire-resistive construction shall be illustrated.<br>8. A data sheet for the backflow preventer. If a data sheet is not available, the design professional shall include a statement addressing the minimum required pressure loss.<br>9. A data sheet for each installed automatic sprinkler.<br>10. A data sheet for each pipe hanger used to hang or support the sprinkler piping.<br>11. If a fire pump will be installed or used, the manufacturer's factory test curve shall be included in the submittal.<br>12. A cross-section view illustrating obstructions to the ceiling sprinklers (e.g., lights, structural members, cable trays, electrical bus ducts, HVAC ductwork). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides the most fire protection for buildings when the final use is unknown at the time of construction. |
| 694. | 3206.4.2.6.1 Hazardous materials. In addition to the requirements of Section 3206.4.1.6.1, the following information shall be included in a hazardous materials technical report:<br>1. A hazardous materials inventory statement.<br>2. For flammable and combustible liquids, an analysis of the miscibility of Class I liquids, the size and type of the packaging, the packaging materials of construction, and whether the containers have a pressure relieving mechanism.<br>3. For Level 2 or 3 aerosols, a statement indicating that the aerosols are cartoned or uncartoned. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides the most fire protection for buildings when the final use is unknown at the time of construction. |
| 695. | 3206.4.2.7 Identification of sprinkler system capabilities and limitations. An adhesive label shall be permanently installed at or adjacent to each sprinkler riser. Where a building contains more than four risers, the sign shall be located at an approved location inside the building. Where sprinkler risers are located outside of the building, the sign shall be stamped metal. The minimum sign dimension is 6 inches high by 4 inches wide. The sign shall specify the capabilities and limitations of the automatic sprinkler system. The sign shall include the following information:<br>1. The NFPA standard used as the design basis, and what edition.<br>2. A statement indicating whether the sprinkler design uses the control mode density area method, control mode specific application, suppression mode, or any combination thereof.<br>3. When used, all of the storage conditions stipulated in NFPA 13 for Special Designs. |

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| | 4. The maximum storage height.<br>5. The minimum required aisle width.<br>6. If storage is in racks, the maximum rack width and minimum transverse and longitudinal flue widths.<br>7. Commodities that can be protected by the automatic sprinkler system.<br>8. Commodities that cannot be protected by the automatic sprinkler system.<br>9. Limits on storage heights of idle wood and plastic storage.<br>10. Limits on storage heights of miscellaneous Group A plastic, tire and rolled paper storage.<br>11. Locations where in-rack sprinklers are required.<br>12. Locations where horizontal and/or vertical barriers are required.<br>13. Information explaining the manufacturer, sprinkler identification number, k-factor and operating temperature of the overhead sprinklers protecting the high-pile storage. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides the most fire protection for buildings when the final use is unknown at the time of construction. |

| Chapter 33 Fire Safety During Construction and Demolition | |
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| 696. | 3301.3 Permits. Permits shall be required as set forth in Sections 105.5 through 105.6. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Addendum adds requirement for construction and operational permits for fire department access roads. |
| 697. | 3307.1.2 Fire apparatus access roads. *Fire apparatus access roads* shall be provided prior to introducing combustible materials on the construction site. *Fire apparatus access roads* on construction sites shall not be obstructed.<br>Fire apparatus access is required within 150 feet (45 720 mm) of all points on the exterior of the building.<br>*Fire apparatus access roads* during construction shall meet the requirements of fire apparatus access roads in accordance with Section 503.<br>Exception: Stabilized edges, except where required by the *fire code official*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC). [503.8]<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides for consistent outcomes. |
| 698. | 3307.1.3.1 Surface. The unpaved surface of fire apparatus access roads shall include not less than:<br>1. Six inches (152 mm) of native soil compacted to 95 percent of standard proctor density (ASTM D698).<br>2. Four inches (102 mm) of aggregate base compacted to 100 percent of standard proctor density |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC). [503.8]<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides for consistent outcomes. |
| 699. | 3307.1.4 Curbs. Curbs are not required for fire apparatus access roads for sites under construction. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC). [503.8]<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides for consistent outcomes. |
| 700. | 3307.1.5 Engineering report. An engineer professional registrant shall prepare and seal the soil compaction report ensuring the road will support the imposed live load, drainage, stabilization and curbing. The report shall be available for review by the *fire code official*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC). [503.8]<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides for consistent outcomes. |

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| 701. | 3307.1.6 Maintenance of fire apparatus access roads during construction. The owner shall maintain the *fire apparatus access roads* as approved by the *fire code official.* |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC). [503.8]<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Provides for consistent outcomes. |
| 702. | 3307.5.2 Detailed requirements. Standpipes shall be installed in accordance with the provisions of Section 905.<br>Exception: Standpipes shall be either temporary or permanent in nature, and with or without a water supply, provided that such standpipes comply with the requirements of Section 905 as to capacity, outlets, materials and pressure. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Provides for consistent outcomes. |

| Chapter 34 Tire Rebuilding and Tire Storage | |
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| 703. | 3401.3 Site plans. At the time of permit application for storing tires outdoors, a site plan shall be submitted to the *fire code official* identifying the location and dimensions of tire storage areas, tire pile dimensions and height, distance from buildings and property lines, width and location of aisles, and fire apparatus access roads. See Section 105. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Ensures piles are stored and maintained in compliance with code. |
| 704. | 3405.1 Individual piles. Tire storage shall be restricted to individual piles not exceeding 5,000 square feet (464.5 $m^2$) of continuous area. Piles shall not exceed 10 feet (3048 mm) in height. Piles 2,501–4,999 square feet (232 $m^2$–464.5 $m^2$) shall comply with Section 315.4. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Provides for consistent outcomes and is the maximum size pile for Operations. |
| 705. | 3405.8 Dead-end aisles. No dead-end aisles shall be allowed within the facility. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Consistent with other outdoor storage of combustible materials. |
| 706. | 3405.9 Stacking. The method of stacking shall be solid piles in an orderly, stable array. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Consistent with other outdoor storage of combustible materials. |

| Chapter 35 Welding And Other Hot Work | |
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| 707. | 3501.2 Permits. Permits shall be required as set forth in Section 105.5.<br>Exceptions:<br>1. Work conducted at one-and two-family dwellings. |
| | **Reason:** Identifies exceptions to permit requirements |
| 708 | 3501.2.1 Hot work safety measures. Where permits are not required, the person conducting hot work operations shall be responsible for ensuring that such operations are conducted in accordance with the safety requirements of this chapter. |
| | **Reason:** Identifies exceptions to permit requirements |
| 709. | **3506.4 Emergency disconnect.** A switch or circuit breaker shall be provided so that fixed electric welders and control equipment can be disconnected from the supply circuit. The disconnect shall be installed in accordance with NFPA 70 and marked "EMERGENCY DISCONNECT."<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), reference changed to NFPA 70.<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), referenced National Electrical Code.<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC), referenced National Electrical Code.<br>**Reason:** Provides support for operations. |

| Chapter 36 Marinas | |
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| **1.** | Amendments to this chapter are not applicable, no new amendments are proposed at this time. |
| | **Reason:** |

| Chapter 37 Combustible Fibers | |
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| 1. | Amendments to this chapter are not applicable, no new amendments are proposed at this time. |
| | **Reason:** |

| Chapter 38 Higher Education Laboratories | |
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| 1. | Amendments to this chapter are not applicable, no new amendments are proposed at this time. |
| | **Reason:** |

| Chapter 39 Processing and Extraction Facilities | |
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| 710. | 3905.1 Gas detection. ~~For extraction processes utilizing flammable gases as solvents, a gas detection system complying with Section 916 shall be provided.~~ Spaces containing extraction processes shall be provided with a gas detection system where required by Section 916. |
| | **Reason:** Modification to align with the newly rewritten Section 916. |
| 711. | ~~3905.1.1 Operation. Activation of the gas detection system shall result in all of the following:~~<br>~~1. Initiation of distinct audible and visual alarm signals in the extraction room.~~<br>~~2. Deactivation of all heating systems located in the extraction room.~~<br>~~3. Activation of the mechanical ventilation system, where the system is interlocked with gas detection.~~<br>~~4. De-energize all light switches and electrical outlets.~~ |
| | **Reason:** Modification to align with the newly rewritten Section 916. |
| 712. | ~~3905.1.2 Failure of the gas detection system. Failure of the gas detection system shall result in deactivation of the heating system; activation of the mechanical ventilation system where the system is interlocked with the gas detection system; and initiation of a trouble signal to sound in an approved location.~~ |
| | **Reason:** Modification to align with the newly rewritten Section 916. |

| Chapter 40 Storage of Distilled Spirits and Wines | |
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| **1.** | These chapters remain reserved and unchanged. |
| | **Reason:** |

| Chapter 41 Temporary Heating and Cooking Operations | |
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| **1.** | These chapters remain reserved and unchanged. |
| | **Reason:** |

| Chapters 42-49 Reserved | |
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| **1.** | These chapters remain reserved and unchanged. |
| | **Reason:** |

| CH 50 Hazardous Materials - General Provisions | |
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| 713. | 5001.5 Permits. Permits shall be required as set forth in Sections 105.6 through 105.7. |
| | Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Accommodates Phoenix amendments. |
| 714. | 5001.5.1 Hazardous Materials Management Plan. Where required by the fire code official, an application for a permit shall include a Hazardous Materials Management Plan (HMMP). The HMMP shall include a facility site plan designating the following:<br>1. Access to each storage and use area.<br>2. Location of emergency equipment.<br>3. Location where liaison will meet emergency responders.<br>4. Facility evacuation meeting point locations.<br>5. The general purpose of other areas within the building.<br>6. Location of all above-ground and underground tanks and their appurtenances including, but not limited to, sumps, vaults, below-grade treatment systems and piping.<br>7. The hazard classes in each area.<br>8. Locations of all control areas and Group H occupancies.<br>9. Emergency exits.<br>10. Maximum amount of each material stored or used in each area.<br>11. Range of container sizes.<br>12. Locations of emergency isolation and mitigation valves and devices.<br>13. Product conveying piping containing liquids or gases, other than utility-owned fuel gas lines and low-pressure fuel gas lines.<br>14. On and off positions of valves for valves that are of the self-indicating type.<br>15. Storage plan showing the intended storage arrangement, including the location and dimensions of aisles.<br>16. Hazard and Operability (HAZOP) studies. The HAZOP shall include process parameters, process deviations, causes of process deviations, how the process will safely operate or stop in the event of a process deviation, management of change, and the consequences of a process deviation.<br>17. Chemical reactivity data. Data shall be provided to demonstrate that the process has been evaluated to address any potential reactive chemical hazards such as distillations, endothermic or exothermic reactions, or polymerizations.<br>18. Confidential business information shall be marked as proprietary and confidential. |
| | Adopted by Ordinance G-5808 July 1, 2013 - (2012 IFC), access added #1, items 9-14 added.<br>Adopted by Ordinance G-4919 August 1, 2007 - (2006 IFC), items 9-11 added (now 16-18).<br>Adopted by Ordinance G-4777 March 13, 2006 - (2003 IFC), items 9-10 (now 16 and 17).<br>Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Supports operations. |
| 715. | 5001.5.2 Hazardous Materials Inventory Statement (HMIS). Where required by the fire code official, an application for a permit shall include a Globally Harmonized System of Classification and Labeling of Chemicals (GHS) or an HMIS, Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III, Tier II Report or other approved statement. |

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| | The HMIS shall include the following information:<br>1. Product name.<br>2. Component.<br>3. Chemical Abstract Service (CAS) number.<br>4. Location where stored or used.<br>5. Container size.<br>6. Hazard classification.<br>7. Amount in storage.<br>8. Amount in use-closed systems.<br>9. Amount in use-open systems.<br>10. Manufacturer's name.<br>11. Chemical trade name, trade names, hazardous ingredients.<br>12. The NFPA 704 hazard rating for the hazardous material.<br>13. Storage conditions related to the storage type, temperature and pressure. |
| | Adopted by Ordinance G-5808 July 1, 2013 - (2012 IFC), items 3 and 5 and GHS added.<br>Adopted by Ordinance G-4919 August 1, 2007 - (2006 IFC), item 4 added.<br>Adopted by Ordinance G-4777 March 13, 2006 - (2003 IFC), item 4 added.<br>Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Added info to provide complete customer info. GHS amendment is kept as a viable option for customers. The details are removed as they are provided in the GHS documentation. |
| 716**.** | 5003.2.2.1 Design and construction. Piping, tubing, valves, fittings and related components used for hazardous materials shall be in accordance with the following:<br>1. Pipin, tubing, valves, fittings and related components shall be designed and fabricated from materials that are compatible with the material to be contained and shall be of adequate strength and durability to withstand the pressure, structural and seismic stress and exposure to which they are subject.<br>2. Piping and tubing shall be identified in accordance with ASME A13. Markings used for piping systems shall consist of the content's name and include a direction-of-flow arrow. Markings shall be provided at each valve; at wall, floor or ceiling penetrations; at each change of direction; and at a minimum of every 20 feet (6096 mm) or fraction thereof throughout the piping run.<br>3. Manual valves or automatic remotely activated fail-safe emergency shutoff valves shall be installed on supply piping and tubing and provided with ready access at the following locations:<br>3.1. The point of use.<br>3.2. The tank, cylinder or bulk source.<br>4. Manual emergency shutoff valves and controls for remotely activated emergency shutoff valves shall be identified and the location shall have access clearly visible and indicated by means of a sign.<br>5. Backflow prevention or check valves shall be provided where the backflow of hazardous materials could create a hazardous condition or cause the unauthorized discharge of hazardous materials.<br>Exceptions:<br>1. Piping for inlet connections designed to prevent backflow.<br>2. Piping for pressure relief devices.<br>6. Where hazardous materials are stored outside of buildings in stationary, above-ground |

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| | tanks or pressure vessels and are piped into a building, an emergency shut-off valve shall be installed at an approved location outside of the building.<br>7. Pressure tests of piping constructed of nonmetallic material used to convey hazardous materials shall be limited to hydrostatic tests. Pneumatic pressure testing of nonmetallic piping shall not be permitted.<br>8. Where gases or liquids having a hazard ranking of Health Class 3 or 4, Flammability Class 4, Reactivity Class 3 or 4, or Instability Class 3 or 4 in accordance with NFPA 704 are carried in pressurized piping above 15 pounds per square inch (psig) (103 kPa), an approved means of leak detection and emergency shutoff or excess flow control shall be provided. Where the piping originates from within a hazardous material storage room or area, the excess flow control shall be located within the storage room or area. Where the piping originates from a bulk source, the excess flow control shall be located as close to the bulk source as practical.<br>Exceptions:<br>1. Piping for inlet connections designed to prevent backflow.<br>2. Piping for pressure relief devices. |
| | Adopted by Ordinance G-5898 April 18, 2014 (2012 IFC amendment package). Item 8 added<br>Adopted by Ordinance G-5808 July 1, 2013 - (2012 IFC), items 5 and 7 (reactivity) added.<br>Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Amendments define requirements that need to be addressed during the planning & construction phases. |
| 717**.** | 5003.2.4.2.2 Fabrication. Where used for the storage of hazardous materials, above-ground storage tanks with a nominal capacity of 500 gallons or more that are constructed of polyethylene shall be designed and fabricated in accordance with ASTM D1998-06, *Standard Specification for Polyethylene Upright Storage Tanks.*<br>Aboveground storage tanks used for the storage of hazardous materials that are constructed of fiber-reinforced plastic shall be designed and fabricated in accordance with ASTM D3299-00, *Standard Specification for Filament-Wound Glass-Fiber-Reinforced Thermoset Resin Corrosion-Resistant Tanks,* or ASTM D4097-01, *Standard Specification for Contact-Molded Glass-Fiber-Reinforced Thermoset Resin Corrosion-Resistant Tanks.*<br>Exception: Above-ground tanks that are installed in vaults complying with Section 5303.16 or 5704.2.8 need not comply with location and protection requirements for outdoor storage. |
| | Adopted by Ordinance G-5808 July 1, 2013 - (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 - (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 - (2003 IFC).<br>Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Provides clarification of standards used to evaluate tank approval. |
| 718**.** | 5003.2.10 Pressure vessels. Stationary pressure vessels designed for the storage of hazardous materials shall be in accordance with this section.<br>Where a stationary pressure vessel designed for the storage of hazardous materials is governed by another standard or section, the applicable requirements for the design and construction of the container and its appurtenances shall take precedence. |
| | Adopted by Ordinance G-5808 July 1, 2013 - (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 - (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 - (2003 IFC). |

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| | Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Amendments adopted as not otherwise addressed in the code. |
| 719. | 5003.2.10.1 Construction. Stationary pressure vessels shall be designed, constructed, and certified as being compliant with ASME Boiler and Pressure Vessel Code 2007, Section VIII, Division 1 or 2. An ASME U-1 report shall be provided to the Fire Department for any new pressure vessel installation. The Fire Department is authorized to require an ASME U-1 report for an installation of an existing pressure vessel being installed at a new location. |
| | Adopted by Ordinance G-5808 July 1, 2013 - (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 - (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 - (2003 IFC).<br>Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Amendments adopted as not otherwise addressed in the code. |
| 720. | 5003.2.10.2 Repair. Where a stationary pressure vessel is repaired or is modified, an ASME R-1 report shall be made available to the Fire Department. Upon completion of the repairs or modifications to a pressure vessel, a nameplate indicating the nature of the work shall be affixed to the pressure vessel. The repair nameplate shall be affixed near the original nameplate. |
| | Adopted by Ordinance G-5808 July 1, 2013 - (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 - (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 - (2003 IFC).<br>Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Amendments adopted as not otherwise addressed in the code. |
| 721. | 5003.2.10.3 Removal of noncertified pressure vessels. If a nameplate stating that the pressure vessel has been constructed in accordance with the ASME Boiler and Pressure Vessel Code is not attached to a pressure vessel, the fire code official is authorized to have the pressure vessel removed from service. |
| | Adopted by Ordinance G-5808 July 1, 2013 - (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 - (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 - (2003 IFC).<br>Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Amendments adopted as not otherwise addressed in the code. |
| 722. | 5003.2.10.4 Pressure relief devices. Pressure relief devices shall be provided to protect pressure vessels and systems containing compressed gases from rupturing in accordance with this section. Pressure relief devices shall be designed in accordance with nationally recognized standards. See Chapter 45, CGA Standard S-1.3 or the ASME Boiler and Pressure Vessel Code. |
| | Adopted by Ordinance G-5808 July 1, 2013 - (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 - (2006 IFC). |

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| | Adopted by Ordinance G-4777 March 13, 2006 - (2003 IFC).<br>Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Amendments adopted as not otherwise addressed in the code. |
| 723. | 5003.2.10.4.1 Pressure vessels. Stationary pressure vessels shall be provided with one or more pressure relief devices. |
| | Adopted by Ordinance G-5808 July 1, 2013 - (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 - (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 - (2003 IFC).<br>Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Amendments adopted as not otherwise addressed in the code. |
| 724. | 5003.2.10.4.2 Disabling relief devices. A pressure relief device shall not be disabled or tampered with. Disabling includes the installation of a shut-off valve between the pressure vessel and the pressure relief device. A pressure relief device arranged such that operation of the shut-off valve removes one relief device from service but places another relief device in service is not considered disabling.<br>Tampering includes the removal of a wire seal on an adjustable pressure relief device. If a relief device is tampered with, the valve shall be repaired or replaced. If a pressure relief device is disabled, the fire department is authorized to remove the pressure vessel from service until the relief device is repaired or replaced. |
| | Adopted by Ordinance G-5808 July 1, 2013 - (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 - (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 - (2003 IFC).<br>Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Amendments adopted as not otherwise addressed in the code. |
| 725. | 5003.2.10.5 Indoor pressure vessels. A stationary pressure vessel located inside of a building shall meet the following requirements:<br>1. The pressure relief device shall be terminated outside of the building.<br>1.1. The termination points of exhaust outlets and ducts discharging to the outdoors shall be located a minimum of 10 feet from property lines and operable openings into the building, 3 feet above the roof line and 10 feet above adjoining grade.<br>2. The diameter of the discharge piping shall be equal or greater in diameter than the diameter of the pressure relief device discharge opening.<br>3. Where multiple pressure relief devices are terminated into a single discharge relief manifold, the cross-sectional area of the manifold shall equal or exceed the sum of the pressure relief device discharge openings.<br>4. A pressure relief device shall not support discharge piping.<br>5. The discharge piping shall be protected from water resulting from rain or condensation. |
| | Adopted by Ordinance G-5808 July 1, 2013 - (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 - (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 - (2003 IFC).<br>Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC). |

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| | Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Amendments adopted as not otherwise addressed in the code. |
| 726**.** | 5003.3.1.4 Responsibility for cleanup. The person, firm or corporation responsible for an unauthorized discharge shall institute and complete all actions necessary to remedy the effects of such unauthorized discharge, whether sudden or gradual, without cost to the jurisdiction. Where deemed necessary by the fire code official, cleanup can be initiated by the fire department or by an authorized individual or firm. Costs associated with such cleanup shall be borne by the owner, operator or other person responsible for the unauthorized discharge. If the person, firm or corporation responsible for an unauthorized discharge is undetermined or unable to be contacted, then the property owner shall institute and complete all actions necessary to remedy the effects of such unauthorized discharge, whether sudden or gradual, at no cost to the jurisdiction. |
| | Adopted by Ordinance G-5808 July 1, 2013 - (2012 IFC).<br>Adopted by Ordinance G-4160 March 12, 1999 - (1997 UFC).<br>Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Clarification of property owner's ultimate responsibility for cleanup. |
| 727**.** | 5003.9.8 Separation of incompatible materials. Incompatible materials in storage and storage of materials that are incompatible with materials in use shall be separated where the stored materials are in containers having a capacity of more than 5 pounds (2 kg), 0.5 gallon (2 L) or any amount of compressed gases. Separation shall be accomplished by:<br>1. Segregating incompatible materials in storage by a distance of not less than 20 feet (6096 mm).<br>2. Isolating incompatible materials in storage by a non-combustible partition extending not less than 18 inches (457 mm) above and to the sides of the stored material.<br>Exception: In mercantile occupancies, noncombustible partitions for shelf storage shall be limited to the depth of the shelf.<br>3. Storing liquid and solid materials in hazardous material storage cabinets.<br>4. Storing compressed gases in gas cabinets or exhausted enclosures in accordance with Sections 5003.8.5 and 5003.8.6. Materials that are incompatible shall not be stored within the same cabinet or exhausted enclosure.<br>5. A secondary containment or drainage system for each class of incompatible hazardous materials stored in stationary or portable tanks. |
| | Adopted by Ordinance G-5808 July 1, 2013 - (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 - (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 - (2003 IFC).<br>Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Ensures that partitions are not wider than the shelves they serve. |
| 728**.** | 5003.11.1.1.11 Storage plan. A storage plan illustrating the intended storage arrangement, including the location and dimensions of aisles, and storage racks protected with in-rack sprinklers shall be provided. |
| | Adopted by Ordinance G-5808 July 1, 2013 - (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 - (2006 IFC). |

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| | Adopted by Ordinance G-4777 March 13, 2006 - (2003 IFC).<br>Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Adopted by ICC from Phoenix. |
| 729**.** | 5004.9.1 Emergency alarm design. The emergency alarm system shall be designed using the manual fire alarm requirements of NFPA 72. Emergency alarm notification appliances shall be yellow or amber in color. The audible emergency alarm signal shall be distinctly different than the fire alarm signal. |
| | Adopted by Ordinance G-5808 July 1, 2013 - (2012 IFC).<br>Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Provides clarity for consistent outcomes. |
| 729**.** | 5005.1.12 Emergency isolation. Where gases or liquids having a hazard ranking of Health Class 3 or 4, Flammability Class 4, Water Reactive Class 3 or 4 or Instability Class 3 or 4 in accordance with NFPA 704 are carried in pressurized piping above 15 pounds per square inch gauge (psig) 103 kPa), an approved means of leak detection and emergency shutoff or excess flow control shall be provided. Where the piping originates from within a hazardous material storage room or area, the excess flow control shall be located within the storage room or area. Where the piping originates from a bulk source, the excess flow control shall be located as close to the bulk source as practical.<br>Exceptions:<br>1. Piping for inlet connections designed to prevent backflow.<br>2. Piping for pressure relief devices. |
| | Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Completes all hazard classes of extreme reactivity. |
| 730**.** | 5005.4.4 Dispensing, use and handling. Where hazardous materials having a hazard ranking of 3 or 4 in accordance with NFPA 704 are transported through corridors, interior exit stairways or ramps or exit passageways, there shall be an emergency telephone system, a local manual alarm station or an approved alarm-initiating device at not more than 150-foot (45720 mm) intervals and at each exit and exit access doorway throughout the transport route. The signal shall be relayed to an approved central, proprietary or remote station service or constantly attended on-site location and shall initiate a local audible alarm. |
| | Adopted by Ordinance G-5808 July 1, 2013 - (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 - (2006 IFC), expanded to current version.<br>Adopted by Ordinance G-4777 March 13, 2006 - (2003 IFC), added NFPA 704 requirement.<br>Adopted by Ordinance G-6601 June 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-6677 March 4, 2020 - (2018 IFC).<br>Adopted by Ordinance G-6854 June 2, 2021 - (2018 IFC).<br>Adopted by Ordinance G-7242 April 3, 2024 - (2018 IFC).<br>**Reason:** Revert to base code. |

| Chapter 51 Aerosols | |
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| **1.** | Amendments to this chapter are not applicable, no new amendments are proposed at this time. |
| | **Reason:** |

| Chapter 52 Reserved | |
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| **1.** | Ch 52 is reserved and remains unchanged. |
| | **Reason:** |

| Chapter 53 Compressed Gases | |
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| 731. | 5301.1 Scope. Storage, use and handling of *compressed gases* in *compressed gas* containers, cylinders, tanks and systems shall comply with this chapter and NFPA 55, including those gases regulated elsewhere in this code. Partially full *compressed gas* containers, cylinders or tanks containing residual gases shall be considered as full for the purposes of the controls required.<br>Liquefied natural gas for use as a vehicular fuel shall also comply with NFPA 52 and NFPA 59A.<br>*Compressed gases* classified as hazardous materials shall also comply with Chapter 50 for general requirements and chapters addressing specific hazards, including Chapters 58 (Flammable Gases), 60 (Highly Toxic and Toxic Materials), 63 (Oxidizers, Oxidizing Gases and Oxidizing Cryogenic Fluids) and 64 (Pyrophoric Materials).<br>Compressed hydrogen ($CH_2$) shall also comply with the applicable portions of Chapters 23 and 58 of this code, the *International Fuel Gas Code* and NFPA 2.<br>Cutting and welding gases shall also comply with Chapter 35.<br>Exceptions:<br>1. Gases used as refrigerants in refrigeration systems (see Section 605).<br>2. Compressed natural gas (CNG) for use as a vehicular fuel shall comply with Chapter 23, NFPA 52 and the *International Fuel Gas Code*.<br>3. *Cryogenic fluids* shall comply with Chapter 55.<br>4. LP-gas shall comply with Chapter 61 and the *International Fuel Gas Code*.<br>5. Insulated liquid carbon dioxide systems shall comply with NFPA 55 and the *Phoenix Fire Code*. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Added to clarify that liquefied carbon dioxide is a compressed gas and these standards apply. |
| 732. | 5301.2 Permits. Permits shall be required as set forth in Section 105.5 and 105.6 |
| | **Reason:** Add 105.6 for the operational permits requirement. |
| 733. | 5303.4.3 Piping systems identification. Piping systems shall be marked in accordance with ASME A13.1. Markings used for piping systems shall consist of the content's name and include a direction-of-flow arrow. Markings shall be provided at each valve; at wall, floor or ceiling penetrations; at each change of direction; and at not less than every 20 feet (6096 mm) or fraction thereof throughout the piping run. Piping contents and direction of flow shall be identified in accordance with Chapter 50. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>**Reason:** Add clarity to the labeling of the piping. |
| 734. | 5303.16.2 Design and construction**.** The vault shall completely enclose generation, compression, storage or dispensing equipment located in the vault. There shall not be openings in the vault enclosure except those necessary for vault ventilation and access, inspection, filling, emptying or venting of equipment in the vault. The walls and floor of the vault shall be constructed of reinforced concrete not less than 6 inches (152 mm) thick. The top of an above-grade vault shall be constructed of noncombustible material and shall |

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| | be designed to be weaker than the walls of the vault to ensure that the thrust of any explosion occurring inside the vault is directed upward.<br>The top of an at- or below-grade vault shall be designed to relieve safely or contain the force of an explosion occurring inside the vault in accordance with NFPA 68 Guide for Venting Deflagrations. The top and floor of the vault and the tank foundation shall be designed to withstand the anticipated loading, including loading from vehicular traffic, where applicable. The walls and floor of a vault installed below grade shall be designed to withstand anticipated soil and hydrostatic loading. Vaults shall be designed to be wind and earthquake resistant, in accordance with the *International Building Code*. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>**Reason:** This added as the appropriate standard for explosion control. |
| 735. | 5307.1 General. Compressed gases in storage or use not regulated by the material-specific provisions of Chapters 6, 54, 55, and 60 through 67, including asphyxiant, irritant and radioactive gases, shall comply with this section in addition to other requirements of this chapter. Compressed gases of quantities in excess of limits set forth in table 105.5.9 shall comply with this section. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>**Reason:** Phoenix amendments are more specific than base code, providing more direction to our contractors. Change made to permittable qty. |
| 736. | 5307.1.1 Equipment. The storage, use and handling of liquid carbon dioxide shall be in accordance with Chapter 53 and the applicable requirements of NFPA 55. Insulated liquid carbon dioxide systems shall have pressure relief devices vented in accordance with NFPA 55. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>**Reason:** Phoenix amendments are more specific than base code, providing more direction to our contractors. |
| 737. | 5307.1.2 Protection from damage. Carbon dioxide and other simple asphyxiant gas systems shall be installed so the storage tanks, cylinders, piping fittings, detection and notification devices are protected from damage by occupants or equipment during normal facility operations, in accordance with Sections 5303.5 and 5303.6. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>**Reason:** Phoenix amendments are more specific than base code, providing more direction to our contractors. |
| 738. | 5307.3.1.1. Exhaust. The mechanical exhaust ventilation system shall be designed at a rate not less than one cubic foot per minute, per square foot of floor area, within the area inside the structure where the ASME vessel or DOT cylinders are located. The ventilation system shall be designed to operate at a negative pressure in relation to the surrounding area. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>**Reason:** Phoenix amendments are more specific than base code, providing more direction to our contractors. |
| 739. | 5307.3.1.2 Exhaust intake. The exhaust intake shall be taken from a point within 12 inches (305mm) of the floor. The exhaust system intake shall be located not less than 2 feet away from any gas detector or located on the opposite wall of any gas detector. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>**Reason:** Phoenix amendments are more specific than base code, providing more |

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| | direction to our contractors. |
| 740. | 5307.3.1.3 Exhaust termination. The termination point of exhaust outlets and ducts discharging to the outdoors shall be located not less than 10 feet from property lines, 3 feet above the roof line, 10 feet from operable openings into the building and 10 feet above adjoining grade. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>**Reason:** Phoenix amendments are more specific than base code, providing more direction to our contractors. |
| 741. | 5307.3.1.4 Automatic activation. The exhaust system shall automatically activate when either of the following thresholds is reached:<br>1. The concentration of carbon dioxide reaches 3 percent (30,000 ppm).<br>2. The concentration of oxygen reaches 19.5 percent in an oxygen deficient environment.<br>Exception: Continuous ventilation. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>**Reason:** Phoenix amendments are more specific than base code, providing more direction to our contractors. |
| 742. | 5307.3.1.5 Manual activation. A manual activation switch shall be provided at the entrance of the area where the ASME vessel or DOT cylinders are located. This manual activation switch shall be clearly marked with its function. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>**Reason:** Phoenix amendments are more specific than base code, providing more direction to our contractors. |
| 743. | 5307.4.2.1 Equipment venting. On all new and existing installations, emergency relief vents, burst disks and pump vents shall be terminated outside the building and not less than 10 feet from openings into the building or property lines. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>**Reason:** Phoenix amendments are more specific than base code, providing more direction to our contractors. |
| 744. | 5307.4.3 Gas detection system. A gas detection system complying with Section 916 shall be provided. ~~in rooms or indoor areas in which the carbon dioxide enrichment process is located, in rooms or indoor areas in which container systems are located, and in other areas where carbon dioxide is expected to accumulate. Carbon dioxide sensors shall be provided within 12 inches (305 mm) of the floor in the area where the gas is expected to accumulate or leaks are most likely to occur. The system shall be designed as follows:~~<br>~~1. Activates a low-level alarm upon detection of a carbon dioxide concentration of 5,000 ppm (9000 mg/m3).~~<br>~~2. Activates a high-level alarm upon detection of a carbon dioxide concentration of 30,000 ppm (54 000 mg/m3).~~ |
| | **Reason:** Reference to section 916 to consolidate all gas detection to section 916. |
| 745. | 5307.4.8 Records. Records of inspections and maintenance shall be available for review upon request by the Phoenix Fire Department. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>**Reason:** Phoenix amendments are more specific than base code, providing more direction to our contractors. |
| 746. | 5307.4.9 Tank and piping requirements. Piping systems shall be designed, constructed and tested in accordance with ASME/ANSI B31.3, Process Piping Code. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>**Reason:** Phoenix amendments are more specific than base code, providing more |

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| | direction to our contractors. |
| 747. | 5307.4.9.1 Piping and marking. Piping and tubing shall be identified in accordance with ASME A13.1 to indicate the material conveyed. Markings used for piping systems shall consist of the content's name and include a direction-of-flow arrow. Markings shall be provided at each valve; at wall, floor or ceiling penetrations; at each change of direction; and repeated at not less than every 20 feet (6096 mm) or fraction thereof throughout the piping run. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>**Reason:** Phoenix amendments are more specific than base code, providing more direction to our contractors. |
| 748. | 5307.4.9.2 Piping design. Gas piping systems shall be designed as follows:<br>1. Piping systems shall be designed to a bursting pressure of not less than four times the system design pressure.<br>All fittings used in the piping system shall be designed for a working pressure not to exceed 125 percent of designed pressure of the hose. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>**Reason:** Phoenix amendments are more specific than base code, providing more direction to our contractors. |
| 749. | 5307.4.9.3 Piping materials. Carbon dioxide gas piping systems shall be of listed and approved materials for each specific gas in use. Rigid plastic piping shall not be allowed.<br>Exception: Nonlisted materials require a special report by an Arizona registered engineer on the piping material, which shall be submitted to the *fire code official* for approval.<br>A special report on the piping material shall not be required if the piping material has been listed by a third-party testing group such as UL or FM for the intended use. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>**Reason:** Phoenix amendments are more specific than base code, providing more direction to our contractors. |
| 750. | 5307.4.9.4 Leak tests. All piping systems shall be leak tested in accordance with the following:<br>1. Piping systems shall be tested by a pneumatic pattern at a pressure equal to the working pressure for 15 minutes or as long as it takes to check each joint. The test medium shall be carbon dioxide.<br>2. Soap testing of all fittings shall be witnessed at time of inspection. |
| | Adopted by Ordinance G-6601 July 19, 2019 - (2018 IFC).<br>**Reason:** Phoenix amendments are more specific than base code, providing more direction to our contractors. |

| Chapter 54 Corrosive Materials | |
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| 751. | 5403.3 Gas Detection. Corrosive gas detection shall be in accordance with Section 916. |
| | **Reason:** New to 2024. Add a reference to a common gas detection section rather than duplicate the requirements in each individual chapter. |

| Chapter 55 Cryogenic Fluids | |
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| 752. | 5504.2.3 Oxygen detection. Oxygen detection shall be provided in accordance with section 916. |
| | **Reason:** New to 2024. All gas detection has been consolidated to section 916. |
| 753. | 5505.2 Indoor use. Indoor use of *cryogenic fluids* shall comply with the material-specific provisions of Sections 5501.1 and 5504.2.3. |
| | **Reason:** Change made due to gas detection requirements moving to section 916. |

| Chapter 56 Explosives and Fireworks | |
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| 754. | 5601.1.3 Fireworks. The possession, manufacture, storage, sale, handling and use of fireworks are prohibited.<br>Exceptions:<br>1. Storage and handling of fireworks as allowed in Section 5604.<br>2. Manufacture, assembly and testing of fireworks as allowed in Section 5605.<br>3. The use of fireworks for fireworks displays as allowed in Section 5608.<br>4. The possession, storage, sale, handling and use of specific types of Division 1.4G fireworks where allowed by applicable laws, ordinances and regulations, provided that such fireworks and facilities comply with NFPA 1124, CPSC 16 CFR Parts 1500 and 1507, and DOTn 49 CFR Parts 100–185, as applicable for consumer fireworks.<br>5. The use and sales of consumer fireworks is prohibited except in accordance with the dates allowed in the Arizona Revised Statutes. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Amended by Regulation 5601.1.3 June 2, 2014, Item #5<br>**Reason:** Added to address change in State law. |
| 755. | 5601.2.3.1 Zoning. Zoning approval shall be obtained prior to issuance of permit. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Coordinated effort with Planning & Development & Zoning Departments. |
| 758. | 5607.1 General. Blasting operations shall be conducted only by *approved*, competent operators familiar with the required safety precautions and the hazards involved and in accordance with the provisions of NFPA 495. The certificate of fitness cardholder shall be in attendance when the explosive materials arrive at the site and shall remain in attendance until the blasting operation is completed. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Identifies Phoenix responsible party. |
| 759. | 5607.1.1 Pre-blast surveys. Prior to the discharge of explosive materials, a pre-blast survey of all structures or buildings within a 500-foot (152 m) radius of the blast site shall be conducted documenting existing structural damage.<br>The contractor shall make not fewer than four attempts to contact the owner or operator of a structure or building in the pre-blast survey area. Not fewer than two of the contacts shall be made between 6 p.m. and 8 p.m. If unsuccessful, a statement on contractor letterhead detailing the address, dates, times and the name of the person(s) attempted to be contacted shall be submitted to the *fire code official*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). |

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| | Adopted by Regulation R7703 April 1, 2002 – (1997 UFC) adopts 300-foot radius.<br>**Reason:** City Council Report 152131 indicates blasting permit requirements began in 1989. |
| 760. | 5607.1.2 Neighborhood notification. Where required by the *fire code official*, the blasting contractor shall provide written notification to the owner or occupant of each building or structure within a 500-foot (152 m) radius of the use site. The notification shall be required at a time interval specified by the *fire code official* but not less than 24 hours prior to the discharge of explosive materials.<br>Where access to the property is denied, a statement on contractor letterhead detailing the name of the person denying access, the address, dates, times and the name of the person attempting to make the contacts shall be submitted to the *fire code official*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>Adopted by Regulation R7703 April 1, 2002 – (1997 UFC) adopts 300-foot radius.<br>**Reason:** City Council Report 152131 indicates blasting permit requirements began in 1989. |
| 761. | 5607.1.3 Monitoring. Seismic (ground vibration) and air blast monitoring shall be conducted where building or structures are located within a 500-foot (152 m) radius of the blast site. The monitoring shall be conducted at the closest building or structure. Where seismic and air blast monitoring are required, the maximum allowable values shall be in accordance with NFPA 495. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>Adopted by Regulation R7703 April 1, 2002 – (1997 UFC) adopts 300-foot radius.<br>**Reason:** City Council Report 152131 indicates blasting permit requirements began in 1989. |
| 762. | 5607.1.4 Traffic barricading. Traffic barricading shall be provided where required by the *fire code official*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>Adopted by Regulation R7703 April 1, 2002 – (1997 UFC) adopts 300-foot radius.<br>**Reason:** City Council Report 152131 indicates blasting permit requirements began in 1989. |
| 763. | 5607.1.5 Standby personnel and equipment. The *fire code official* is authorized to require standby personnel and fire equipment. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). |

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| | Adopted by Regulation R7703 April 1, 2002 – (1997 UFC) adopts 300-foot radius.<br>**Reason:** City Council Report 152131 indicates blasting permit requirements began in 1989. |
| 764. | 5607.1.6 Blast log. A blast log shall be maintained by the certificate of fitness cardholder. When requested, a copy of the blast log shall be submitted to the *fire code official*. Failure to submit the blast log may cause the *fire code official* to revoke the permit until code compliance is achieved. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>Adopted by Regulation R7703 April 1, 2002 – (1997 UFC) adopts 300-foot radius.<br>**Reason:** City Council Report 152131 indicates blasting permit requirements began in 1989. |
| 765. | 5607.1.7 Post blast survey. Where required by the *fire code official*, a post-blast survey of all structures or buildings within a 500-foot (152 m) radius of the blast site shall be conducted documenting structural damage.<br>The contractor shall make not fewer than four attempts to contact the owner or operator of a structure or building in the pre-blast survey area. Not fewer than two of the contacts shall be made between 6 p.m. and 8 p.m. If unsuccessful, a statement on contractor letterhead detailing the address, dates, times and the name of the person(s) attempted to be contacted shall be submitted to the *fire code official*.<br>Where access to the property is denied, a statement on contractor letterhead detailing the name of the person denying access, the address, dates, times and the name of the person attempting to make the contacts shall be submitted to the *fire code official.* |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>Adopted by Regulation R7703 April 1, 2002 – (1997 UFC) adopts 300-foot radius.<br>**Reason:** City Council Report 152131 indicates blasting permit requirements began in 1989. |
| 766. | 5607.1.8 Signage. Signs reading "BLASTING ZONE AHEAD" and "TURN OFF TWO-WAY RADIOS" shall be provided where explosive material use is proposed within 1,000 feet (305 m) of public right-of-ways. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Alerts the public of location of blastings zones. Remainder of section renumbered. |
| 767. | 5607.4 Restricted hours. Surface-blasting operations shall only be conducted during daylight hours Monday through Friday, 8 a.m. to 5 p.m. or as approved by the *fire code official*. Other blasting shall be performed during daylight hours unless otherwise *approved* by the *fire code official*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC). |

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| | **Reason:** Coordinates with City of Phoenix business hours. |
| 768. | 5607.5 Utility notification. Where blasting is being conducted within an 800-foot (243 840 mm) radius of utility lines or rights-of-way, the blaster shall notify the appropriate representatives of the utilities not less than 24 hours in advance of blasting, specifying the location and intended time of such blasting. Verbal notices shall be confirmed with written notice. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package), verbal notices removed.<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Defines "vicinity" as used in the base code. |
| 769. | 5608.1 General. Outdoor fireworks displays, use of pyrotechnics before a *proximate audience* and pyrotechnic special effects in motion picture, television, theatrical and group entertainment productions shall comply with Sections 5608.2 through 5608.10 and NFPA 1123 or NFPA 1126. The display of fireworks, including flame effects, proximate displays and pyrotechnic special effects inside structures(s) or building(s), shall not be allowed unless the structure or building is protected by an *automatic fire sprinkler system* in accordance with this code. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5082 January 30, 2008 (2006 IFC amendment package).<br>**Reason:** Added as response to the Station Fire, Rhode Island, 2003. |
| 770. | 5608.2 Permit application. Prior to issuing permits for a fireworks display, plans for the fireworks display, inspections of the display site and demonstrations of the display operations shall be *approved*. A plan establishing procedures to follow and actions to be taken in the event that a shell fails to ignite in, or discharge from, a mortar or fails to function over the fallout area or other malfunctions shall be provided to the *fire code official*.<br>Permit applications for fireworks, bonfires, fire performers, outdoor assembly events, vehicle displays, tents and other membrane structures, trade shows and exhibitions shall be submitted 10 business days in advance of the event. This does not include City of Phoenix holidays. Permit applications submitted fewer than 10 business days in advance of the event shall be assessed a penalty fee of $25 per day. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Standard event permit procedures. |
| 771. | 5608.6 Installation of mortars. Mortars for firing fireworks shells shall be installed in accordance with NFPA 1123 and shall be positioned so that shells are propelled away from spectators and over the fallout area. Mortars shall not be angled toward the spectator viewing area, buildings or any public right-of-way open for use during the display. Prior to placement, mortars shall be inspected for defects, such as dents, bent ends, damaged interiors and damaged plugs. Defective mortars shall not be used. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC). |

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| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added for clarity. |
| 772. | 5608.8 Tour shows or displays. A certificate of fitness cardholder shall be required to be employed to supervise all aspects of a pyrotechnic demonstration or display. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), cables and smoke control added.<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), cables and smoke control added.<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package), tours, materials, setup, standby personnel and street closures added.<br>**Reason:** Added for clarity. |
| 773. | 5608.9 Materials to be discharged. The certificate of fitness cardholder shall submit an inventory of pyrotechnic materials to be discharged to the *fire code official* for approval. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), cables and smoke control added.<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), cables and smoke control added.<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package), tours, materials, setup, standby personnel and street closures added.<br>**Reason:** Added for clarity. |
| 774. | 5608.10 Setup. The setup of pyrotechnics or pyrotechnic devices shall not begin until an *approved* certificate of fitness cardholder who shall be responsible for all aspects of a demonstration or display is on site. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), cables and smoke control added.<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), cables and smoke control added.<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package), tours, materials, setup, standby personnel and street closures added.<br>**Reason:** Added for clarity. |
| 775. | 5608.11 Standby personnel and equipment. Where necessary for the preservation of life or property, the *fire code official* is authorized to require the attendance of standby personnel and fire equipment. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), cables and smoke control added.<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), cables and smoke control added.<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package), tours, materials, setup, standby personnel and street closures added.<br>**Reason:** Added for clarity. |

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| 776. | 5608.12 Street closures. Public right-of-ways shall be closed to through traffic when deemed necessary by the *fire code official*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), cables and smoke control added.<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), cables and smoke control added.<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package), tours, materials, setup, standby personnel and street closures added.<br>**Reason:** Added for clarity. |
| 777. | 5608.13 Cables. Cables installed above spectators and used for articles, items or devices that when discharged emit sparks, smoke or open flame, shall be constructed to support the devices according to the manufacturer's specifications. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), cables and smoke control added.<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), cables and smoke control added.<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package), tours, materials, setup, standby personnel and street closures added.<br>**Reason:** Added for clarity. |
| 778. | 5608.14 Smoke control. When pyrotechnic material is fired within a building, the quantity of smoke developed shall not obscure the visibility of exit signs or paths of egress travel. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), cables and smoke control added.<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), cables and smoke control added.<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package), tours, materials, setup, standby personnel and street closures added.<br>**Reason:** Added for clarity. |
| 779. | 5608.15 Electrical firing units. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), cables and smoke control added.<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), cables and smoke control added.<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package), tours, materials, setup, standby personnel and street closures added.<br>**Reason:** Added for clarity. |
| 780. | 5608.15.1 Wiring. Electrical wiring associated with an electrical firing unit shall be prevented from contacting metal objects in contact with the ground. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), cables and smoke control |

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| | added.<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), cables and smoke control added.<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package), tours, materials, setup, standby personnel and street closures added.<br>**Reason:** Added for clarity. |
| 781. | 5608.15.2 Connection to power supply. Firing circuits shall not be connected to any power supply until all pyrotechnic devices are connected to firing leads and are cleared for actual firing. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), cables and smoke control added.<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), cables and smoke control added.<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package), tours, materials, setup, standby personnel and street closures added.<br>**Reason:** Added for clarity. |
| 782. | 5608.16 Demonstration and approval. Where required by the *fire code official*, a demonstration shall be conducted by an approved certificate of fitness cardholder to demonstrate the safe use of fireworks and pyrotechnic materials. Once *approved*, no changes shall be made in the program except to delete or decrease the size of an *approved* display. When deemed necessary, the *fire code official* reserves the right to require additional demonstrations. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), cables and smoke control added.<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), cables and smoke control added.<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package), tours, materials, setup, standby personnel and street closures added.<br>**Reason:** Added for clarity. |
| 783. | 5608.17 Crowd control. Onlookers shall be kept at a safe distance from the area where the outdoor fireworks, theatrical or pyrotechnic special effects material is discharged until the area is cleared by the pyrotechnic operator. The amount of crowd managers shall be in accordance with Section 403. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), cables and smoke control added.<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), cables and smoke control added.<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package), tours, materials, setup, standby personnel and street closures added.<br>**Reason:** Added for clarity. |
| 784. | 5608.18 Fireworks display supervision. Whenever in the opinion of the fire code official or the operator a hazardous condition exists, the fireworks display shall be discontinued immediately until such time as the dangerous situation is corrected. |

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| | **Reason:** Renumbered for clarity. |
| 785**.** | 5608.19 Post-fireworks display inspection. After the fireworks display, the firing crew shall conduct an inspection of the fallout area for the purpose of locating unexploded aerial shells or live components. This inspection shall be conducted before public access to the site shall be allowed. Where fireworks are displayed at night and it is not possible to inspect the site thoroughly, the operator or designated assistant shall inspect the entire site at first light.<br>A report identifying any shells that fail to ignite in, or discharge from, a mortar or fail to function over the fallout area or otherwise malfunction, shall be filed with the fire code official. |
| | **Reason:** Renumbered for clarity. |
| 786**.** | 5608.20 Disposal. Any shells found during the inspection required in Section 5608.19 shall not be handled until not less than 15 minutes have elapsed from the time the shells were fired. The fireworks shall then be doused with water and allowed to remain for not less than 5 additional minutes before being placed in a plastic bucket or fiberboard box. The disposal instructions of the manufacturer as provided by the fireworks supplier shall then be followed in disposing of the fireworks in accordance with Section 5604.10. |
| | **Reason:** Renumbered for clarity. |
| 787**.** | 5608.20.1 Disposal responsibility. Disposal of shells is the responsibility of the certificate of fitness cardholder. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>**Reason:** Added for clarity, not addressed in code. |
| 789**.** | 5608.21 Static electricity. Prior to handling pyrotechnic materials or compounding binary explosives, the certificate of fitness cardholder shall determine the methods to be utilized to eliminate static electricity and verify that all precautions are taken in accordance with the manufacturer's recommendations. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added for clarity, not addressed in code. |
| 790**.** | 5607.9.1 Loading of holes. Explosive materials shall not be loaded into the ground until permission is granted by the fire code official. Explosive materials shall not be left in the ground overnight unless approved by the fire code official. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-5015 October 31, 2007 (2006 IFC amendment package).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>Adopted by Regulation R7703 April 1, 2002 – (1997 UFC) adopts 300-foot radius.<br>**Reason:** City Council Report 152131 indicates blasting permit requirements began in 1989. |

| Chapter 57 Flammable and Combustible Liquids | |
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| 791. | 5701.1 Scope and application. Prevention, control and mitigation of dangerous conditions related to storage, use, dispensing, mixing and handling of flammable and *combustible liquids* shall be in accordance with Chapter 50 and this chapter. Prior to the installation or modification of piping, plans for systems containing flammable and combustible liquids shall be submitted to the Phoenix Fire Department for review and approval. A registered professional engineer shall seal and sign the construction documentation. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Added language to require plan review and acceptance of these hazardous systems |
| 792. | 5702.1 Definitions. The following terms are defined in Chapter 2:<br>CELLULAR BASE STATIONS. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Response to cellular failure after hurricane Katrina |
| 793. | 5703.5.2 Location. Signs shall be posted in locations as required by the *fire code official*. Piping containing flammable liquids shall be identified in accordance with ASME A13.1 and Chapter 50. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Added for clarity and Phoenix requirements. |
| 794. | 5704.2.7 Design, fabrication and construction requirements for tanks. Tanks shall not be allowed to be installed inside the City of Phoenix limits when their height exceeds 66 feet (20 117 mm) measured from the lowest level of the Fire Department access road. The design, fabrication and construction of tanks shall comply with NFPA 30. Each tank shall bear a permanent nameplate or marking indicating the standard used as the basis of design. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Regulation 5704.2.7 effective August 2, 2014.<br>**Reason:** Not otherwise addressed by code. Tank farm and other large tank locations. |
| 795. | 5704.2.7.3.1 Vent lines. Vent lines from tanks shall not be used for purposes other than venting unless *approved*. Vent lines shall be constructed of noncombustible materials. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not otherwise addressed by code. Tank farm and other large tank locations. |
| 796. | 5704.2.7.4 Emergency venting. Stationary, above-ground tanks shall be equipped with additional venting that will relieve excessive internal pressure caused by exposure to fires. Emergency vents for Class I, II and IIIA liquids shall not discharge inside buildings. |

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| | The venting shall be installed and maintained in accordance with Section 22.7 of NFPA 30.<br>This requirement shall also apply to each compartment of a compartmented tank, the interstitial space (annulus) of a secondary containment-type tank, and the enclosed space of tanks of closed-top dike construction.<br>This requirement shall also apply to spaces or enclosed volumes, such as those intended for insulation, membranes, or weather shields, that can contain liquid because of a leak from the primary vessel and can inhibit venting during fire exposure. The insulation, membrane or weather shield shall not interfere with emergency venting.<br>Emergency vents shall not be modified, obstructed or otherwise altered such that the required area of opening for the required flow rate is reduced.<br>Exceptions:<br>1. Emergency vents on protected above-ground tanks complying with UL 2085 containing Class II or IIIA liquids are allowed to discharge inside the building. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), exception #1 amended and #2 added to base code.<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), exception #1 added to base code.<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not otherwise addressed by code. Tank farm and other large tank locations. |
| 797. | 5704.2.9.2.1 Required foam fire protection systems. Where required by the *fire code official*, foam fire protection shall be provided for above-ground tanks, other than pressure tanks, where the tank has a diameter of 30 feet or more, or a height of 20 feet or more, and the tank is in accordance with one of the following:<br>1. Used for the storage of flammable & combustible liquids.<br>2. Used for in-process products and is located within 100 feet (30 480 mm) of a fired still, heater, related fractioning or processing apparatus or similar device at a processing plant or petroleum refinery as herein defined.<br>3. Considered by the *fire code official* as posing an unusual exposure hazard because of topographical conditions; nature of occupancy, proximity on the same or adjoining property, and height and character of liquids to be stored; degree of private fire protection to be provided; and facilities of the fire department to cope with flammable liquid fires. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC), fixed added and number item #1 amended.<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Based on the ability of Operations to fight fires at storage tank locations, adopted at the direction of City Council. |
| 798. | 5704.2.9.2.2.1 Foam storage. Where foam fire protection is required, foam-producing materials shall be stored on the premises. Adequate loading and transportation facilities shall be provided. The time required to deliver such materials to the required location |

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| | in the event of fire shall be consistent with the hazards and fire scenarios for which the foam supply is intended.<br>Exception: Storage of foam-producing materials off the premises is allowed as follows:<br>1. Such materials stored off the premises shall be of the proper type suitable for use with the equipment at the installation where required.<br>2. Such materials shall be readily available at the storage location at all times.<br>3. Adequate loading and transportation facilities shall be provided.<br>4. The time required to deliver such materials to the required location in the event of fire shall be consistent with the hazards and fire scenarios for which the foam supply is intended.<br>5. At the time of a fire, these off-premises supplies shall be accumulated in sufficient quantities before placing the equipment in operation to ensure foam production at an adequate rate without interruption until extinguishment is accomplished. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason**: Based on the ability of Operations to fight fires at storage tank locations. |
| 799. | 5704.2.9.6.1 Locations where above-ground tanks are prohibited. Storage of Class I and II liquids in above-ground tanks outside of buildings is prohibited within the limits established by law as set forth in the fire code adoption ordinance or other regulation adopted by the City of Phoenix. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason**: Supports Zoning department. |
| 800. | 5704.2.9.7.10 Additional requirements for field-erected storage tanks. In addition to the requirements of API 620 or API 650, field-erected storage tanks shall also meet the following requirements:<br>1. Diameter. The diameter of a field-erected storage tank shall not exceed 30 feet.<br>Exception: A tank over 30 feet in diameter provided with foam chambers connected to a fixed, manual foam pump system supplied by a dedicated foam storage tank.<br>2. Man-way openings. A field-erected tank with a diameter of 30 feet or more shall be constructed with a minimum of two man-way openings. The minimum diameter of a man-way opening shall be 36 inches. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason**: Not otherwise addressed by code. Tank farm and other large tank locations. |
| 801. | 5704.2.14.1 Removal. Removal of above-ground and underground tanks shall be in accordance with all of the following:<br>1. Flammable and *combustible liquids* shall be removed from the tank and connected piping. |

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| | 2. Piping at tank openings that is not to be used further shall be disconnected.<br>3. Piping shall be removed from the ground.<br>Exception: Piping is allowed to be abandoned in place where the *fire code official* determines that removal is not practical. Abandoned piping shall be capped and safeguarded as required by the *fire code official*.<br>4. Tank openings shall be capped or plugged, leaving a $^1/_8$-inch to $^1/_4$-inch-diameter (3.2 mm to 6.4 mm) opening for pressure equalization.<br>5. Tanks shall be purged of vapor and inerted prior to removal.<br>6. All exterior above-grade fill and vent piping shall be permanently removed.<br>Exception: Piping associated with bulk plants, terminal facilities and refineries.<br>7. The *fire code official* shall witness the removal of the tank.<br>8. Where tanks cannot be removed from the site within 24 hours after inerting, the tanks shall be safeguarded in accordance with the following:<br>8.1 The tanks shall be stored within a secured area approved by the *fire code official*.<br>8.2. The *fire code official* shall witness the re-inerting of the tank. See Section 5704.2.14.5.<br>9. Tanks shall be safely transported to a location that is not accessible to the public and shall not pose a hazard to pedestrians or vehicle traffic.<br>10. Backfill for underground tanks shall not be removed until the tank has been rinsed and inerted in accordance with this section. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), item #6 added to base code.<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason**: Permit added to increase safety during removal. Multiple deaths occurred prior. |
| 802. | 5704.2.14.3 Liquid removal (pump out) operations. Flammable and combustible liquids shall be removed from the tank and connected piping as follows:<br>1. Not fewer than two people shall conduct the pump-out operation. One person shall be responsible for the safe operation of the pump; the second person shall observe the filling of the tank vehicle at the dome cover.<br>2. Bonding straps shall be installed between the storage tank and the tank vehicle.<br>2.1. The tank vehicle shall be grounded.<br>3. A minimum of one 80-B:C fire extinguisher shall be provided at the pump-out site. The fire extinguisher shall be located not more than 50 feet (15 240 mm) away from, nor closer than 20 feet (6096 mm) to, the fuel removal apparatus.<br>4. The amount in the tank after the pump-out shall not register more than 2 inches (51 mm) on the stick or 60 gallons (227 L), whichever is less.<br>5. Open flames, hot work, energized electrical circuits or other sources of ignition shall not be permitted within 25 feet (7620 mm) of the tank vehicle or the liquid transfer hose. |

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| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), item #6 added to base code.<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason**: Permit added to increase safety during removal. Multiple deaths occurred prior. |
| 803. | 5704.2.14.4 Tank inertion. Tanks shall be purged of vapor and inerted as follows:<br>1. Documentation shall be provided to the fire department demonstrating compliance with this section. Documentation shall include, but not be limited to:<br>1.1 Receipt with date.<br>1.2 Quantity of required amount of dry ice or other product approved the *fire code official*.<br>1.3 Calculation of required amount of dry ice or other product approved by the *fire code official*.<br>2. Not less than 12 hours prior to excavation and 24 hours prior to removal, tanks shall be inerted of vapors as follows:<br>2.1. For every 1,000 gallons (3785 L) of tank capacity, 25 pounds (11.34 kg) of dry ice shall be inserted into the tank. The tank shall be capped and vapors shall vent through existing connected normal vent line(s). Normal vent line(s) shall extend above grade at least 12 feet (3658 mm) or 2 feet (610 mm) above the building roof, whichever is higher, and shall be at least 20 feet (6096 mm) from building openings, air intakes or coolers.<br>2.1.1. Other products approved for inerting shall be approved by the *fire code official*.<br>2.2. During excavation, the pump, tank fill risers, gauge risers, vents and all other related product lines, electrical conduit and appurtenant equipment shall be disconnected and removed. Product lines shall be disconnected and capped if intended for further use, or removed in their entirety.<br>2.3. Tank openings shall be capped or plugged except for normal vent line(s). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), item #6 added to base code.<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason**: Permit added to increase safety during removal. Multiple deaths occurred prior. |
| 804. | 5704.2.14.5 Tank removal. Tank removals shall be in accordance with the following:<br>1. Contractor may excavate up to one-half the depth of the tank, not exceeding 5 feet (1524 mm) in depth, without installing any straps or hooks to the tank prior to the arrival of the *fire code official.*<br>2. Contractor shall ensure the lower explosive limit within the tank is 10 percent or less of the product's lower explosive limit or less than 7-percent oxygen. |

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| | 3. The *fire code official* shall verify and document that the lower explosive limits is 10 percent or less of the product's lower explosive limit or less than 7-percent oxygen.<br>4. The *fire code official* shall witness the removal of the tank.<br>5. Where tanks cannot be removed from the site within 24 hours after inerting, the tank shall be in accordance with the following:<br>5.1. The tank shall be stored within a secured area approved by the *fire code official.*<br>5.2. The *fire code official* shall witness the re-inertion of the tank (see Section 5704.2.14.4).<br>6. Tanks shall be safely transported to a location that is not accessible to the public and shall not pose a hazard to pedestrians or vehicle traffic. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Permit added to increase safety during removal. Multiple deaths occurred prior. |
| 805. | 5704.5.14.6 Tank rinsing. In addition to tank inerting, storage tanks shall be rinsed free of petroleum product. Not fewer than three applications of an approved rinsing agent shall be performed. All internal surfaces shall be rinsed. Documentation shall be provided to the fire department demonstrating compliance with this section. An approved rinsing agent shall be removed from property and disposed of in accordance with Federal, State, County and local requirements.<br>To prevent the tank from moving, backfill for underground tanks shall not be removed until the tank has been rinsed and inerted in accordance with this section. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC<br>Adopted by Ordinance G-4919 August 1, 2007 – (2006 IFC), item #6 added to base code.<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason**: Permit added to increase safety during removal. Multiple deaths occurred prior. |
| 806. | 5704.2.15.1 Field-erected storage tanks. The inspection, maintenance, repair, alteration or reconstruction of a field-erected storage tank shall be in accordance with API 653. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason**: Not otherwise addressed by code. Tank farm and other large tank locations. |
| 807. | 5704.3.4.2 Occupancy quantity limits. The following limits for quantities of stored flammable or *combustible liquids* shall not be exceeded:<br>1. Group A occupancies: Quantities in Group A occupancies shall not exceed that necessary for demonstration, treatment, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1). |

2. Group B occupancies: Quantities in drinking, dining, office and school uses within Group B occupancies shall not exceed that necessary for demonstration, treatment, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1).
3. Group E occupancies: Quantities in Group E occupancies shall not exceed that necessary for demonstration, treatment, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1).
4. Group F occupancies: Quantities in dining, office, and school uses within Group F occupancies shall not exceed that necessary for demonstration, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1).
5. Group I occupancies: Quantities in Group I occupancies shall not exceed that necessary for demonstration, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1).
6. Group M occupancies: Quantities in dining, office, and school uses within Group M occupancies shall not exceed that necessary for demonstration, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1). The maximum allowable quantities for storage in wholesale and retail sales areas shall be in accordance with Section 5704.3.4.1.
7. Group R occupancies: Quantities in Group R occupancies shall not exceed that necessary for maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1).
8. Group S occupancies: Quantities in dining and office uses within Group S occupancies shall not exceed that necessary for demonstration, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table ~~5003.1.1(1)~~ 5704.3.4.2.

**TABLE 5704.3.4.2**
**R-3 OCCUPANCIES**

| LIQUID CLASS | QUANTITY | |
|---|---|---|
| | Gallons | Liters |
| I and II | 10 | 38 |
| IIIA | 60 | 227 |
| IIIB | 120 | 454 |

Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).
Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).
**Reason**: Address biofuels after explosion in Phoenix.

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| 808. | 5706.1 General. This section shall cover the provisions for special operations that include, but are not limited to, storage, use, dispensing, mixing or handling of flammable and *combustible liquids*. The following special operations shall be in accordance with Sections 5701, 5703, 5704 and 5705, except as provided in Section 5706.<br>1. Storage and dispensing of flammable and *combustible liquids* on farms and construction sites.<br>2. Well drilling and operating.<br>3. Bulk plants or terminals.<br>4. Bulk transfer and process transfer operations utilizing tank vehicles and tank cars.<br>5. Tank vehicles and tank vehicle operation.<br>6. Refineries.<br>7. Vapor recovery and vapor-processing systems.<br>8. Above-ground fuel storage tanks for generators at cellular base stations. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason**: This is considered a special operation. |
| 809. | 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 in the City of Phoenix. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Add greater detail for Phoenix |
| 810. | 5706.9 Location of fuel tanks of sub-based generators. Above-ground fuel storage tanks for generators shall be located with respect to distances to lot lines of adjoining property that can be built on, the nearest side of any public way or from the nearest important building on the same property in accordance with Tables 5705.3.4(1) and 5705.3.4(2).<br>Exceptions:<br>1. For existing cellular base stations installed prior to October 2, 2007 by Appeal to the Fire Marshal, the minimum separation between the generator fuel tank and the equipment building it serves may be reduced to not less than 3 feet if the generator fuel tank is a UL 142 tank with integral secondary containment with a capacity of 275 gallons (1041 Liters) or less.<br>2. For existing cellular base stations installed prior to October 2, 2007 by Appeal to the Fire Marshal, a minimum separation distance between the generator fuel tank and the equipment building it serves is not required if the generator fuel tank is a UL 2080 Fire Resistant Tank, UL 2085 Protected Tank or a vaulted tank with integral secondary containment and having a capacity of 275 gallons (1041 Liters) or less. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Amendment added to provide options for remote sub-base fuel tanks. |

| Chapter 58 Flammable Gases and Flammable Cryogenic Fluids | |
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| 811. | 5808.5 Gas detection system. Hydrogen fuel gas rooms shall be provided with a gas detection system in accordance with Section 916~~, 5808.5.1 and 5808.5.2~~. |
| | **Reason:** New to 2024. Reference to section 916 to consolidate all gas detection to section 916. |
| 812. | ~~5808.5.1 System activation. Activation of a gas detection system alarm shall result in both of the following:~~<br>~~1. Initiation of distinct audible and visible alarm signals both inside and outside of the hydrogen fuel gas room.~~<br>~~2. Automatic activation of the mechanical exhaust ventilation system.~~ |
| | **Reason:** Gas detection functionality consolidated to Section 916. |
| 813. | ~~5808.5.2 Failure of the gas detection system. Failure of the gas detection system shall automatically activate the mechanical exhaust ventilation system, stop hydrogen generation and cause a trouble signal to sound at an approved location.~~ |
| | **Reason:** Gas detection functionality consolidated to Section 916. |
| 814. | 5806.2 Limitations. Storage of flammable cryogenic fluids in stationary containers outside of buildings is prohibited within the limits established by law as set forth in the fire code adoption ordinance or other regulation adopted by the ~~jurisdiction~~ City of Phoenix. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Added Phoenix specific language to base language for clarity. |

| Chapter 59 Flammable Solids | |
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| 1. | Amendments to this chapter are not applicable, no new amendments are proposed at this time. |
| | **Reason:** N/A |

| Chapter 60 Highly Toxic and Toxic Materials | |
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| 815. | 6005.3.1 Cabinets. Ozone cabinets shall be constructed of *approved* materials and compatible with ozone. Cabinets shall display an *approved* sign stating: OZONE GAS GENERATOR—HIGHLY TOXIC—OXIDIZER, and an NFPA 704 diamond in accordance with Chapter 50. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adds 704 Diamond requirement.<br>**Reason:** Specifies the required sign. |
| 816. | 6004.2.2.10 Gas detection system. A gas detection system shall be provided where required by Section 916. ~~complying with Section 916 shall be provided to detect the presence of gas at or below the PEL or ceiling limit of the gas for which detection is provided. The system shall be capable of monitoring the discharge from the treatment system at or below one-half the IDLH limit and shall initiate a response in accordance with Sections 6004.2.2.10.1 through 6004.2.2.10.3 if the gas detection alarm is activated.~~<br>~~Exception: A gas detection system is not required for toxic gases when the physiological warning threshold level for the gas is at a level below the accepted PEL for the gas.~~ |
| | **Reason:** Modification to align with the newly rewritten Section 916. |
| 817. | ~~6004.2.2.10.1 Alarms. The gas detection system shall initiate a local alarm and transmit a signal to a constantly attended control station when a short-term hazard condition is detected. The alarm shall be both audible and visible and shall provide warning both inside and outside the area where gas is detected. The audible alarm shall be distinct from all other alarms.~~<br>~~Exception: Signal transmission to a constantly attended control station is not required where not more than one cylinder of highly toxic or toxic gas is stored.~~ |
| | **Reason:** Modification to align with the newly rewritten Section 916. |
| 818. | ~~6004.2.2.10.2 Shut off of gas supply. The gas detection system shall automatically close the shutoff valve at the source on gas supply piping and tubing related to the system being monitored for whichever gas is detected.~~<br>~~Exception: Automatic shutdown is not required for reactors utilized for the production of highly toxic or toxic compressed gases where such reactors are:~~<br>~~1. Operated at pressures less than 15 pounds per square inch (psig).~~<br>~~1. Constantly attended.~~<br>~~2. Provided with emergency shutoff valves that have ready access.~~ |
| | **Reason:** Modification to align with the newly rewritten Section 916. |
| 819. | ~~6004.2.2.10.3 Valve closure. Automatic closure of shutoff valves shall be in accordance with the following:~~<br>~~1. Where the gas detection sampling point initiating the gas detection system alarm is within a gas cabinet or exhausted enclosure, the shutoff valve in the gas cabinet or exhausted enclosure for the specific gas detected shall automatically close.~~<br>~~2. Where the gas-detection sampling point initiating the gas detection system alarm is within a gas room and compressed gas containers are not in gas cabinets or exhausted enclosures, the shutoff valves on all gas lines for the specific gas detected~~ |

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| | ~~shall automatically close.~~<br>~~3. Where the gas-detection sampling point initiating the gas detection system alarm is within a piping distribution manifold enclosure, the shutoff valve for the compressed container of specific gas detected supplying the manifold shall automatically close.~~<br>~~Exception: Where the gas-detection sampling point initiating the gas-detection system alarm is at a use location or within a gas valve enclosure of a branch line downstream of a piping distribution manifold, the shutoff valve in the gas valve enclosure for the branch line located in the piping distribution manifold enclosure shall automatically close.~~ |
| | **Reason:** Modification to align with the newly rewritten Section 916. |

| Chapter 61 Liquified Petroleum Gases | |
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| 820. | 6101.2 Permits. Permits shall be required as set forth in Sections 105 through 106. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Covers all permits required. |
| 821. | 6101.3 Construction documents. Where an LP-gas container is more than 125 gallons (473 L) in water capacity, the installer shall submit *construction documents* for such installation.<br>Two sets of accurate plans shall be submitted to the *fire code official* for approval to conduct LP-gas cylinder exchange for resale. The plans shall identify, but not be limited to, the location of the rack, distances to sources of ignition and exit doors, vehicle parking spaces, and the zoning districts and the name of occupancies adjoining the installation site. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Codifies existing requirement for plan submittal. Changed from OTC permit to required plan review due to the nature and hazard of the product. |
| 822. | 6104.3.3 Screen walls. Screen walls constructed around LP-gas cylinders or containers shall be in accordance with Sections 6104.3.3.1 and 6104.3.3.2. Screen walls shall not be constructed around containers with a water capacity greater than 2,000 gallons (7570 L). |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Provides guidance missing from Zoning requirements for screen walls. |
| 823. | 6104.3.3.1 Construction. The walls shall be of noncombustible construction. Not more than three walls shall be erected to screen LP-gas containers. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Provides guidance missing from Zoning requirements for screen walls. |
| 824. | 6104.3.3.2 Height. The walls shall not exceed 4 feet (1219 mm) in height, and shall be 50-percent open in the bottom 2 feet (610 mm) as calculated by the applicant. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Provides guidance missing from Zoning requirements for screen walls. |
| 825. | 6106.1 Attendants. Dispensing of LP-gas shall be performed by a qualified attendant.<br>Persons who transfer liquid LP-gas shall be trained in proper handling procedures, including the applicable requirements of NFPA 58. Refresher training shall be provided not less frequently than every 3 years. The training shall be documented. Dispensing of LP-gas as a motor vehicle fuel shall be in accordance with Chapter 23 of this code. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Defines qualified attendant. |
| 826. | 6109.15 LP-gas cylinder exchange for resale. In addition to other applicable requirements of this chapter, facilities operating LP-gas cylinder exchange stations that are open to the public shall comply with the following requirements.<br>1. Cylinders shall be secured in a lockable, ventilated metal cabinet or other *approved* outdoor enclosure.<br>2. Cylinders shall be available only by authorized personnel or by use of an automated exchange system in accordance with Section 6109.15.1.<br>3. A sign shall be posted on the entry door of the business operating the cylinder exchange stating "DO NOT BRING LP-GAS CYLINDERS INTO THE BUILDING" or similar *approved* wording. |

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| | 4. An emergency contact information sign shall be posted within 10 feet (3048 mm) of the cylinder storage cabinet. The content, lettering, size, color and location of the required sign shall be as required by the *fire code official*.<br>5. LP-gas cylinder exchange for resale shall only be conducted outdoors.<br>6. Individual LP-gas containers do not exceed 20-pound propane capacity.<br>7. The containers are not connected for use.<br>8. LP-gas exchange programs shall be conducted in zoning districts approved by the jurisdiction.<br>9. Approved racks shall be installed not less than 10 feet from any entrance or exit from a building or other building openings intended to be used for the safe egress of people.<br>10. Each rack shall be secured to prevent the rack from falling over.<br>11. Storage racks shall be protected against vehicle impact in accordance with one of the following:<br>11.1. Section 312.<br>11.2. A parking block 6 feet (1829 mm) in length, installed in accordance with the manufacturer's instructions, shall be allowed in parking spaces located horizontal to the rack where:<br>11.2.1. A sidewalk curb 6 inches (152.4 mm) in height (measured vertical from grade level) is not available.<br>11.2.2. The front of the rack is not less than 4 feet (1219 mm) from the curb edge.<br>Exception: Where a rack is located and maintained behind a pillar or other stationary object, additional vehicular protection shall not be required.<br>12. A minimum 20:BC rated fire extinguisher shall be installed within 50 feet of storage racks. The extinguisher shall be visible and accessible at all times.<br>13. An approved fire hydrant shall be installed within 350 feet of the LP-gas storage containers.<br>14. Electrical equipment inside of or within 5 feet (1524 mm) of a cabinet storing cylinders, including but not limited to electronics associated with vending operations, shall comply with the requirements for Class I, Division 2 equipment in accordance with NFPA 70.<br>15. "No smoking" signs shall be posted near the storage racks so as to be immediately visible to the public. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Codifies a regulation that began in 1997. |
| 827. | 6109.15.1 Automated cylinder exchange stations. Cylinder exchange stations that include an automated vending system for exchanging cylinders shall comply with Section 6109.15 and the following additional requirements:<br>1. The vending system shall only permit access to a single cylinder per individual transaction.<br>2. Cabinets storing cylinders shall be designed such that cylinders can only be placed inside when they are oriented in the upright position.<br>3. Devices operating door releases for access to stored cylinders shall be permitted to be pneumatic, mechanical or electrically powered. |

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| | 4. Electrical equipment inside of or within 5 feet (1524 mm) of a cabinet storing cylinders, including but not limited to electronics associated with vending operations, shall comply with the requirements for Class I, Division 2, equipment in accordance with NFPA 70.<br>5. A manual override control shall be permitted for use by authorized personnel. On newly installed cylinder exchange stations, the vending system shall not be capable of returning to automatic operation after a manual override until the system has been inspected and reset by authorized personnel.<br>6. Inspections shall be conducted by authorized personnel to verify that all cylinders are secured, access doors are closed and the station has no visible damage or obvious defects that necessitate placing the station out of service. The frequency of inspections shall be as specified by the *fire code official*. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Add exchange requirements to the automatic exchange environment. |
| 828. | SECTION 6112<br>LP-GAS FLAME EFFECTS<br>6112.1 Flame effects before an audience. LP-gas cylinders used for flame effects before an audience are prohibited.<br>Exception: LP-gas cylinders may be used for flame effects before an audience where the following conditions are met:<br>1. Approval from the *fire code official*.<br>2. Compliance with NFPA 160 Standard for Flame Effects Before an Audience.<br>3. In accordance with any current Life Safety report, and<br>4. Compliance with the requirements of this section. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Adds requirements not otherwise addressed in the base code. |
| 829. | 6112.2 Submittal. The plan for the use of flame effects shall be submitted in writing to the *fire code official*. The plan shall include the following:<br>1. The name of the person, group or organization responsible for the production.<br>2. The dates and times of the production.<br>3. The location of the production.<br>4. The design criteria in Appendix B of NFPA 160.<br>5. The flame effect classification.<br>6. A site plan showing the following:<br>6.1. A narrative description of the flame effect.<br>6.2. The location of flame effect devices to be fired and their controls and control sequence.<br>6.3. The area affected by the flame effect device.<br>6.4. The location of the audience.<br>6.5. The fuels used and their estimated consumption.<br>6.6. Air for combustion and ventilation for indoor effects.<br>6.7. Flammable materials piping.<br>6.8. Storage and holding areas and their capacities. |

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| | 6.9. Supplemental fire protection features.<br>6.10. Emergency response procedures.<br>6.11. Means of egress.<br>7. A current safety data sheet (SDS) for the materials (fuels) consumed in the flame effect.<br>8. Documentation that the combustible materials used for construction of the flame effects have been rendered flame retardant.<br>9. The name of the effects operator. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Adds requirements not otherwise addressed in the base code. |
| 830. | 6112.3 Cylinder volume. Cylinders shall be limited to a maximum volume of 20 pounds (18L) of propane and shall only be used for vapor service. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Adds requirements not otherwise addressed in the base code. |
| 831. | 6112.4 Cylinder limit. Not more than three cylinders shall be connected to any flame effect apparatus. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Adds requirements not otherwise addressed in the base code. |
| 832. | 6112.5 Cylinder hoses. Hoses shall be designed for a working pressure of 350 psig (6 kPa) with a safety factor of 5 to 1 and shall be continuously marked with "LP-GAS, PROPANE, 350 PSI WORKING PRESSURE" and the manufacturer's name or trademark. Hose assemblies, after the application of couplings, shall have a design capability of 700 psig. Hose assemblies shall be leak tested at the time of installation at not less than the operating pressure of the system in which they are installed. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Adds requirements not otherwise addressed in the base code. |
| 833. | 6112.6 Manifolded cylinder connections. Where a flame effect requires two or more cylinders, the cylinders shall be connected to the flame effect apparatus as follows:<br>1. A check valve shall be installed directly downstream of each cylinder valve,<br>2. The manifold shall be constructed of piping complying with NFPA 58.<br>3. Hoses connecting the manifold to the apparatus shall comply with Section 6112.3.4. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Adds requirements not otherwise addressed in the base code. |
| 834. | 6112.7 Cylinder connection. Cylinders shall not be connected or disconnected during the flame effect or performance. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Adds requirements not otherwise addressed in the base code. |
| 835. | 6112.8 Idle cylinders. Cylinders in storage awaiting use shall be stored outside of Group A occupancies. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC). |

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| | **Reason:** Adds requirements not otherwise addressed in the base code. |
| 836. | 6112.9 Inspection. Visual inspection shall be performed in accordance with the following:<br>1. The cylinder is inspected for exposure to fire, dents, cuts, gouges and corrosion in accordance with CGA C-6, *Standard for Visual Inspection of Steel Compressed Gas Cylinders*, except that paragraph 4.2.1.1(1) of that standard (which requires tare weight verification) shall not be part of the required inspection criteria.<br>2. The cylinder protective collar (where utilized) and the foot ring are intact and firmly attached.<br>3. The cylinder is painted or coated to retard corrosion.<br>4. The cylinder pressure relief valve has no visible damage, corrosion of operating components, or obstructions.<br>5. There is no leakage from the cylinder or its appurtenances that is detectable without the use of instruments.<br>6. The cylinder is installed on a firm foundation and is not in contact with the soil. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Adds requirements not otherwise addressed in the base code. |
| 837. | 6112.10 Documentation. The results of the visual inspection shall be documented and a record of the inspection shall be maintained for a 5-year period. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Adds requirements not otherwise addressed in the base code. |
| 838. | 6112.11 Cylinder marking. A cylinder that passes the visual examination shall be marked in accordance with DOT requirements. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>**Reason:** Adds requirements not otherwise addressed in the base code. |

| Chapter 62 Organic Peroxides | |
|---|---|
| 839. | 6201.2 Permits. Permits shall be required for organic peroxides as set forth in Sections 105.5 and 105.6. |
| | **Reason:** New to 2024. Reference updated to include operational permit requirement and to align with base IFC numbering. |

| Chapter 63 Oxidizers, Oxidizing Gases and Oxidizing Cryogenic Fluids | |
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| 840. | 6303.1.4 Portable fire extinguishers. Water portable fire extinguishers with a rating of not less than 2A shall be provided in areas where oxidizers that can release chlorine are stored. The placement and use of dry chemical extinguishers containing ammonium compounds (Class A:B:C) is prohibited in areas where oxidizers that can release chlorine are stored. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** General safety requirement not addressed by base code. |
| 841. | 6303.3 Oxidizing gas detection. Gas detection shall be in accordance with Section 916. |
| | **Reason:** New to 2024. Reference to section 916 to consolidate all gas detection to section 916. |
| 842. | 6304.3 Calcium hypochlorite. The storage of calcium hypochlorite with a chlorine content of 50 percent or more (CAS number 7778-54-3) shall be in accordance with this section. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not otherwise addressed in the base code. |
| 843. | 6304.3.1 Temperature control. Calcium hypochlorite shall be provided with a means of temperature control that maintains the storage room or area at a temperature of 85°F or less. An audible and visual temperature control alarm shall be provided at a constantly attended location. The alarm shall activate in the event that the temperature in the storage room or area exceeds 85°F for more than one 30-minute period in a 24-hour period. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not otherwise addressed in the base code. |
| 844. | 6304.3.2 Fire protection. Storage of calcium hypochlorite shall be protected in accordance with the applicable sections of NFPA 400. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not otherwise addressed in the base code. |
| 845. | 6304.4 Requirements for hydrogen peroxide. The storage of hydrogen peroxide with a concentration greater than 27.5 percent shall be in accordance with this section. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not otherwise addressed in the base code. |

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| 846. | 6304.4.1 Pallets. Hydrogen peroxide stored in drums shall not be stored on wooden pallets. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not otherwise addressed in the base code. |
| 847. | 6304.4.2 Dedicated equipment. Equipment used for storage, use, dispensing and handling shall be specifically dedicated for hydrogen peroxide service. |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>**Reason:** Not otherwise addressed in the base code. |

| Chapter 64 Pyrophoric Materials | |
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| 1. | Amendments to this chapter are not applicable, no new amendments are proposed at this time. |
| | **Reason:** |

| Chapter 65 Pyroxylin (Cellulose Nitrate) Plastics | |
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| 1. | Amendments to this chapter are not applicable, no new amendments are proposed at this time. |
| | **Reason:** |

| Chapter 66 Unstable (Reactive) Materials | |
|---|---|
| 1. | Amendments to this chapter are not applicable, no new amendments are proposed at this time. |
| | **Reason:** |

| Chapter 67 Water-Reactive Solids and Liquids | |
|---|---|
| 1. | Amendments to this chapter are not applicable, no new amendments are proposed at this time. |
| | **Reason:** |

| Chapter 68-79 Reserved | |
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| **1.** | Chapters 68-79 are reserved and remain unchanged. |
| | **Reason:** |

| Chapter 80 Reference Standards | |
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| 848. | NFPA<br>13-25: Standard for the Installation of Sprinkler Systems<br>903.1, 903.1.9, 903.2.13, 903.3.1.1, 903.3.2, 903.3.5.3, 903.3.5.5.1, 903.3.5.6, 903.3.5.7, 903.3.5.8, 903.3.8.2, 903.3.8.5, 904.1.1, 904.12, 905.3.4, 907.6.4, 914.3.2, 1019.3, 1103.4.8, 1206.2.11.1, 1206.3.5.1, 3201.1, 3204.2, Table 3206.2, 3206.4.1, 3206.4.1.4, 3206.4.1.6, 3204.4.1.6.1, 3206.4.1.7, 3206.10, 3207.2, 3207.2.1, 3208.2.2, 3208.2.2.1, 3208.4, 3210.1, 3401.1, 5104.1, 5104.1.1, 5106.5.7, 5704.3.3.9, Table 5704.3.6.3(7), 5704.3.7.5.1, 5704.3.8.4<br><br>13R-25: Standard for the Installation of Sprinkler Systems in Low-Rise Residential Occupancies<br>903.3.1.2, 903.3.5.2, 903.4<br><br>13D-25: Standard for the Installation of Sprinkler Systems in One- and Two-family Dwellings and Manufactured Homes<br>903.1, 903.1.9, 903.3.1.3, 903.3.1.3.4, 903.3.3.1.3.3, 903.5.5.1, 903.6.5.3<br><br>14-24: Standard for the Installation of Standpipe and Hose Systems 905.2, 905.3.4, 905.4.2, 905.6.2, 905.8<br><br>20—25: Standard for the Installation of Stationary Pumps for Fire Protection<br>913.1, 913.2, 913.5.1<br><br>68-23: Standard on Explosion Protection by Deflagration Venting<br>1206.2.11.6, 5303.16.2<br><br>72—25: National Fire Alarm and Signaling Code<br>508.1.6, Table 901.6.1, 903.4.1, 904.3.5, 907.1.2, 907.2, 907.2.6, 907.2.9.3, 907.2.10, 907.2.12.2, 907.3, 907.3.3, 907.3.4, 907.5.2.1.2, 907.5.2.2, 907.5.2.2.5, 907.6, 907.6.1, 907.6.2, 907.6.6, 907.7, 907.7.1, 907.7.2, 907.8, 907.8.2, 907.8.5, 917.1, 1103.3.2, 1203.2.4, 2810.11<br><br>418-24: Standard for Heliports<br>2007.6<br><br>705-23: Recommended Practice for a Field Flame Test for Textiles and Films<br>807.3.1<br><br>1981-19: Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services<br>918.7.5<br><br>1989-19: Standard on Breathing Air Quality for Emergency Services Respiratory Protection.<br>Table 901.6.1, Appendix L |
| | Adopted by Ordinance G-6601 July 19, 2019 – (2018 IFC).<br>**Reason:** Updating current fire code adopted NFPA Standards to currently published |

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| | editions. Allows use of latest testing, technology and code developments. Improves cross reference compatibility of codes. Changed NFPA 14 reference edition due to inaccuracy. |
| 849. | OSHA 29 CFR 1910 & 1926<br>CH2; Table 5604.3, CH 60, Appendix H |
| | Adopted by Ordinance G-67242 May 4, 2024 – (2018 IFC).<br>**Reason:** Previously approved amendment includes OSHA as reference standards for instances where matters enforceable under the fire code are absent. HMMP and HMIS |

| Appendix A | |
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| 850. | A101.1 Scope. A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of this code pursuant to the provisions of Section 112 of the Phoenix Fire Code. The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the Fire Marshal pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions. To determine the suitability of alternate materials and types of construction and to pro- vide reasonable interpretations of the provisions of this Code, there shall be and hereby is created a Fire Safety Advisory Board, hereinafter called "the Board." |
| | **Reason:** Clarifies provision specific to the Phoenix amended base Fire Code. Included Phoenix specific title for whom the fire code official is, which is the Fire Marshal in the City of Phoenix. |
| 851. | A101.2 Application for appeal. Any person shall have the right to appeal a decision of the Fire Marshal to the board. An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the Fire Marshal within 20 days after the notice was served. |
| | **Reason:** Clarifies provision specific to the Phoenix amended base Fire Code. Included Phoenix specific title for whom the fire code official is, which is the Fire Marshal in the City of Phoenix. |
| 852. | A101.3 Membership of board. The board shall consist of five voting members appointed by the chief appointing authority of the jurisdiction. Each member shall serve for 4 years or until a successor has been appointed. Members shall not be reappointed to serve more than two consecutive full terms. The board member's terms shall be staggered at intervals, so as to provide continuity. The fire code official shall be an ex officio member of said board but shall not vote on any matter before the board. The membership of the board shall consist of up to 13 members. A majority shall be residents of the City of Phoenix, all shall be citizens of the United States, and the board's makeup shall represent the following industries, trades and professions: Fire-protection systems contractor; architect; realtor; developer; petroleum industry; liquefied petroleum gas industry; property insurance; fire-protection engineering; owner or manager of a business that would not qualify for membership in another industry; health care industry; special events coordinator; construction contractor; and resident of the City of Phoenix. The Board shall be appointed by the governing body and shall hold office at the appointing authority's discretion. The Fire Marshal shall be an ex officio member of said Board but shall have no vote on any matter before the Board. The Board shall adopt rules of procedure for conducting its business, and shall render all decisions and findings in writing to the appellant with a duplicate copy to the Fire Marshal. |
| | **Reason:** Clarifies duration of participation of board member. Includes Phoenix specific requirements for whom the board reports to and defines board member limits. |
| 853. | A101.3.5 Secretary. The Fire Marshal shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings, which shall set forth the reasons for the board's decision, the vote of each member, the absence of a member and any failure of a member to vote. |
| | **Reason:** Added Fire Marshal as necessary for reference to the fire code official in the City of Phoenix |

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| 854. | 101.3.9 Duties and responsibilities. It shall be the duty of the Board to hear appeals to decisions of the Fire Marshal and submit findings to the City Council. The Board may also submit to the Fire Marshal recommendations on matters pertaining to the Phoenix Fire Code, or ordinance provisions and amendments. The duties and powers of the Board shall be in advisory capacity only. |
| | Adopted by Ordinance G-5808 July 1, 2013 – (2012 IFC).<br>Adopted by Ordinance G-4919 June 20, 2007 – (2006 IFC).<br>Adopted by Ordinance G-4777 March 13, 2006 – (2003 IFC).<br>Adopted by Ordinance G-3784 August 6, 1994 – 14-member board by base code.<br>Adopted by Ordinance G-3361 September 26, 1990 – 8-member Board by base code, replaces hotel/motel representative to real estate.<br>Adopted by Ordinance G-2221 September 1, 1981 – 7-member board with BOMA member.<br>Adopted by Ordinance G- October 13, 1976 – 7-member board with BOMA member.<br>Adopted by Ordinance G-1141 January 25, 1972 – 5-member board.<br>**Reason:** Authorizes the City of Phoenix to establish a Fire Safety Advisory Board. Provides a cross section of key stakeholders and limits the influence of individual members which allows for civilian oversite. 2018 Amendment moved to Appendix A to maintain established duties and responsibilities. |
| 855. | A101.5.1 Open hearing. All hearings before the board shall be open to the public. The appellant, the appellant's representative, the Fire Marshal and any person whose interests are affected shall be given an opportunity to be heard. |
| | **Reason:** Added Fire Marshal as necessary for reference to the fire code official in the City of Phoenix. |
| 856. | A101.7.1 Resolution. The decision of the board shall be by resolution. Every decision shall be promptly filed in writing in the office of the Fire Marshal official within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the Fire Marshal. |
| | **Reason:** Capitalized B in board as established in A101.1. Added Fire Marshal as necessary for reference to the fire code official in the City of Phoenix. |
| 857. | A101.7.1 Resolution. The decision of the board shall be by resolution. Every decision shall be promptly filed in writing in the office of the Fire Marshal within three days and shall be open to the public for inspection. A certified copy shall be furnished to the appellant or the appellant's representative and to the fire code official. |
| | **Reason:** Added Fire Marshal as necessary for reference to the fire code official in the City of Phoenix. |
| 858. | A101.7.2 Administration. The Fire Marshal shall take immediate action in accordance with the decision of the board. |
| | **Reason:** Added Fire Marshal as necessary for reference to the fire code official in the City of Phoenix. |

## Appendix B

**859.** B103.4 Outside storage use. The Fire Marshal is authorized to require a fire flow of not less than 2,000 gpm where combustible materials, hazard materials and other items are stored or used outside.

**REASON:** Allows the Fire Marshal to approved a minimum fire flow for outside storage.

**860.**

TABLE B105.2
REQUIRED FIRE FLOW FOR BUILDINGS OTHER THAN ONE- AND TWO-FAMILY DWELLINGS, GROUP R-3 AND R-4 BUILDINGS AND TOWNHOUSES

| AUTOMATIC SPRINKLER SYSTEM (Design Standard) | MINIMUM FIRE FLOW (gallons per minute) | FLOW DURATION (hours) |
|---|---|---|
| No automatic sprinkler system | Value in Table B105.1(2) | Duration in Table B105.1(2) |
| Section 903.3.1.1 of the International Fire Code | 50% of the value in Table B105.1(2)a | Duration in Table B105.1(2) at the reduced flow rate |
| Section 903.3.1.2 of the International Fire Code | 50% of the value in Table B105.1(2)b | Duration in Table B105.1(2) at the reduced flow rate |

For SI: 1 gallon per minute = 3.785 L/m.
a. The reduced fire flow shall be not less than 1,000 gallons per minute.
b. The reduced fire flow shall be not less than 1,500 gallons per minute.

**REASON:** A greater reduction to the fire flow is allowed through this Phoenix amendment.

**861.** B105.2 Buildings other than one- and two-family dwellings, Group R-3 and R-4 buildings and townhouses. The minimum fire-flow and flow duration for buildings other than one- and two-family dwellings, Group R-3 and R-4 buildings and townhouses shall be as specified in Tables B105.2 and B105.1(2).
Exception: A reduction in required fire-flow of up to 50 percent, as approved, is allowed when the building is provided with an approved NFPA 13 automatic sprinkler system installed in accordance with Section 903.3.1.1. The resulting fire-flow shall not be less than 1,500 gallons per minute (5678 L/min) for the prescribed duration as specified in Table B105.1. No reductions are allowed for NFPA 13D or 13R systems other than R-3 single-family homes.

**862.** B106.2. See Chapter 5 of this code for additional requirements.

**REASON:**

| Appendix D | |
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| 863. | D101.1 Scope. Fire apparatus access roads shall be in accordance with this appendix and all other applicable requirements of the International Fire Code. The Phoenix Fire Department Access and Identification Detail Manual shall be referred to for specific details that the Phoenix Fire Department Fire Prevention office has approved for both new and existing buildings located within the City of Phoenix. These details can be used by design professionals and contractors. These details can be modified and reviewed and approved. |
| | **Reason:** Removed Appendix D's contents (Fire Department Details) from the adopted Fire Code and create a standalone "Phoenix Fire Department Access and Identification Detail Manual." Appendix D will now refer to this document for Phoenix Fire Department approved details. |

| Appendix E | |
|---|---|
| **1.** | No additional amendments are proposed for this appendix at this time. |
| | **REASON: N/A** |

| Appendix F | |
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| **1.** | No additional amendments are proposed for this appendix at this time. |
| | **REASON: N/A** |

| Appendix G | |
|---|---|
| **1.** | No additional amendments are proposed for this appendix at this time. |
| | **REASON: N/A** |

| Appendix H | |
|---|---|
| **1.** | No additional amendments are proposed for this appendix at this time. |
| | **REASON: N/A** |

| Appendix I | |
|---|---|
| **1.** | No additional amendments are proposed for this appendix at this time. |
| | **REASON: N/A** |

| Appendix L | |
|---|---|
| **1.** | No additional amendments are proposed for this appendix at this time. |
| | **REASON: N/A** |

| Appendix M | |
|---|---|
| **1.** | No additional amendments are proposed for this appendix at this time. |
| | **REASON: N/A** |

<table>
<tr><th colspan="2">Appendix N</th></tr>
<tr><td>864.</td><td>◆N101.2 Permit required. An operational permit for trade shows and exhibitions shall be required as set forth in Section 105.5.15.</td></tr>
<tr><td></td><td>Reason: Shown for policy diamond as there is a policy trade shows.</td></tr>
<tr><td>865.</td><td>N101.4 Travel distance. The maximum travel distance from any point in an exhibit to an exit access shall not exceed 50 feet (15 240 mm).</td></tr>
<tr><td></td><td>Reason:</td></tr>
<tr><td>866.</td><td>N101.5 Aisle width. Minimum aisle width in a trade show or exhibition shall comply with the following:
<table>
<tr><th>SQUARE FOOTAGE OF TRADE SHOW OR EXHIBITION<br><br>MINIMUM AISLE WIDTH</th><th>MINIMUM AISLE WIDTH</th></tr>
<tr><td>Greater than 15,000 square feet (1393 m2)</td><td>10 feet (3048 mm)</td></tr>
<tr><td>5,000 square feet (465 m2) to 15,000 square feet (1393 m2)</td><td>8 feet (2438 mm)</td></tr>
<tr><td>Less than 5,000 square feet (465 m2)</td><td>6 feet (1829 mm)</td></tr>
</table></td></tr>
<tr><td></td><td>Reason: Phoenix specific aisle width requirements</td></tr>
<tr><td>867.</td><td>N101.6 Obstructions. Aisles shall be kept clear of all obstructions, including but not limited to, fixtures and displays of goods for sale, chairs, tables, product, displays, vehicles and trailer tongues.</td></tr>
<tr><td></td><td>Reason:</td></tr>
<tr><td>868.</td><td>N101.7 Exit signs. Exit signs shall be visible from all locations in the occupancy.</td></tr>
<tr><td></td><td>Reason:</td></tr>
<tr><td>869.</td><td>N101.8 Storage of combustible materials. Storage of combustible materials behind exhibits, booths or tents is prohibited. Combustible materials, including but not limited to wood crates, paper and cardboard boxes, shall be stored outside the building in an approved area or in a storeroom having a fire-resistance rating of not less than one hour and protected by an approved automatic fire-extinguishing system.</td></tr>
<tr><td></td><td>Reason:</td></tr>
<tr><td>870.</td><td>N105.6 Fire alarm and detection. Each multiple-level booth with a floor area exceeding 120 square feet (11.1 m 2 ) on any level shall be provided with a single-station, battery-powered smoke alarm.</td></tr>
<tr><td></td><td>Reason:</td></tr>
<tr><td>871.</td><td>N106.1 Automatic sprinkler systems. An approved automatic sprinkler system in accordance with Section 903.3.1.1 of this code shall be provided in covered booths exceeding 400 square feet (37.2 m 2 ) in floor area per level.</td></tr>
<tr><td></td><td>Reason:</td></tr>
<tr><td>872.</td><td>N106.2 Fire alarm and detection. Each covered booth with a floor area exceeding 120 square feet (11.1 m 2 ) on any level shall be provided with a single-station, battery-powered smoke alarm.</td></tr>
<tr><td></td><td></td></tr>
</table>

| Appendix N | |
|---|---|
| **1.** | No additional amendments are proposed for this appendix at this time. |
| | **REASON: N/A** |