



Avondale Amendments
2003 INTERNATIONAL FIRE CODE
AMENDED AND RESTATED
MARCH 20, 2006

The International Fire Code, 2003 Edition, is amended in the following respects:

Section 101.1 is amended as follows:

Section 101.1 Title. Insert the words “City of Avondale” as the name of jurisdiction.

Section 101.2.1 is deleted in its entirety and replaced with the following:

Section 101.2.1 Appendices. The following appendices are adopted by the City of Avondale: Appendices B, C and D, as amended, and Appendices E, F and G.

Section 102.3 is deleted in its entirety and replaced with the following:

Section 102.3 Change of Use or Occupancy. All changes of use or occupancy shall be coordinated with the fire marshal prior to issuance of a temporary or permanent Certificate of Occupancy.

Section 102.4 is deleted in its entirety and replaced with the following:

102.4 Application of building code. The design and construction of new structures, including, but not limited to residential structures, shall comply with this code, and other codes as applicable; and any alterations, additions, changes in use or changes in structures required by this code which are within the scope of this and other codes shall be made in accordance therewith.

Section 102.5 is deleted in its entirety.

Section 102.6 is deleted in its entirety and replaced with the following:

102.6 Referenced codes and standards. Except as provided in Section 102.6.1, the codes and standards referenced in this code shall be those that are listed in Chapter 45 and such codes, when specifically adopted, and standards shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between the provisions of this code and the referenced standards, the provisions of this code shall apply. When a provision of this code is in conflict with a provision of the National Fire Protection Association (NFPA) Standards, and the conflict relates to life and building safety performance requirements, the more stringent requirement shall apply. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the amendments as well.

Section 102.6.1 Local codes. The following locally adopted codes shall replace the listed referenced documents as follows:

Any references to the ICC Electrical Code shall be deleted and the words “electrical code adopted by the City of Avondale and amended from time to time” shall be inserted in lieu thereof.

Any references to the International Fuel Gas Code shall be deleted and the words “plumbing code adopted by the City of Avondale and amended from time to time” shall be inserted in lieu thereof.

Any references to the International Plumbing Code shall be deleted and the words “plumbing code adopted by the City of Avondale and amended from time to time” shall be inserted in lieu thereof.

Any references to the International Zoning Code shall be deleted and the words “zoning code adopted by the City of Avondale and amended from time to time” shall be inserted in lieu thereof.

Any references to the International Property Maintenance Code shall be deleted and the words “property maintenance code adopted by the City of Avondale and amended from time to time” shall be inserted in lieu thereof.

Any references to the International Private Sewage Disposal Code or International Energy Conservation Code shall be deleted.

If another code is referenced elsewhere in this code and has not been adopted, then that section shall be considered invalid.

Section 103.1 is deleted in its entirety and replaced with the following:

103.1 General. The fire prevention division is established within the City of Avondale under the direction of the fire marshal. The function of the fire prevention division shall be the implementation, administration and enforcement of the provisions of this code. Any references to the fire code official within this code shall be deleted and replaced with “fire marshal”.

Section 103.2 is deleted in its entirety and replaced with the following:

103.2 Appointment. The fire marshal is designated and appointed as the fire code official. The fire marshal shall not be removed from office except for cause and after full opportunity to be heard on specific and relevant charges by and before the appointing authority.

Section 104.1 is deleted in its entirety and replaced with the following:

104.1 General. The fire marshal or authorized designee is hereby authorized to enforce the provisions of this code and shall have the authority to issue citations, render interpretations of this code, and to develop policies, procedures, rules and regulations in order to clarify the application of its provisions. Such interpretations, policies, procedures, rules and regulations shall be in compliance with the intent and purpose of this code and shall not have the effect of waiving requirements specifically provided for in this code.

Section 104.3 is amended by adding subsection 104.3.2 as follows:

104.3.2 Self inspection. The fire marshal is hereby authorized to establish procedures regarding inspections of business, commercial and industrial facilities within the City. Such procedures may include providing business owners or occupants of commercial or industrial facilities with limited quantities of hazardous materials within the City a written notice to perform self inspections of their facilities no more than once per year and to report the results of such inspections to the fire marshal. Any business owner or occupant of a commercial or industrial facility who fails to perform a self inspection as requested by the fire marshal in accordance with the procedures established by the fire marshal may be charged the cost of inspection.

Section 104.10 is deleted in its entirety and replaced with the following:

104.10 Fire investigations. The fire department shall investigate or cause to be investigated promptly the cause, origin and circumstance of each and every fire occurring in the jurisdiction involving loss of life or injury to a person or destruction or damage to property, and if it appears to the member of the fire department making the investigation that such fire is of suspicious origin, the member shall notify the appropriate law enforcement agency and shall secure the site until the law enforcement agency takes control of the site. The fire investigator shall continue to pursue the investigation to its conclusion.

Section 104.10.1 is deleted in its entirety.

Section 105.1.1 is deleted in its entirety and replaced with the following:

105.1.1 Permits required; fees. Permits required by this code shall be obtained from the fire marshal. It shall be unlawful for any person, firm or corporation to use a building or premises or engage in any activities for which a permit is determined to be required by the fire marshal without having first obtained such permit from the fire department. The fees for fire code permits shall be established by the City Council as part of the annual budget process or as otherwise adopted by City Council resolution. Permit fees shall be paid prior to issuance of the permit. Issued permits shall be kept on the premises designated therein at all times and shall be readily available for inspection by the fire marshal.

105.1.1.1 Work commencing before permit issuance; fees. Any person who commences any work on an item requiring a fire code permit before obtaining the necessary permits shall be liable for a fee as established by the City Council as part of the annual budget process or as otherwise adopted by the City Council resolution.

105.1.1.2 Refunds. The fire marshal shall be permitted to authorize refunding of a fee paid hereunder which was erroneously paid or collected.

The fire marshal shall be permitted to authorize refunding of not more than 80 percent of the permit fee paid when no work has been done under a permit issued in accordance with this code.

The fire marshal shall be permitted to authorize refunding of not more than 80 percent of the plan review fee paid when an application for a permit for which a plan review fee has been paid is withdrawn or canceled before any examination time has been expended.

The fire marshal shall not be permitted to authorize refunding of any fee paid except upon written application filed by the original permittee not later than 90 days after the date of fee payment.

Section 105.3.3 is deleted in its entirety and replaced with the following:

105.3.3 Occupancy prohibited before approval. The building or structure shall not be occupied prior to fire marshal approval that all applicable provisions of this code have been met.

Section 105.6 is deleted in its entirety and replaced with the following:

105.6 Required operational permits. The fire marshal is authorized to issue operational permits for the operations set forth in Sections 105.6.1 through 105.6.47. The City of Avondale does not require the following operational permit types: 105.6.1, 105.6.6, 105.6.7, 105.6.8, 105.6.25, 105.6.26, 105.6.29, 105.6.30, 105.6.32, 105.6.33, 105.6.34, 105.6.35, 105.6.36, 105.6.38, 105.6.39, 105.6.40, 105.6.41.

Section 105.6.12 is amended to add an exception as follows:

105.6.12 Cutting and welding.

Exception: Work that is conducted under a construction permit or a building permit.

Section 105.6.15 is amended to add an exception as follows:

105.6.15 Explosives.

Exception: Storage in Group R-3 of smokeless propellant, black powder and small arms primers for personal use, not for resale, and in accordance with Section 3306.

Section 105.6.16 is deleted in its entirety and replaced with the following:

105.6.16 Fire protection contractor permit to do business. An operational permit is required for any person, corporation, partnership or other entity engaged in the business of design, installation, testing, service, modification, alteration, repair, or inspection of fire protection equipment and systems. All on-site fire protection work shall be directly supervised by a “competent on-site person” meeting the minimum requirements outlined in fire department policy.

Exceptions:

1. Individuals performing inspections and testing of such systems at the direction of the fire marshal.

2. Testing and inspection of systems may be done by the owner's facility personnel when, in the judgment of the fire marshal, they can demonstrate proficiency in the respective tasks and such tasks are performed in accordance with applicable standard/design requirements. Such tasks could include, but are not limited to, weekly/monthly visual inspections.

Section 105.6.17 the first sentence is amended to read as follows:

105.6.17 Flammable and combustible liquids. An annual operational permit is required:

Section 105.6.21 is deleted in its entirety and replaced with the following:

105.6.21 Hazardous materials; fees. An operational permit is required to store, transport on site, dispense, use or handle hazardous materials in excess of the amounts listed in Table 105.6.21. A hazardous materials assessment fee shall be established by the City Council as part of the annual budget process or as otherwise adopted by City Council resolution and shall be required for the annual inventory assessment, administrative process and code research activities.

Section 105.6.24 is amended by deleting item 5.

Section 105.6.28 is amended by deleting item 2.

Section 105.6.44 is deleted in its entirety and replaced with the following, with the exceptions unchanged:

105.6.44 Temporary membrane structures, tents and canopies. An operational permit is required to operate an air-supported temporary membrane structure having an area in excess of 400 square feet (37m²), or a tent having an area in excess of 200 square feet (19m²), or a canopy in excess of 700 square feet (65m²). They shall not be erected, operated or maintained for any purpose without first obtaining a permit and approval from the fire marshal.

Section 105.7 is deleted in its entirety and replaced with the following:

105.7 Required construction permits. The fire marshal is authorized to issue construction permits for work as set forth in Sections 105.7.1 through 105.7.24.

Section 105.7.6 is deleted in its entirety and replaced with the following, with the exceptions unchanged:

105.7.6 Hazardous materials; fees. 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 or other area regulated by Chapter 27 when the hazardous materials in use or storage exceed the amount listed in Table 105.6.21. The hazardous materials assessment fee shall be required for the annual inventory assessment, administrative process, and code research activities.

Section 105.7.8 is deleted in its entirety and replaced with the following:

105.7.8 L-P gas. A construction permit is required for the installation of or modification to the following:

1. LP-gas system.
2. LP-gas storage of containers awaiting use or resale.
3. LP-gas storage of pre-filled portable cylinders for consumer exchange.
4. Temporary use of LP-gas containers over 100 lb (45 kg) propane capacity at construction sites.
5. Temporary use of LP-gas containers over 40 lb (45 kg) propane capacity at public special events.

Section 105.7.9 is deleted in its entirety and replaced with the following:

105.7.9 Private fire protection water supply system. A construction permit is required for the installation or modification of private fire protection water supply systems including fire hydrants, reservoirs, tanks, underground firelines, etc. New fire protection water supply system submittals shall be made as part of the City of Avondale Engineering Division plan review process.

Section 105.7.12 is deleted in its entirety and replaced with the following, with the exceptions unchanged:

105.7.12 Temporary membrane structures, tents and canopies. A construction permit is required to erect an air-supported temporary membrane structure having an area in excess of 400 square feet (37m²), or a tent having an area in excess of 200 square feet (19m²), or a canopy in excess of 700 square feet (65m²). They shall not be erected, operated or maintained for any purpose without first obtaining a permit and approval from the fire marshal.

Section 105.7.13 is added to read as follows:

105.7.13 High-piled storage plan. A construction permit is required to install or modify a high-piled storage area in accordance with Chapter 23. Each application for a permit shall include a high-piled storage plan in accordance with Section 2301.3 and an evacuation plan in accordance with Section 2301.4.

Section 105.7.14 is added to read as follows:

Section 105.7.14 Firefighter Air System (FAS). A construction permit is required to install or modify a firefighter air system.

Section 105.7.15 is added to read as follows:

Section 105.7.15 Public Safety Radio Amplification System. A construction permit is required to install or modify a public safety radio amplification system.

Section 105.7.16 is added to read as follows:

105.7.16 Interior/private fire apparatus access roads. A construction permit is required to install or modify interior/private fire apparatus roads. New fire apparatus access road submittals shall be made as part of the City of Avondale Engineering Division plan review process.

Section 105.7.17 is added to read as follows:

105.7.17 Temporary fire apparatus access roads. A construction permit is required to install or modify temporary fire apparatus access roads. As part of the application, the applicant shall provide a comprehensive fire protection plan, stating in detail, how the temporary fire apparatus access road will meet the fire code requirements and how fire protection issues for the project will be addressed.

Section 105.7.18 is added to read as follows:

105.7.18 Fire lane marking. A construction permit is required to install or modify fire lane signs or notices.

Section 105.7.19 is added to read as follows:

105.7.19 Address directories. A construction permit is required to install or modify address directories.

Section 105.7.20 is added to read as follows:

105.7.20 Fire apparatus access gates. A construction permit is required to install or modify both manual and automatic fire apparatus access gates and their appurtenances. This also includes gates for auxiliary access openings.

Section 105.7.21 is added to read as follows:

105.7.21 Firefighter access walkway gates. A construction permit is required to install or modify both manual and automatic locking firefighter access walkway gates and their appurtenances. This also includes gates for auxiliary access openings.

Section 105.7.22 is added to read as follows:

105.7.22 Fire department access equipment. A construction permit is required to install fire department access equipment, such as a fire department key box, key switch, and/or padlock.

Section 105.7.23 is added to read as follows:

105.7.23 Access-controlled egress doors. A construction permit is required to install or modify the connection to the fire alarm system for access-controlled egress doors in accordance with Section 1008.1.3.4.

Section 105.7.24 is added to read as follows:

105.7.24 Delayed egress locks. A construction permit is required to install or modify the connection to the fire alarm system for delayed egress locks in accordance with Section 1008.1.8.6.

Section 109.3 is deleted in its entirety and amended to read as follows:

109.3 Violation penalties; option to proceed civilly or criminally. The city may proceed civilly or criminally against a person, firm or corporation acting in violation of this code or that fails to comply with any of the requirements thereof or who erects, installs, alters, repairs or does work in violation of the approved construction documents or directive of the fire marshal, or of a permit or certificate used under provisions of this code. Each day that a violation continues after due notice has been served shall be deemed a separate offense. The fire marshal or authorized designee may issue a civil citation pursuant to this chapter.

Section 109.3.2 is added as follows:

109.3.2 Criminal penalty. Unless specified otherwise, any person violating any of the provisions of this code shall be guilty of a class one misdemeanor, and upon conviction thereof, shall be punished by a fine of not more than \$2,500.00 or by imprisonment for not more than six months, or by both such fine and imprisonment.

Section 109.3.3 is added as follows:

109.3.3 Civil enforcement action; penalty. Unless otherwise specified, the civil penalty for a violation of this code shall be \$250.00 per violation, and all penalties are subject to all surcharges and fees imposed by state law. The court shall not suspend any portion of the civil penalty provided by this subsection.

109.3.3.1 Civil citation. The civil citation shall direct the defendant to appear in municipal court within 10 days of the issuance of the citation or pay the fine imposed pursuant to Section 109.3.3 of this code. The citation shall also include the date and location of the violation, a reference to the code provision violated and a notice that if the defendant fails to appear as directed, a default judgment will be entered in the amount of the fine designated on the citation for the violation charged, in addition to a fine for failure to appear as set forth in Section 109.3.3.3 of this code.

109.3.3.2 Citation service. Service of the citation may be accomplished and will be deemed proper and complete by any of the following methods:

1. Hand delivering a copy of the citation to the defendant;

2. Mailing a copy of the citation to the defendant by certified or registered mail, return receipt requested, to the defendant's last known address;
3. In the event service cannot be accomplished as set forth above, the defendant may be served by any means allowed by the Arizona Rules of Civil Procedure for the Superior Court.

109.3.3.3 Appearance; penalty for failure to appear. Within 10 days of the issuance of the citation, the defendant shall appear in person or through his attorney in municipal court and shall either admit or deny the allegations contained in the complaint or the defendant may proceed as provided in Section 109.3.3.4 of this code. If the defendant admits the allegations, the court shall immediately enter judgment against the defendant in the amount of the fine for the violation charged. If the defendant denies the allegations contained in the citation, the court shall set a hearing date for trial of the matter. If the defendant fails to appear as directed on the citation, the court, upon request by the code official or authorized designee, shall enter a default judgment for the amount of the fine indicated for the violation charged. Additionally, the defendant may be fined up to \$100.00 for failure to appear at the time and place set for any trial of a matter arising under this code.

109.3.3.4 Payment by mail. The defendant may admit the allegations in the citation and pay the fine indicated by mailing the citation, together with a check for the amount of the fine to and made payable to the Avondale City Court.

109.3.3.5 Rules of procedure. The Arizona Rules of Procedure in Civil Traffic Violation Cases shall be followed by the Avondale City Court for civil violations of this code, except as modified or where inconsistent with the provisions of this code, local rules of the municipal court or rules of the Arizona Supreme Court.

Section 111.4 is modified to read as follows:

111.4 Failure to comply; fees. 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 for a fine of not less than \$250.00 or more than \$2500.00.

Section 201.3 is deleted in its entirety.

Section 202, definition of OCCUPANCY CLASSIFICATION, is deleted in its entirety and replaced with the following:

OCCUPANCY CLASSIFICATION. For the purposes of this code, occupancy classifications shall be as set forth in the Building Code adopted by the City of Avondale and amended from time to time.

Section 202 is amended to add the following definitions:

SELF-SERVICE STORAGE FACILITY. Real property designed and used for the purpose of renting or leasing individual storage spaces to customers for the purpose of storing and removing personal property on a self-service basis.

STANDBY PERSONNEL. Qualified fire service personnel, approved by the fire marshal. When utilized, the number required shall be as directed by the fire marshal. Charges for utilization shall be as normally calculated by the jurisdiction.

Section 307.2 is deleted in its entirety and replaced with the following:

307.2 Permit required. A permit shall be obtained from the fire marshal in accordance with Section 105.6 prior to kindling a fire for recognized silvicultural or range or wildlife management practices, prevention or control of disease or pests, or open burning. Application for such approval shall only be presented by and permits issued to the owner of the land upon which the fire is to be kindled.

Section 307.2.1 is deleted in its entirety and replaced with the following:

307.2.1 County Air Permit Required. No bonfire shall be kindled or any trash, weeds, litter or debris burned on any premises, street, alley, vacant lot or agricultural land within the City limits without first obtaining a permit from the Maricopa County Department of Air Pollution Control followed by issuance of a city fire department permit pursuant to Section 105.6.31.

Section 308.3.1 is deleted in its entirety and replaced with the following:

308.3.1 Open-flame cooking devices. Charcoal burners, portable barbecues and other open flame devices shall not be operated on combustible balconies or within 10 feet (3048 mm) of combustible construction.

Exception: One- and two-family dwellings.

Section 308.3.1.1 is amended to read as follows with no change to the exception:

308.3.1.1 Liquefied-petroleum-gas-fueled cooking devices. No person shall use individual fixed or portable LP-gas burners or barbecues on or under any attached covered patios, balconies, covered walkways, stair or roof overhangs and shall not be located within 10 feet (3048 mm) of combustible construction.

Section 308.3.1.2 is added to read as follows:

308.3.1.2 Storage of open-flame cooking devices and barbecues. Storage of barbecues on or under balconies will be allowed in accordance with the written fire department policy.

Exception: If the fire department receives complaints or suspects that a cooking device or barbecue is being used on or under a balcony in a manner prohibited under this code,

the fire department will require the cooking device or barbecue to be removed from the premises.

Section 311.2.2 is amended to delete exceptions 1 and 2.

Section 315.2.4 is amended to delete exceptions 1 and 2.

Section 501.3 is deleted in its entirety and replaced with the following:

501.3 Construction Documents. Construction documents for fire department permits required by this code shall be submitted to the fire department; in addition to building safety, for review and approval prior to construction. Upon completion of construction and prior to issue of a Certificate of Occupancy, a copy of finished drawings shall be supplied to the fire department in an electronic format acceptable to the fire department.

Section 502.1 is amended to add the following definitions:

ADDRESS DIRECTORIES. Graphic displays of dwelling unit or business suite locations that are weather resistant, internally illuminated and permanently mounted adjacent to the fire department access road.

ALL-WEATHER DRIVING SURFACE. Asphaltic pavement, Portland cement concrete hard surface or other pavement that can be well maintained and that is capable of supporting a vehicle weighing up to 66,000 lbs., with a load of 24,000 lbs. per axle.

ALTERNATIVE SURFACE ACCESS ROADS. Fire apparatus access roads for fire department use that are required for fire department access and that are constructed with approved materials, other than pavement.

AUXILIARY ACCESS OPENINGS. Gated vehicle entrance and exit locations other than a property's primary or main entrance.

FIRE APPARATUS ACCESS GATES. Automatic or manually operated gates or devices provided for fire apparatus access into or from a property, including auxiliary access openings.

FIRE FLOW. The flow rate of a water supply, measured at 20 psi residual pressure, that is available for firefighting.

FIREFIGHTER ACCESS WALKWAY. An approved pedestrian access walkway used for fire department personnel leading from a fire apparatus access road to an exterior building opening.

FIREFIGHTER AIR SYSTEM. A piping network and associated components installed in building stairwells or other approved locations that are designed to deliver breathing air to firefighters supplied from fire department apparatus that use a connection located outside of the building.

INTERIOR FIRE APPARATUS ACCESS ROADS. Fire apparatus access roads designated for fire department use and required by the fire code to provide interior property access to the building. Roads may be constructed of pavement or other approved materials.

PEDESTRIAN GATES. Gates required by the Building Code to provide egress to a public right-of-way or gates that are required by the Fire Code to provide fire fighter emergency access.

PREEMPTION DEVICE. A listed and approved electronic device that receives a signal compatible with transmitters on emergency vehicles and that is used to automatically open and close fire apparatus access gates.

SPREAD NUMBERS. A means of building identification that are a numerical indication of the dwelling units found on each floor of each multifamily residential building.

Section 503.1 is deleted in its entirety and replaced with the following:

503.1 Where required. Fire apparatus access roads shall be provided and maintained in accordance with Sections 503.1.1 through 503.1.4, Appendix D, and fire department policies.

Section 503.1.1 is deleted in its entirety and replaced with the following:

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 (45720 mm) of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility. Except for single-or two-family residences, the path of measurement shall be along a minimum of a 10 foot (3048 mm) wide unobstructed pathway around the external walls of the structure.

Exception: The fire marshal is authorized to increase the dimension of 150 feet (45720 mm) where fire apparatus access roads cannot be installed due to location on property, topography, waterways, non-negotiable grades or other similar conditions and an approved alternative means of fire protection is provided.

Section 503.1.4 is added to read as follows:

503.1.4 City of Avondale Engineering Design Standards. For road construction details see the City of Avondale Engineering Design Standards.

Section 503.1.4.1 is added to read as follows:

503.1.4.1 Temporary fire department access. Temporary fire department access shall comply with fire department policy. No construction on any project may proceed until such time as the fire protection plan for the project has been approved by the fire marshal.

Section 503.2.3 is deleted in its entirety and replaced with the following:

503.2.3 All-weather driving surface. Fire apparatus access roads shall be designed and maintained to support the imposed loads of all fire apparatus and shall be surfaced so as to provide all-weather driving capabilities in accordance with fire department policy.

Section 503.2.5 is deleted in its entirety and replaced with the following:

503.2.5 Dead ends. Dead-end fire apparatus access roads in excess of 150 feet (45,720 mm) in length shall be provided with an approved area for turning around fire apparatus.

Exception: Dead-end fire apparatus access roads serving buildings protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3 of the International Fire Code the distance may be increased to 200 feet (60,960 mm) when approved by the fire marshal.

Section 503.2.8 is added to read as follows:

503.2.8 Fire apparatus access roads. The chief may designate fire lanes on public and private property for access and setup for fire-fighting equipment apparatus and vehicles. It shall be a violation of this code for any vehicle, equipment or device to be parked in or block a designated fire lane.

Section 503.3 is deleted in its entirety and replaced with the following:

503.3 Marking. Where required by fire department policy, approved signs or other approved notices shall be provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof. Signs or notices shall be maintained in a clean and legible condition at all times and replaced or repaired when necessary to provide adequate visibility. All fire lanes shall be marked in accordance with fire department policy.

Section 503.4 is deleted in its entirety and replaced with the following:

503.4 Obstruction of fire apparatus access roads. Fire apparatus access roads shall not be obstructed in any manner, including the parking of vehicles. The minimum widths and clearances established in Section 503.2.1, and any area marked as a fire lane as described in Section 503.3, shall be maintained at all times.

Section 503.6 is deleted in its entirety and replaced with the following:

503.6 Fire apparatus gate access. The installation of gates across a fire apparatus access road shall comply with fire department policies and be approved by the fire marshal. A construction permit in accordance with the requirements of Section 105.7.20 is required to install

or modify both manual and automatic fire apparatus access gates and their appurtenances. Where gate access is installed, an approved means of emergency operation shall be provided.

503.6.1 Gate design. Gates shall be designed so that the access roadway or turning radius (AASHTO WB-50) shall not be obstructed by the operation of the gate. Minimum set back from the public streets shall be the distance required by the City's codes, ordinances and resolutions and shall allow emergency vehicles the ability to safely operate the lock box or panel. Turning radius from the public street shall be AASHTO WB-50.

503.6.1.2 Width. Clear width of the roadway and gates shall be a minimum of 20 feet (6096 mm) on all entrances.

503.6.1.3 Divided gates. Residential sub-divisions may have divided entrance and exit gates. A minimum 20 feet (6096 mm) wide, clear access opening on the entrance and the exit is required.

503.6.1.4 Limited access. All gates limiting fire apparatus access will be required to provide emergency access controls for fire department entry. Operation of all motorized gate(s) shall be by a traffic pre-emption device with a key switch backup per fire department policy. Manual gates shall use an approved padlock locking bar and padlock per fire department policy.

503.6.1.5 Open time. Gates must fully open within 20 seconds of activation and remain in the open position until manually closed by operation of the electrical control device.

503.6.1.6 Back-up. Battery back-up is required for all motorized gates, unless the gates fail safe (open) in the event of a power failure.

503.6.1.7 Gate devices. Traffic pre-emption devices, key boxes, key switches or padlocks on gates must be approved models, utilized by the fire department.

503.6.1.8 Access controls. Access controls shall be exterior to the gate and located for activation by the fire apparatus operator without dismounting from the fire apparatus. The height of the lock box/control panel shall be 66 inches (1677 mm), measured from the finished grade line of the street.

503.6.1.9 Control pedestal. The control pedestal must be identified with a minimum 6 inch (153 mm) by 10 inch (254 mm) sign with red letters on a white background, stating, EMERGENCY FIRE DEPARTMENT ACCESS. This sign must be securely fastened to the pedestal and legible from the approaching vehicle.

503.6.1.10 Secondary "exit only" gates. Secondary "exit only" gates shall be set up for fire department emergency access. Exit only gates, which are not motorized, shall be installed per fire department policy. Exit only gates shall have a minimum clearance of 20 feet (6096 mm) clear width and be posted with a sign that states "Caution Gate Opens Out." The ground shall be painted with a yellow strip showing the depth of the gate swing.

503.6.1.11 Gate maintenance. Gate components shall be maintained in an operative condition at all times and replaced or repaired when defective.

503.6.1.12 Signs. Signs shall be installed in accordance with fire department policy.

Section 505.1 is deleted in its entirety and replaced with the following:

505.1 Address numbers. New and existing buildings shall have approved address numbers, buildings numbers, or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property in accordance with fire department policy. These numbers shall contrast with their background. Address numbers shall be arabic numerals or alphabet letters. Numbers shall be a minimum of 6 inches (153 mm) high with a minimum stroke width of 0.5 inch (12.7 mm) in accordance with fire department policy.

Exception: Single-family residential numbers shall be a minimum of 4 inches (102 mm) high with a minimum stroke width of 0.5 inch (12.7 mm).

Section 505.1.1 is added to read as follows:

505.1.1 Secondary address numbers. Multi-tenant commercial buildings shall have approved addresses or unit numbers placed on or adjacent to each tenant space door. Secondary address numbers shall be a minimum of 4 inches (102 mm) high with a minimum stroke width of 0.5 inch (12.7 mm) in accordance with fire department policy.

Section 505.1.2 is added to read as follows:

505.1.2 Address directories. Multi-tenant buildings shall have approved address directories installed in accordance with fire department policy.

Section 506.1 is deleted in its entirety and replaced with the following:

506.1 Where required. A key box shall be required on all commercial structures that contain off-site monitored fire systems and when otherwise required and approved by the fire marshal. The key box type shall be approved by the fire department and shall contain a full set of labeled keys to open all areas inside and outside the structure, including the fire alarm panel. Key boxes shall be installed on all sides of commercial structures where there are access doors, or as otherwise required and approved by the fire marshal. Key boxes and keys shall be installed in all other locations as directed by the fire department policy. Existing key boxes that are inconsistent with the type approved by the fire department shall be upgraded as required by the fire marshal.

Section 508.1 is deleted in its entirety and replaced with the following:

508.1 Required water supply. An approved water supply capable of supplying the required fire flow for fire protection shall be provided to premises upon which facilities, buildings or portions of buildings are hereafter constructed or moved into or within the jurisdiction. Where property is subdivided with or without the creation of public or private

streets for the express purpose of providing said subdivided parcels for sale or otherwise permitting separate and/or individual development to occur, an approved water supply capable of supplying the projected fire flow for fire protection shall be provided and extended to serve directly any and all subdivided properties. The projected fire flow will be based on the greatest potential demand posed by any type of occupancy allowed by the zoning classification of the projected property.

Section 508.3 is deleted in its entirety and replaced with the following:

508.3 Fire flow. Fire flow requirements for buildings or portions of buildings and facilities shall be determined by using the requirements of Appendix B.

Section 508.5.1 is deleted in its entirety and replaced with the following:

508.5.1 Where required. Where a portion of a facility or building hereafter constructed or moved into or within the jurisdiction is more than 300 feet (91.5 m) from a fire hydrant on a fire apparatus access road, as measured by approved route around the exterior of the facility or building, additional fire hydrants and/or mains shall be provided where required by the fire marshal. Except for single-or two-family residences, the path of measurement shall be along a minimum of a 10 foot (3048 mm) unobstructed pathway around the external walls of the structure.

Exception:

1. For Group R-3 and Group U Occupancies, the distance requirement shall be 500 feet (122 m).

Section 508.5.1, subsections 508.5.1.1, 508.5.1.2, 508.5.1.3, 508.5.1.4, 508.5.1.5, and 508.5.1.6 are added as follows:

508.5.1.1 Water service provider maps. Each water service provider serving areas within the City, whether municipal or private, shall provide the fire department with three sets of maps identifying the location of water tanks, distribution lines, service lines, and fire hydrants within the service area of the water provider. The maps shall be submitted on or before December 31, of each year, and shall be updated by the water service provider as new fire hydrants are installed.

508.5.1.2 Type of fire hydrant. All new fire hydrants are required to be “wet-barrel” type hydrants. For commercial and/or multi-family developments, the Clow Model #860 wet barrel hydrant or equivalent with LBI Model #400 breakaway check valve or equivalent is required. For single-family residential areas, the Clow Model #850 wet barrel hydrant with LBI Model #400 breakaway check valve or equivalent is required. All threads will be national standard threads.

508.5.1.3 Fire hydrant color. All fire hydrants shall have aboveground barrels painted with a prime coat plus two coats of OSHA yellow paint. The tops and nozzle caps shall be painted with the following capacity-indicating color scheme in accordance with NFPA 291:

Light blue	Class AA	Rated capacity of 1500 gpm (5680 L/min) or greater
Green	Class A	Rated capacity of 1000–1499 gpm (3785–5675 L/min)
Orange	Class B	Rated capacity of 500–999 gpm (1900–3780 L/min)
Red	Class C	Rated capacity of less than 500 gpm (1900 L/min)

For rapid identification at night, the capacity colors shall be of a reflective-type paint.

508.5.1.4 Reclaimed water fire hydrant color. All fire hydrants using a reclaimed water supply shall have the caps and bonnet painted with a prime coat plus two coats of OSHA purple paint. A “DO NOT DRINK WATER” placard shall be affixed to the hydrant in both English and Spanish.

508.5.1.5 Reflective markers. All fire hydrants shall be clearly identified by installation of reflective blue markers per fire department policy.

508.5.1.6 Fire protection water supply connections. The water system is required to be looped with a minimum of two separate connections under the following conditions:

1. Dead end water line exceeds 100’ for 6” lines or 400’ for 8” lines.
2. Water lines serve a building over 52,000 sq. ft. (40,000 sq. ft. when used for any amount of high-piled storage).
3. Water lines serve a building over two stories.
4. Water lines serve more than one commercial building.
5. Water lines serve over 30 single-family residential units.
6. Water lines serve a Group “H” occupancy.
7. As otherwise required by the fire marshal.

Where two water connections are required, they shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between the water connections.

Where two water connections are required, they shall be made to separate water lines where possible.

Section 508.5.2.1 is added to read as follows:

508.5.2.1 Water distribution system failure notification. Each water service provider serving areas within the City, whether municipal or private, shall notify the fire department of any failure in their water distribution system, hydrant repair, main breaks, pump failures, or other interruptions of water supply that may affect water supply for fire control purposes.

Section 511 is added to read as follows:

SECTION 511 FIREFIGHTER AIR SYSTEMS

511.1 Firefighter Air Systems. Firefighter air systems shall comply with Sections 511.1.1 through 511.1.4.

511.1.1 Where required. An approved firefighter air system shall be provided in buildings as follows:

1. In all buildings either five stories or greater in height, or 75 feet (22860 mm) above the lowest level of fire department vehicle access.
2. In underground buildings and structures, or components thereof, that are either two or more floors below grade with an area greater than 10,000 square feet (929 m²), or more than thirty feet (9144 mm) below grade.
3. In all buildings with over 150,000 square feet (13936 m²) on one level in accordance with fire department policy.

511.1.2 Permit required. A construction permit in accordance with the requirements of Section 105.7.14 shall be required for the installation of a firefighter air system.

511.1.3 Type of firefighter air system. Firefighter air systems shall provide an adequate pressurized air supply through permanent piping system for the replenishment of self contained breathing apparatus carried by fire suppression, rescue and other personnel in the performance of their duties. Location and specification of access stations, and the installation of such air replenishment system shall be made in accordance with the requirements and standards of the fire marshal.

511.1.4 Inspection, testing and maintenance. Firefighter air systems shall be subject to periodic tests as required by the fire marshal. Firefighter air systems shall be maintained in an operative condition at all times and shall be repaired where defective. Additions, repairs, alterations and servicing shall comply with approved standards.

Section 512 is added to read as follows:

SECTION 512 PUBLIC SAFETY RADIO AMPLIFICATION SYSTEMS

512.1 Public Safety Radio Amplification Systems. Public safety radio amplification systems shall comply with Sections 512.1.1 through 512.1.4.

512.1.1 Where required. Except as otherwise provided, no person shall maintain, own, erect or construct, any building or structure or any part thereof, or cause the same to be done which fails to support adequate radio coverage for city emergency service workers, including but not limited to firefighters and police officers. Buildings and structures that fail to support adequate radio coverage shall be equipped with an approved radio amplification system in order to achieve the required adequate radio coverage. A certificate of occupancy may not be issued for any building or structure which fails to comply with this requirement.

For the purpose of this Section, adequate radio coverage shall constitute a successful communications test between the building and the communications centers for all appropriate emergency service providers for the building. The appropriate fire, police, and emergency

medical department services, at the time the building permit is issued, shall determine the frequency range or ranges that must be supported.

512.1.2 Permit required. A construction permit in accordance with the requirements of Section 105.7.15 shall be required for the installation of a public safety radio amplification system.

512.1.3 Type of public safety radio amplification systems. Public safety radio amplification systems shall provide an adequate level of radio communications for fire suppression, rescue and other personnel in the performance of their duties. Location and specification of equipment, and the installation of such air equipment shall be made in accordance with the requirements and standards of the fire marshal.

512.1.4 Inspection, testing and maintenance. Public safety radio amplification systems shall be subject to periodic tests as required by the fire marshal. Public safety radio amplification systems shall be maintained in an operative condition at all times and shall be repaired where defective. Additions, repairs, alterations and servicing shall comply with approved standards.

Section 703.4 is deleted in its entirety and replaced with the following:

703.4 Testing. Horizontal and vertical sliding and rolling fire doors, smoke and/or fire dampers, fire shutters and smoke vents shall be inspected and tested annually to confirm proper operation and full closure. Resetting of the release mechanism shall be done in accordance with the manufacturer's written instructions. A written record shall be maintained and available to the fire marshal.

Section 803.3.1, exception 2, is deleted in its entirety and exception 3 is renumbered to be exception 2.

Section 803.3.2 is amended by adding an exception to read as follows:

Exception: Corridors protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 shall be limited to not more than 50 percent of the wall area.

Section 803.4.1, exception 2, is deleted in its entirety and exception 3 is renumbered to be exception 2.

Section 803.4.2 is amended by adding an exception to read as follows:

Exception: Corridors protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 shall be limited to not more than 50 percent of the wall area.

Section 901, subsections 901.2.2, 901.2.3, 901.2.4, and 901.2.5 are added as follows:

901.2.2 Plan certification for fire alarm systems and occupant notification. All fire alarm and occupant notification system plans submitted to the fire department for review and approval shall be stamped by a professional engineer or bear a review certification and signature of a minimum level III National Institute for the Certification of Engineering Technologies (“NICET”) Certified Engineering Technician (CET) in fire alarms in accordance with fire department policy. Plan submittals shall be in accordance with the standard plan review format as provided by the Arizona Automatic Fire Alarm Association. An additional copy of the plans shall be submitted in an electronic format suitable to the fire department.

901.2.3 Plan certification for fire sprinkler systems. All fire sprinkler plans submitted to the fire department for review and approval shall be stamped by a professional engineer or bear a review certification and signature of a minimum level III National Institute for the Certification of Engineering Technologies (NICET) Certified Engineering Technician (CET) in fire sprinklers in accordance with fire department policy. Complete plans and hydraulic calculations for fire sprinkler systems installations shall be submitted for review and approval prior to beginning installation, modification or alteration. Plans shall be drawn to an indicated scale, on sheets of uniform size and shall show, as a minimum the data required by the 2002 version of NFPA 13, Chapter 14. Water supply data for hydraulic calculations shall be based on 90 percent of the available water supply as determined by flow test information taken within the previous 60 days. An additional copy of the plans shall be submitted in an electronic format suitable to the fire department.

901.2.4 Plan certification for all other fire protection systems. Plan certification for all other fire protection systems shall be accompanied by a certification of competence when required.

901.2.5 On-site plans. One set of the original red-stamped fire department approved plans, cut sheets, and specifications shall be on the job site for each fire department inspection.

Section 901.4 is deleted in its entirety and replaced with the following:

901.4 Installation. Fire protection systems shall be maintained in accordance with the original installation standards for that system. All such systems shall be extended, altered, or augmented as necessary to maintain and continue protection whenever the building is altered, remodeled or added to. Alterations to fire protection systems shall be done in accordance with applicable standards.

Section 901.4.2 is deleted in its entirety and replaced with the following:

901.4.2 Non-required fire protection systems. Non-required systems providing partial protection shall not be recognized for exceptions or reductions permitted by other requirements of this code or the International Building Code. Non-required systems providing complete protection that take advantage of any exception or reduction permitted by other requirements of this code or the International Building Code shall become required systems.

Section 901.5.1 is deleted in its entirety and replaced with the following:

901.5.1 Occupancy or Use. It shall be unlawful to occupy any portion of a building or structure, or use any commercial cooking systems, until the required fire detection, alarm and suppression systems have been tested and approved by the fire marshal.

Section 901.6 is deleted in its entirety and replaced with the following:

901.6 Inspection, testing and maintenance. Fire detection, alarm, and extinguishing systems shall be maintained in an operative condition at all times, and shall be replaced or repaired where defective. Fire protection systems and equipment not required by this code shall be inspected, tested, and maintained, or removed. The building owner shall be responsible for assuring that each fire protection system is maintained in an operable condition at all times per the applicable standard for that specific system. If a backflow prevention assembly is installed as part of a fire sprinkler system it shall be tested in accordance with the requirements of City of Avondale Municipal Code. All work and periodic testing/maintenance shall be performed in accordance with the applicable standard for the specific fire protection system.

Section 901.6.2 is deleted in its entirety and replaced with the following:

901.6.2 Records. Records of all system inspection, tests and maintenance required by the referenced standards shall be maintained on the premises for a minimum of three years and be made available to the fire marshal upon request. All individuals/businesses performing tests, maintenance, and/or repair on any fire protection system shall forward itemized reports of such work to the fire marshal within 30 days of the work performed.

Exception: R-3 occupancies, not including residential care facilities.

Section 901.6.3 is added as follows:

901.6.3 Qualifications of Testing Personnel. Individuals or businesses conducting inspections, testing, repair, or maintenance of fire protection systems shall obtain an operational permit as required in section 105.6.16.

Section 901.7 is deleted in its entirety and replaced with the following:

901.7 Systems out of service. Where a required fire protection system is out of service, or in the event of an excessive number of accidental alarm activations, the fire department and the fire marshal shall be notified immediately and, where required by the fire marshal, the building shall either be evacuated or standby personnel shall be provided for all occupants left unprotected by the shut down until the fire protection system has been returned to service. Where utilized, standby personnel shall be provided with at least one approved means for notification of the fire department and their only duty shall be to perform constant patrols of the protected premises and keep watch for fires. No required fire sprinkler system or fire alarm system shall be placed out of service for more than 8 hours in any one day without written authorization by the fire marshal.

Section 902.1 is amended to add the following definitions:

ADDRESSABLE DEVICE. A fire alarm system component with discrete identification that can have its status individually identified or that is used to individually control other functions.

ATTACHED BUILDING. A building with parts of an exterior wall in common with another building or portion of the same building, or connected to another building by roof.

AUTOMATIC FIRE ALARM SYSTEM. An automatic fire alarm system is a system that is activated automatically by an initiating device, triggered by the physical stimulus of water movement, and heat, smoke, or fire gases.

AUTOMATIC WATER FLOW DETECTION SYSTEM. An automatic water flow detection system is a system that is activated automatically by an initiating device, triggered by the physical stimulus of water movement.

AUTOMATIC FIRE DETECTION SYSTEM. An automatic fire detection system is a system that is activated automatically by an initiating device, triggered by the physical stimulus of heat, smoke, or fire gases.

AUTOMATIC SMOKE DETECTION SYSTEM. An automatic smoke detection system is a system that is activated automatically by an initiating device, triggered by the physical stimulus of smoke or fire gases.

COMMON USE AREA. Refers to those interior and exterior rooms, spaces, or elements that are 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 use areas include meeting and conference rooms, classrooms, training rooms, cafeterias, employee break rooms, toilet rooms, bathing facilities, filing and photocopy rooms, examination, and treatment rooms, dressing and fitting rooms, and similar spaces that are not used solely as employee work areas.

EMPLOYEE WORK AREAS. Areas used only by employees as work areas.

MANUAL FIRE ALARM SYSTEM. A manual fire alarm system is a system that is activated by manual pull stations (boxes) only and does not have a means of being activated automatically except for the required protection above fire alarm control equipment.

PUBLIC USE AREA. Describes interior or exterior rooms or spaces that are made available to the general public. Public use may be provided at a building or facility that is privately or publicly owned.

SPECULATIVE WAREHOUSE. A building designed for high piled combustible storage without a known commodity designation specified.

Section 903.1.2 is added to read as follows:

903.1.2 Residential systems. Unless specifically allowed by this code, residential sprinkler systems installed in accordance with NFPA 13D or NFPA 13R shall not be recognized for the purposes of exceptions or reductions permitted by other requirements of adopted codes.

Section 903.2, including all subsections thereto, is deleted in its entirety and replaced with the following:

903.2 Where required. Approved automatic sprinkler systems in new buildings and structures shall be provided in the locations described in this section.

903.2.1 New buildings and structures. An approved automatic sprinkler system shall be installed throughout all areas and all levels of all new Group A, B, E, F, H, I, M, R-1, R-2, R-4, S, and U occupancies.

Exceptions:

1. Detached gazebos and ramadas, not exceeding 1,000 square feet (93 m²), used for public use.
2. Independent restroom buildings, not exceeding 400 square feet (38 m²), associated with golf courses, parks and similar uses.
3. Guardhouses not exceeding 300 square feet (28 m²), used to control access to or within residential and/or commercial developments.
4. Detached equipment or storage buildings, not exceeding 300 square feet (28 m²), used for commercial use and located not closer than 5 feet (1524 mm) to any building or property line.
5. Detached non-combustible carports with covered parking not exceeding 15,000 square feet (1394 m²), for residential and commercial developments.
6. Detached non-combustible canopies, not exceeding 1,500 square feet (139 m²), used exclusively for automotive, motor fuel-dispensing stations for private passenger vehicles.
7. Temporary modular structures, not exceeding 1,000 square feet (93 m²), used exclusively for construction project offices on construction sites for a period not to exceed 1 year and located not closer than 20 feet (6096 mm) to any building or property line.
8. Special use non-combustible structures as approved by the fire marshal.

903.2.2 New One and Two Family Dwelling Sprinkler Option (Group R-3 Occupancies). An approved automatic fire sprinkler system shall be installed throughout all areas and all levels of all new Group R-3 occupancies over 5,000 sq. ft. under roof in accordance with NFPA 13D and fire department policy. For structures 5,000 sq. ft. and under, an approved automatic fire sprinkler system shall be offered to each prospective home buyer as an option by each builder, contractor or developer.

903.2.2.1 Competitive cost. The option shall include a competitive cost for installing an approved automatic fire sprinkler system in accordance with NFPA 13D and fire department

policy. This option and price shall be included on the builder, contractor or developer's list of options.

903.2.2.2 Model show homes. The builder, contractor or developer shall install an approved automatic fire sprinkler system, including all options for sprinkler head types, in all model show homes.

903.2.2.3 Educational materials; Affidavit. The builder, contractor or developer shall provide to each homebuyer a copy of residential fire sprinkler system educational materials prepared by the City. This information shall be provided to a prospective homebuyer prior to the execution of any sales contract. A City-approved affidavit signed by the buyer(s) shall be submitted to the City with the building permit application. This affidavit will be obtained and completed by the buyer from the City's official website, and shall require that the homebuyer certifies that, prior to executing a contract to purchase a home, he/she (i) has viewed the fire-sprinkler educational material on the City's official website, in its entirety, and (ii) was provided complete information about residential fire sprinklers for his/her home, including all options and prices.

903.2.2.4 Training. Sales personnel working in the model homes shall be trained in residential fire sprinkler systems in accordance with fire department policy.

903.2.3 Additions, alterations, or repairs. The provisions of this section are intended to provide a reasonable degree of safety for building additions, alterations, or repairs by requiring installation of an approved automatic sprinkler system. For purposes of the following automatic sprinkler system installation requirements, square footage and area calculations shall be calculated by adding together the total square footage and/or area affected by all building permits issued for a structure in a consecutive three-year period.

An approved automatic sprinkler system shall be installed throughout the entire structure or building, including all areas and all levels of all Group A, B, E, F, H, I, M, R, S, and U occupancies, when any one of the following apply:

1. Building occupant load is increased without increasing square footage.
2. Occupancy classification is changed to a higher hazard level, or changes occupancy within hazard level 1, per Table 903.2.3.
3. Structure fire resistance rating is decreased.
4. Structural changes affect the primary structural system of the existing building.
5. Work affects more than fifty percent (50%) of the existing building floor area.
6. Work affects more than 5,000 square feet (465 m²) of the existing building floor area.
7. Building addition increases the existing building floor area by more than fifty percent (50%), or exceeds 5,000 square feet (465 m²); whichever is less.
8. Fire or other casualty has damages valued in excess of fifty percent (50%) of the building's fair market value at the time of the fire or other casualty.

Exception: Existing non-sprinklered R-3 occupancies not changing occupancy type.

Table 903.2.3

Existing Building Hazard Levels

Hazard Level	Building Occupancy Type
1 (highest)	E, H, I, R-1, R-2, R-4
2	A-2, A-5
3	A-1, A-3, A-4, F-1, S-1
4	B, M, F-2, S-2
5	R-3
6 (lowest)	U

Note:

1. Occupancies as defined in this Code and the City of Avondale Building Code.
2. This Section is not intended to indicate all instances or circumstances where fire sprinkler systems are required; refer to this Code and the City of Avondale Building Code for other requirements

Section 903.3.1.1 is deleted in its entirety and replaced with the following:

903.3.1.1 NFPA 13 Sprinkler systems. Where the provisions of this code require that a building or portion thereof be equipped throughout with an automatic sprinkler system in accordance with this section, sprinklers shall be installed throughout in accordance with NFPA 13 except as provided in Section 903.3.1.1.1. Partial sprinkler systems are prohibited.

Section 903.3.1.1.2 is added to read as follows:

903.3.1.1.2 Special requirements for speculative warehouses. Speculative warehouses shall comply with this Chapter, Chapter 23, and the following. The minimum sprinkler design in speculative warehouses shall be based upon the maximum allowable storage height in the building as follows:

1. If the maximum allowable storage height can exceed 12 feet (3658 mm) but cannot exceed 22 feet (6706 mm), comply with requirements of Chapter 23 and with the following design requirements:
 - a. A Class IV non-encapsulated commodity, double row rack storage, 8 foot (2439 mm) wide aisles and 286 degree Fahrenheit sprinklers.
 - b. Hydraulically designed in accordance to protect the maximum possible clear height of storage without in-rack sprinklers.
 - c. Add 500 gallons per minute (1892 L) at the base of the riser allowance for inside hose to the hydraulic calculations and provide hose stub-outs for future installation or use existing columns for hose installation locations.
2. If the maximum allowable storage height exceeds 22 feet (6706 mm), comply with the requirements of Chapter 23, and with the following design requirements:
 - a. The system shall be hydraulically designed to protect the maximum possible clear height of storage without in-rack sprinklers and provide .64 gallons per minute (2.42 L) per square foot over the hydraulically most remote 2000 square feet (186

m2) or use an approved alternate design such as Early Suppression Fast Response (ESFR) sprinklers.

Exception: A non-speculative warehouse being built for an owner/operator with less than Class IV commodities may be designed to the expected commodity class.

Section 903.3.1.1.3 is added to read as follows:

903.3.1.1.3 Special requirements for thin wall pipe. Pipe or tube shall have a minimum Corrosion Resistant Ratio (CRR) of one or greater.

Section 903.3.1.2.2 is added to read as follows:

903.3.1.2.2 Special Requirements for Group R-1 and R-2 occupancies. In Group R-1 and R-2 occupancies, sprinklers shall be installed in bathrooms, closet areas containing any electrical or mechanical equipment, foyers, attics, attached garages, accessible areas under interior stairs or landings, exterior balconies, covered patios or landings. In living spaces, sprinklers shall be the concealed type. Attic piping shall be minimum 1" pipe size rated for use in attic spaces. For the purpose of inspection, testing, or maintenance, there shall be provided, at the time of construction, an exterior secured access door on the side of the building next to the fire sprinkler riser of adequate size to allow for valves and gauges to be accessed, repaired and viewed from the exterior for testing and maintenance purposes. The dimensions of the access door will be dependent upon the design of the riser and system devices but shall, in no case, require that service personnel must enter a private dwelling or garage to reach the riser for service and/or repair.

Section 903.3.1.2.3 is added to read as follows:

903.3.1.2.3 Special requirements for Group R-3 and R-4 occupancies. In R-3 and R-4 occupancies, sprinklers shall be installed in bathrooms, closet areas containing any electrical or mechanical equipment, foyers, attached garages, and accessible areas under interior stairs or landings. State licensed facilities shall be equipped with an approved automatic sprinkler system in accordance with this code.

In R-4 occupancies, sprinklers shall be installed under covered patios, in attics and concealed spaces of/or containing combustible materials.

Section 903.3.1.3 is deleted in its entirety and replaced with the following:

903.3.1.3 NFPA 13D Sprinkler systems. Where allowed, automatic sprinkler systems installed in one- and two-family dwellings shall be installed throughout in accordance with NFPA 13D and fire department policy.

Section 903.3.5.3 is added to read as follows:

903.3.5.3 Use of non-potable water for fire protection.

1. All commercial structures for which a building permit is issued adjacent to golf courses using non-potable or reclaimed water for irrigation with sufficient storage capacity on-site may be sprinklered using this supply.
2. Irrigation systems shall be designed to meet the fire department's standards of gallons per minute flow and pressure necessary to supply adequate fire flow.
3. A standby power supply for pumping station supplying fire flow shall be provided.
4. Fire hydrants on domestic supply shall be placed in close proximity to the fire department connection for structural sprinkler systems to provide a secondary water supply.
5. Fire hydrants placed on approved non-potable, reclaimed water supply systems, shall have caps and bonnet painted with a prime coat plus two coats of OSHA Purple paint. A placard shall be affixed to the hydrant in English and Spanish stating "DO NOT DRINK WATER." Non-potable water supplies shall use approved material for construction of all mains and supply lines and shall have the written approval of the fire marshal or his designee.
6. All water inlets for non-potable systems shall be required to have a sufficient straining and filtering capacity to eliminate all foreign objects from blocking the sprinkler orifice. Chlorination of inlet lines shall be required.

Section 903.3.6 is deleted in its entirety and replaced with the following:

903.3.6 Hose threads. Fire hose threads used in connection with automatic sprinkler systems shall be National Standard Threads.

Section 903.3.7 is deleted in its entirety and replaced with the following:

903.3.7 Fire department connections. Fire department connections (FDC's) shall comply with the City of Avondale Engineering Design Standards and shall be approved by the fire marshal. The FDC's shall be located within 150 feet (15240 mm) of a municipal fire hydrant connected directly to a city water main.

Section 903.4 is deleted in its entirety and replaced with the following:

903.4 Sprinkler system monitoring and alarms. All valves controlling the water supply for automatic sprinkler systems, pumps, tanks, water levels and temperature, critical air pressure and water-flow switches on all sprinkler systems shall be electrically supervised. See Fire Department Interpretation and Applications Manual.

Exceptions:

1. Automatic sprinkler systems protecting one- and two-family dwellings.
2. Automatic sprinkler systems installed in accordance with NFPA 13R where a common supply main is used to supply both domestic and automatic sprinkler systems and a separate shutoff valve for the automatic sprinkler system is not provided.
3. Jockey pump control valves that are sealed or locked in the open position.

4. Valves controlling the fuel supply to fire pump engines that are sealed or locked in the open position.
5. Trim valves to pressure switches in wet, dry, pre-action and deluge sprinkler systems that are sealed or locked in the open position.
6. Backflow valves that are remote from the building and secured in accordance with fire department policy.

Section 903.4.3 is deleted in its entirety and replaced with the following:

903.4.3 Sprinkler zones. Approved, supervised, indicating control valves shall be provided to allow each floor and/or area water-flow initiating device to be identified by zone and to allow each floor or area to be independently shut-off without having an effect on the operation of the sprinkler system on other floors or in other areas. The following areas shall be zoned separately:

1. Multi-story buildings shall be zoned separately by floor.
2. Multi-story multi-family residential buildings that are separated by a breezeway or fire rated assembly can be zoned separately by building section if approved in advance by the fire marshal. The required section control valves shall be located in the main sprinkler control valve room.
3. Smoke zones shall be zoned separately. The operation of one sprinkler will actuate the alarm system and the appropriate smoke control equipment.
4. Hazardous areas such as spray booths, flammable liquid storage rooms, hazardous materials control areas, etc. shall be zoned separately. The required zone control valves shall be located in an accessible area outside the spray booth, storage room, control area, or in the main sprinkler control valve room.
5. Special systems such as pre-action systems shall be zoned separately.
6. Computer rooms shall be zoned separately. The required zone control valves shall be located in an accessible area outside the computer room, or in the main sprinkler control valve room.
7. Subfloor areas shall be zoned separately. The required zone control valves shall be located in an accessible area outside the subfloor area, or in the main sprinkler control valve room.
8. Elevator hoistways shall be zoned separately. The required zone control valve shall be located in an accessible area outside the elevator hoistway, or in the main sprinkler control valve room.
9. In racks sprinklers shall be zoned separately.
10. Separate zones shall be required where the zoning of the sprinkler system and installation of separate control valves will increase the level of fire protection for the building, and the life safety of the occupants and firefighters as determined by the fire marshal.

Section 904.11.6.6 is added to read as follows:

904.11.6.6 Additions, alterations, or repairs. Existing automatic fire-extinguish systems shall be upgraded to an approved automatic fire-extinguish system installed throughout all portions of any commercial cooking system when there are additions, alterations, or repairs

made or when an existing non-compliant system can no longer be serviced and maintained in a certified operational condition.

Section 904.11.2 is deleted in its entirety and replaced with the following:

904.11.2 System interconnection. The actuation of the fire suppression system shall automatically shut down the fuel or electrical power supply to the cooking equipment. The fuel and electrical supply reset shall be manual. Where resetting of the supply gas valve requires opening the valve cover, and the valve is located above ceiling, the valve shall be readily accessible and labeled.

Section 907.1.1 is deleted in its entirety and replaced with the following:

907.1.1 Construction documents. Construction documents for fire alarm systems shall be submitted for review and approval prior to system installation. Construction documents shall be stamped by a professional engineer or bear a review certification and signature of a minimum level III National Institute for the Certification of Engineering Technologies (“NICET”) Certified Engineering Technician (CET) in fire alarms in accordance with fire department policy. Plan submittals shall be in accordance with the standard plan review format as provided by the Arizona Automatic Fire Alarm Association in accordance with fire department policy. A copy of the as-built plans shall be kept in an approved as-built plan box next to the fire alarm control unit in accordance with fire department policy. An additional set of as-built plans shall be submitted in an electronic format suitable to the fire department.

Section 907.2 is deleted in its entirety and replaced with the following:

907.2 Where required-new buildings and structures. An approved automatic fire alarm system shall be provided in new buildings and structures in accordance with Sections 907.2.1 through 907.2.23 and fire department policy. All fire alarm systems shall be addressable. The use of non-fire combination systems is prohibited. Where automatic sprinkler protection installed in accordance with this code and fire department policy is provided and connected to the building fire alarm system, automatic heat detection required by this Section shall not be required.

An approved automatic fire alarm system shall be installed in accordance with the provisions of this code, NFPA 72 and fire department policy. Devices, combinations of devices, appliances and equipment shall comply with Section 907.1.2. The automatic fire detectors shall be addressable, intelligent analog smoke detectors, except that an approved alternative type of detector shall be installed in spaces such as boiler rooms where, during normal operation, products of combustion are present in sufficient quantity to actuate a smoke detector.

Section 907.2.1 is deleted in its entirety and replaced with the following, but Sections 907.2.1.1 and 907.2.1.2 remain unchanged:

907.2.1 Group A. In Group A occupancies, an approved automatic fire alarm system shall be installed in the following areas in accordance with fire department policy:

1. Smoke detection in public restrooms.
2. Smoke detection in storerooms.
3. Smoke detection in mechanical equipment, electrical, transformer, telephone equipment or similar room.
4. Smoke detection in other areas that are not normally occupied as required by the fire marshal.
5. One manual fire alarm box in a normally occupied area as approved by the fire marshal.

Section 907.2.2 is deleted in its entirety and replaced with the following:

907.2.2 Group B. In Group B occupancies, an approved automatic fire alarm system shall be installed in the following areas in accordance with fire department policy:

1. Smoke detection in storerooms.
2. Smoke detection in mechanical equipment, electrical, transformer, telephone equipment or similar room.
3. Smoke detection in other areas that are not normally occupied as required by the fire marshal.
4. One manual fire alarm box in a normally occupied area as approved by the fire marshal.

Section 907.2.3 is deleted in its entirety and replaced with the following:

907.2.3 Group E. In Group E occupancies, all fire alarm systems shall be Class A circuits. An approved automatic fire alarm system shall be installed in the following areas in accordance with the State of Arizona Fire Code and fire department policy:

1. Smoke detection in interior hallways and corridors.
2. Smoke detection in public restrooms.
3. Smoke detection in storerooms.
4. Smoke detection in mechanical equipment, electrical, transformer, telephone equipment or similar room.
5. Smoke detection in other areas that are not normally occupied as required by the fire marshal.
6. One manual fire alarm box in a normally occupied area as approved by the fire marshal.

Section 907.2.4 is deleted in its entirety and replaced with the following:

907.2.4 Group F. In Group F occupancies, an approved automatic fire alarm system shall be installed in the following areas in accordance with fire department policy:

1. Smoke detection in storerooms.
2. Smoke detection in mechanical equipment, electrical, transformer, telephone equipment or similar room.

3. Smoke detection in other areas that are not normally occupied as required by the fire marshal.
4. One manual fire alarm box in a normally occupied area as approved by the fire marshal.

Section 907.2.5 is deleted in its entirety and replaced with the following:

907.2.5 Group H. In Group H occupancies, an approved automatic fire alarm system shall be installed in the following areas in accordance with fire department policy:

1. Smoke detection in mechanical equipment, electrical, transformer, telephone equipment or similar room.
2. Smoke detection for highly toxic gases, organic peroxides and oxidizers in accordance with Chapter 37, 39 and 40 respectively.
3. Smoke detection in other areas that are not normally occupied as required by the fire marshal.
4. One manual fire alarm box in a normally occupied area as approved by the fire marshal.

Section 907.2.6 is amended by deleting the first paragraph thereof in its entirety and replacing it with the following:

907.2.6 Group I. In Group I occupancies, all fire alarm systems shall be Class A circuits. In Group I occupancies, an approved automatic fire alarm system shall be installed in accordance with Section 907.2.6.1 and 907.2.6.2, the State of Arizona Fire Code and fire department policy.

Section 907.2.6.3 is added to read as follows:

907.2.6.3 Group I-4. In Group I-4 occupancies, an approved automatic fire alarm system shall be installed in the following areas in accordance with fire department policy:

1. Smoke detection in hallways and corridors.
2. Smoke detection in sleeping areas.
3. Smoke detection in classrooms.
4. Smoke detection in restrooms.
5. Smoke detection in storerooms.
6. Smoke detection in mechanical equipment, electrical, transformer, telephone equipment or similar room.
7. Smoke detection in other areas that are not normally occupied as required by the fire marshal.
8. One manual fire alarm box in a normally occupied area as approved by the fire marshal.

Section 907.2.7 is deleted in its entirety and replaced with the following:

907.2.7 Group M. In Group M occupancies, an approved automatic fire alarm system shall be installed in the following areas in accordance with fire department policy:

1. Smoke detection in storerooms.
2. Smoke detection in mechanical equipment, electrical, transformer, telephone equipment or similar room.
3. Smoke detection in other areas that are not normally occupied as required by the fire marshal.
4. One manual fire alarm box in a normally occupied area as approved by the fire marshal.

Section 907.2.8 is deleted in its entirety and replaced with the following:

907.2.8 Group R-1. In Group R-1 occupancies, an approved automatic fire alarm system shall be installed in the following areas in accordance with fire department policy:

1. Smoke detection in all interior corridors serving guestrooms.
2. Smoke detection in public restrooms.
3. Smoke detection in storerooms.
4. Smoke detection in mechanical equipment, electrical, transformer, telephone equipment or similar room.
5. Smoke detection in other areas that are not normally occupied as required by the fire marshal.
6. One manual fire alarm box in a normally occupied area as approved by the fire marshal.

Exception: Smoke detection is not required in the common areas of buildings that do not have interior corridors serving guestrooms and each guestroom has a means of egress door opening directly to an exterior exit access that leads directly to an exit.

907.2.8.1 Smoke alarms. Smoke alarms shall be installed as required by Section 907.2.10. The smoke alarms in guestrooms shall be connected to an emergency electrical system that shall provide notification of smoke detection or smoke alarm deactivation, by guestroom number, to a constantly-attended location from which the fire alarm system is capable of being manually activated.

Section 907.2.9 is deleted in its entirety and replaced with the following:

907.2.9 Group R-2. In Group R-2 occupancies, an approved automatic fire alarm system shall be installed in the following areas in accordance with fire department policy:

1. Smoke detection in all interior corridors serving guestrooms.
2. Smoke detection in public restrooms.
3. Smoke detection in storerooms.
4. Smoke detection in mechanical equipment, electrical, transformer, telephone equipment or similar room.

5. Smoke detection in other areas that are not normally occupied as required by the fire marshal.
6. One manual fire alarm box in a normally occupied area as approved by the fire marshal.

Exception: Smoke detection is not required in the common areas of buildings that do not have interior corridors serving dwelling units provided that dwelling units either have a means of egress door opening directly to an exterior exit access that leads directly to the exits or are served by open-ended corridors designed in accordance with Section 1022.6, Exception 4.

Section 907.2.10.1.2 is deleted in its entirety and replaced with the following:

907.2.10.1.2 Groups R-2, R-3, and I-1. Single or multiple-station smoke alarms shall be installed and maintained in Groups R-2, R-3, and I-1, regardless of occupant load, at all of the following locations:

1. On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms.
2. In each room used for sleeping purposes.
3. In each story within a dwelling unit, including basements, but not including crawl spaces and uninhabitable attics. In dwelling units with split-levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level, provided that the lower level is less than one full story below the upper level.

Section 907.2.10.1.3 is deleted in its entirety and replaced with the following:

907.2.10.1.3 Groups R-3 Residential Care Facilities and R-4. An approved dedicated, addressable, automatic fire alarm system shall be installed throughout all areas in Group R-3 residential care facilities and R-4 occupancies in accordance with NFPA 72 and fire department policy. Automatic sprinkler system water-flow initiating devices shall activate audible alarms in accordance with 907.10.2 and visible alarms in accordance with 907.10.1.4.

Section 907.2.10.1.4 is added:

907.2.10.1.4 Group I-1. Single or multiple-station smoke alarms shall be installed and maintained in sleeping areas in occupancies in Group I-1. Single or multiple-station smoke alarms shall not be required where the building is equipped throughout with an automatic fire detection system in accordance with Section 907.2.6.

Section 907.2.12 is deleted in its entirety and replaced with the following:

907.2.12 High-rise buildings. Buildings having floors used for human occupancy located more than 75 feet (22860 mm) above the lowest level of fire department vehicle access shall be provided with an automatic fire alarm system in accordance with Section 907.2.12.1 and an emergency voice/alarm communication system in accordance with Section 907.2.12.2.

Exceptions:

1. Airport traffic control towers in accordance with Section 907.2.22 and Section 412 of the International Building Code.
2. Open parking garages in accordance with Section 406.3 of the International Building Code.

Section 907.2.12.1 is deleted in its entirety and replaced with the following:

907.2.12.1 Automatic fire detection. Smoke detectors shall be provided in accordance with this Section. Smoke detectors shall be connected to an automatic fire alarm system. The activation of any detector required by this Section shall operate the emergency voice/alarm communication system. Smoke detectors shall be located as follows:

1. Throughout all public and common use areas in accordance with NFPA 72 and fire department policy.
2. In each mechanical equipment, electrical, transformer, telephone equipment or similar room, elevator machine rooms, and in elevator lobbies.
3. In the main return air and exhaust air plenum of each air-conditioning system having a capacity greater than 2,000 cubic feet per minute (cfm) (0.94 m³/s). Such detectors shall be located in a serviceable area downstream of the last duct inlet.
4. At each connection to a vertical duct or riser serving two or more stories from a return air duct or plenum of an air-conditioning system. In Group R-1 and R-2 occupancies, a listed smoke detector is allowed to be used in each return-air riser carrying not more than 5,000 cfm (2.4 m³/s) and serving not more than 10 air-inlet openings.

Section 907.2.23 is deleted in its entirety and replaced with the following:

907.2.23 Battery rooms. An approved automatic smoke detection system shall be installed in areas containing stationary lead-acid battery systems having a liquid capacity of more than 50 gallons (189 L). The smoke detection system shall be supervised by an approved central, proprietary, or remote station service.

Section 907.2.24 is added to read as follows:

907.2.24 Group S. In Group S, occupancies an approved automatic fire alarm system shall be installed in the following areas in accordance with fire department policy:

1. Smoke detection in storerooms (does not include storage warehouse areas).
2. Smoke detection in mechanical equipment, electrical, transformer, telephone equipment or similar room.
3. Smoke detection in other areas that are not normally occupied as required by the fire marshal.
4. One manual fire alarm box in a normally occupied area as approved by the fire marshal.

Section 907.3 is deleted in its entirety.

Section 907.9 is deleted in its entirety and replaced with the following:

907.9 Zones. All fire alarm systems shall be addressable to identify the specific initiating device and its location.

Section 907.10 is deleted in its entirety and replaced with the following:

907.10 Alarm notification appliances. Alarm notification appliances shall be provided and shall be listed for their purpose.

Section 907.10.1 is deleted in its entirety and replaced with the following:

907.10.1 Visible alarms. Visible alarm notification appliances shall be provided in accordance with Sections 907.10.1.1 through 907.10.1.4.

Section 907.10.1.1 is deleted in its entirety and replaced with the following:

907.10.1.1 Public and common use areas. Visible alarm notification appliances shall be provided in public and common use areas in accordance with NFPA 72 and fire department policy.

Section 907.10.1.2 is deleted in its entirety and replaced with the following:

907.10.1.2 Employee work areas. Visible alarm notification appliances shall be provided in employee work areas in accordance with NFPA 72 and fire department policy.

Section 907.10.2.1 is added to read as follows:

907.10.2.1 Special Requirements for Group R-1 and R-2 occupancies. In Group R-1 and R-2 occupancies, building fire alarm system audible notification appliances shall be installed in every individual guestroom and dwelling unit.

Section 907.15 is deleted in its entirety and replaced with the following:

907.15 Monitoring. All required fire alarm systems shall be monitored by an approved supervising station in accordance with NFPA 72 and fire department policy. The point identification, location and type of alarm shall be transmitted to the off site monitoring company who shall communicate the information to the fire department alarm center. Monitored fire alarm systems serving multiple buildings shall use class A style looped wiring circuits. Underground fire alarm wiring circuits shall be installed in approved conduit rated for use in damp conditions.

Exception: Supervisory service is not required for automatic sprinkler systems in one- and two-family dwellings.

Section 912.1 is deleted in its entirety and replaced with the following:

912.1 Installation. Fire department connections shall be installed in accordance with the City of Avondale Engineering Design Standard and fire department policy.

Section 912.4 is deleted in its entirety and replaced with the following:

912.4 Signs. A metal sign with raised letters at least 1 inch (25 mm) in size shall be mounted on all fire department connections serving fire sprinklers, standpipes or fire pump connections. Such signs shall read: AUTOMATIC SPRINKLERS or STANDPIPES or TEST CONNECTION or a combination thereof as applicable. Each fire department connection (FDC) serving more than one building shall be provided with an approved sign detailing the building(s) or area served by the FDC in accordance with fire department policy.

Section 912.5 is deleted in its entirety and replaced with the following:

912.5 Backflow protection. The potable water supply to automatic sprinkler and standpipe systems shall be protected against backflow in accordance with the City of Avondale Municipal Code, the City of Avondale Engineering Design Standard and fire department policy.

Section 912.6 is deleted in its entirety and replaced with the following:

912.6 Inspection, testing and maintenance. All fire department connections and backflow protection devices shall be periodically inspected, tested and maintained in accordance with the City of Avondale Municipal Code, the City of Avondale Engineering Design Standard, NFPA 25, and fire department policy.

Section 1003.8 is added to read as follows:

1003.8 No exit signage. Any door, passage, or stairway that is neither an exit nor a way of exit access and that is located or arranged so that it is likely to be mistaken for an exit shall be identified by a sign that reads NO EXIT. The NO EXIT sign shall consist of letters having a principal stroke of not less than 0.75 inch (19.1 mm) wide and at least 6 inches (152 mm) high on a contrasting background.

Section 1008.1.1.2 is added to read as follows:

1008.1.1.2 Group R-3 Residential Care Facilities and R-4 Doors. Every required exit doorway shall be of a size that permits the installation of a door not less than 3 feet (914 mm) in width and not less than 6 feet 8 inches (2032 mm) in height. When installed, exit doors shall be capable of opening so that the clear width of the exit is not less than 32 inches (813 mm). The door(s) shall be of the pivoted or side-hinged, swinging type.

Section 1008.1.3.4, number 7, is added to read as follows:

7. A construction permit is required to install or modify the connection to the fire alarm system for access-controlled egress doors in accordance with Section 105.7.23.

Section 1008.1.8.3, number 5, is added to read as follows:

5. Doors from individual dwelling or sleeping units of Group R-3 residential care/assisted living facilities and R-4 occupancies are permitted to be equipped with locks or latches, provided such devices are operable from the inside without the use of a key or tool and are mounted not more than 48 inches (1219 mm) above the finished floor. For required exterior exit doors, approved magnetic door locking devices are permitted where tied to the fire alarm system and released upon activation of any fire detection or suppression device, or loss of power.

Section 1008.1.8.6, number 7, is added to read as follows:

7. A construction permit is required to install or modify the connection to the fire alarm system for delayed egress locks in accordance with Section 105.7.24.

Section 1410.1 is deleted in its entirety and replaced with the following:

1410.1 Required access for fire fighting and emergency medical services. Approved fire apparatus access roads shall be provided and maintained to all construction or demolition sites in accordance with Section 503. A construction permit is required in accordance with Section 105.7.16 to install or modify interior/private fire apparatus roads. Fire apparatus access shall be provided to within 50 feet (15240 mm) of temporary or permanent fire department connections (FDC's). Fire apparatus access shall be provided by either permanent roads for combustibles construction or approved temporary roads capable of supporting vehicle loading under all weather conditions for non-combustible construction. A construction permit is required in accordance with Section 105.7.17 to install or modify temporary fire apparatus access roads. As part of the application, the applicant shall provide a comprehensive fire protection plan, stating in detail, how the temporary road will meet the fire code requirements and how fire protection issues for the project will be addressed. If approved, temporary fire apparatus access shall be maintained until permanent fire apparatus access roads are available.

Section 1410.3 is added to read as follows:

1410.3 Signs. During construction, approved signs shall be provided in accordance with fire department policy to identify fire apparatus access roads, direct emergency responders into and through the construction sites, and prohibit the obstruction of fire apparatus access roads. A construction permit is required in accordance with Section 105.7.18 to install or modify fire lane signs or notices.

Section 1503.5 is added to read as follows:

1503.5 Fire protection. Operations covered by this chapter shall be protected by automatic fire sprinkler systems. Such systems shall be extended to protect exhaust plenums, exhaust ducts and both sides of dry filters when such filters are used.

Section 1508.1 is deleted in its entirety and replaced with the following:

1508.1 General. Automobile undercoating spray operations and spray on automotive lining operations conducted in areas with approved natural or mechanical ventilation shall be exempt from the provisions of Section 1504 when approved by the fire marshal and where utilizing Class IIIA or Class IIIB combustible liquids.

Section 2201.4 is deleted in its entirety and replaced with the following:

2201.4 Indoor service stations. Locating motor vehicle fuel-dispensing stations inside buildings is prohibited within the entire City.

Section 2201.7 is added to read as follows:

2201.7 Fire protection. Fire sprinkler protection shall be designed in accordance with the applicable building code as required for Ordinary Hazard Group 2.

Section 2204.3.1 is deleted in its entirety and replaced with the following:

2204.3.1 General. Unattended self-serve stations are prohibited within the entire City.

Exception: Unattended self-serve stations may be allowed by special permit issued by the chief for private commercial use only, subject to Sections 2204.3.1 through 2204.3.7 and all other applicable codes and ordinances. Written request and documentation shall be submitted showing compliance with two-way communications and cameras that are monitored off-site at a 24 hour location.

Section 2208.3.2 is added to read as follows:

2208.3.2 Vehicle impact protection. Vehicle impact protection for CNG gas storage containers, pumps and dispensers shall be provided in accordance with Section 312.

Section 2301.2 is deleted in its entirety and replaced with the following:

2301.2 Permits. A permit shall be required as set forth in Section 105.6 and 105.7.

Section 2403.8.2, Exception 2, is deleted in its entirety and replaced with the following:

Exception:

2. Membrane structures, tents or canopies need not be separated from a fully sprinklered building when all of the following conditions are met:
 - 2.1 The aggregate floor area of the membrane structure, tent or canopy shall not exceed 10,000 square feet (929 m²).
 - 2.2 The aggregate floor area of the building and membrane structure, tent or canopy shall not exceed the allowable floor area including increases as indicated in the International Building Code.

2.3 Required means of egress provisions are provided for both the building and the membrane structure, tent or canopy, including travel distance.

2.4 Fire apparatus access roads are provided in accordance with Section 503.

Section 2604.2.6 is deleted in its entirety and replaced with the following:

2604.2.6 Fire extinguisher. A minimum of one portable fire extinguisher in accordance with Section 906, and with a minimum 2-A:20-B:C rating, shall be readily accessible within 30 feet (9144 mm) of the location where hot work is performed and shall be accessible without climbing stairs or ladders.

Section 2701.5.1 is deleted in its entirety and replaced with the following:

2701.5.1 Hazardous Materials Management Plan (HMMP). The fire marshal is authorized to establish procedures regarding a Hazardous Materials Management Plan (HMMP) and require persons possessing or storing hazardous materials to develop and submit a Hazardous Materials Management Plan (HMMP) to the fire department in an acceptable format. Where required by the fire marshal, each application for a permit shall include a Hazardous Materials Management Plan (HMMP) in accordance with fire department policy. The Hazardous Materials Management Plan (HMMP) shall include the following information:

1. General information.
2. Fire detection and alarm systems.
3. Fire protection systems.
4. Record keeping and inspection.
5. Aboveground chemical areas.
6. Underground chemical areas.
7. Hazardous waste disposal.
8. Hazard identification and labeling.
9. Emergency response.
10. Employee training.
11. Facility site plan drawn approximately to scale and legible designating the following:
 - a. Fire apparatus access roads, gates, fire hydrants, fire pumps, etc.
 - b. Building floor plans.
 - c. Storage plan showing the chemical storage areas, chemical use areas, and the location and dimensions of aisles and exits.
 - d. Maximum amount of each chemical stored or used in each area.
 - e. Range of container sizes.
 - f. Chemical piping systems (other than utility-owned fuel gas lines and low-pressure fuel gas lines). Separate distribution systems are allowed to be shown on separate pages.
 - g. Locations of emergency isolation and mitigation valves and devices.
 - h. On and off positions of valves for valves that are of the self-indicating type.
 - i. The location and type of emergency equipment.

Where allowed by the fire marshal, a short form Hazardous Materials Management Plan (HMMP) may be submitted for limited quantities of hazardous materials in accordance with fire department policy.

Section 2701.5.2 is deleted in its entirety and replaced with the following:

2701.5.2 Hazardous Materials Inventory Statement (HMIS). The fire marshal is authorized to establish procedures regarding a Hazardous Materials Inventory Statement (HMIS) and require persons possessing or storing hazardous materials to develop and submit a Hazardous Materials Inventory Statement (HMIS) to the fire department in an acceptable format. Where required by the fire marshal, each application for a permit shall include a Hazardous Materials Inventory Statement (HMIS) in accordance with fire department policy. The Hazardous Materials Inventory Statement (HMIS) shall include the following information:

1. Common name or trade name (label name).
2. Chemical name, major constituents and concentrations if a mixture. If a waste, the waste category.
3. Chemical Abstract Service number (CAS number) found in the 29 Code of Federal Regulations (C.F.R.).
4. Whether the material is pure or a mixture, and whether the material is a solid, liquid, gas.
5. Maximum quantity stored on-site at any one time (LB, GA, CF).
6. Maximum quantity in open use on-site at any one time (LB, GA, CF).
7. Maximum quantity in closed use on-site at any one time (LB, GA, CF).
8. Conditions related to the storage type, pressure, temperature, and use.
9. Hazard classification per IFC.
10. NFPA 704 hazard rating.

Section 3001.2 is deleted in its entirety and replaced with the following:

3001.2 Permits. Permits shall be required as set forth in Sections 105.6 and 105.7.

Section 3301.2.3 is deleted in its entirety and replaced with the following:

3301.2.3 Permit restrictions. The storage of explosives and blasting agents is prohibited within the entire City, except for temporary storage for use in connection with approved blasting operations. However, this prohibition shall not apply to wholesale and retail stocks of small arms ammunition, explosive bolts, explosive rivets or cartridges for explosive-actuated power tools in quantities involving less than 500 pounds (226.8 kg) of explosive material.

Section 3308.3 is deleted in its entirety and replaced with the following:

3308.3 Approved displays. Approved displays shall include only the approved Division 1.3G, Division 1.4G, and Division 1.4S fireworks, shall be handled by an approved, competent operator, and the fireworks shall be arranged, located, discharged and fired in a manner that will not pose a hazard to property or endanger any person. All aerial shells shall be fired using electrical ignition or other means of remote ignition that place the shooter and assistants at least

75 ft (23 m) away from the mortar or behind a sturdy barricade at the time of ignition of the lift charge as approved by the fire marshal.

Section 3404.2.13.1.4 is deleted in its entirety and replaced with the following:

3404.2.13.1.4 Tanks abandoned in place. The abandonment of tanks in place shall be prohibited within the entire City.

Section 3406.2.5.2 is deleted in its entirety and replaced with the following:

3406.2.5.2 Tanks for gravity discharge. Tanks with a connection in the bottom or the end for gravity-dispensing of flammable or combustible liquids shall not be permitted within the entire City.

Section 3404.3.1.1 is deleted in its entirety and replaced with the following:

3404.3.1.1 Approved containers. Only approved containers and portable tanks shall be used. For the storage of flammable liquids, approved portable containers must meet the following requirements:

1. Be approved by, and bear a label from, a national testing lab such as UL, Factory Mutual, or other similarly qualified and capable testing lab.
2. Be not more than 5 gallons in capacity.
3. Have a spring closing lid that closes after filling or pouring.
4. Be leak tight.
5. Have a flame arrestor screen.
6. Have a safety valve to relieve internal pressure.

Section 3406.5.4 is deleted in its entirety and replaced with the following:

3406.5.4 Dispensing from tank vehicles and tank cars. Dispensing from tank vehicles and tank cars into the fuel tanks of motor vehicles shall be prohibited unless allowed by the fire marshal and conducted in accordance with Sections 3406.5.4.1 through 3406.5.4.5.

Section 3406.5.4.5, first sentence, is deleted in its entirety and replaced with the following:

3406.5.4.5 Commercial, industrial, governmental or manufacturing vehicles. Dispensing of Class II and III motor vehicle fuel from tank vehicles into the fuel tanks of motor vehicles located at commercial, industrial, governmental or manufacturing establishments is allowed where permitted, provided such dispensing operations are conducted in accordance with Section 105.6.17 and the following:

Section 3406.5.4.5, number 6, is deleted in its entirety and replaced with the following:

6. Mobile fueling shall not take place within 25 feet (7620 mm) of property lines or combustible storage.

Section 3801.3 is deleted in its entirety and replaced with the following:

3801.3 Construction documents. Construction documents are required for the installation or modification of the following:

1. LP-gas system.
2. LP-gas storage of containers awaiting use or resale.
3. LP-gas storage of pre-filled portable cylinders for consumer exchange.
4. Temporary use of LP-gas containers over 100 lb (45 kg) propane capacity at construction sites.
5. Temporary use of LP-gas containers over 40 lb (45 kg) propane capacity at public special events.

Table 3804.3, footnote e/5, is added as follows:

- e/5. A container of less than 125 gallons (473 L) water capacity may be located next to a block fence when the tank is not within 5 feet (1524 mm) of a structure on adjoining property.

Section 3809.16 is added as follows:

3809.16 Pre-filled portable cylinders for consumer exchange. The installation of pre-filled portable cylinders for consumer exchange shall comply with the following requirements:

1. A construction permit is required for the installation of or modification to pre-filled portable cylinders for consumer exchange in accordance with section 105.7.8.
2. Storage is limited to one cage, containing up to twenty-five (25), twenty (20) pound propane cylinders (500 pounds, 226.8 kg) without any separation from a structure. A second cage may be installed next to a structure on the same property as long as a minimum of 20 feet (6096 mm) separation is maintained between the two cages.
3. A site plan for the installation shall be submitted to the Fire Prevention Division. The site plan shall indicate the sizes and locations of the pre-filled portable cylinders for consumer exchange cage, as well as the separation distances between cages, the distances to property lines, structures, and public ways.
4. The cage shall not be located within 5 feet (1524 mm) of any doorway or opening in a building frequented by the public and 5 feet (1524 mm) from any exterior source of ignition, openings into direct-vent (sealed combustion system) appliances or mechanical ventilation air intakes.
5. The cage shall be located so that any discharge from a propane cylinder pressure relief device is at least 3 feet (915 mm) horizontally away from any building opening below the level of such discharge.
6. The cage shall be a lockable ventilated metal locker or rack that prevents tampering and pilferage.
7. The cage shall be designed so that containers can not be stacked on top of each other and designed so that containers are positioned upright with the pressure-relief valve in direct communication with the vapor space of the container.
8. Defective containers or containers showing denting, bulging, or excessive corrosion shall be removed from service and properly disposed of.

9. The cage and area shall be kept free and clear of all combustible materials, including storage, for a distance of at least 10 feet (3048 mm) on all sides.
10. NO SMOKING signs shall be posted on the cage and within 25 feet (7620 mm) of the surrounding area.
11. Approved NFPA 704 hazard identification signs shall be posted on the cage.
12. Signs listing exchange procedures, company name, and 24 hour phone numbers shall be posted on the cage.
13. Signs requiring that customers leave LPG containers outside shall be posted at all building entrance(s).
14. All employees with access to the exchange cage shall be trained in the proper handling and operating procedures, including the procedure for handling defective containers. Documentation of this training shall be provided to the Fire Prevention Division upon final inspection.
15. A written inspection checklist for receiving empty containers as well as giving out full cylinders shall be available and used by employees when handling containers.
16. Provisions shall be made for controlling and mitigating unauthorized discharges. A Hazardous Materials Management Plan shall be readily available on site.
17. A minimum of one 2A20BC fire extinguisher shall be located within 75 feet (22860 mm), but not less than 25 feet (7620 mm) from the cage area.
18. Cages exposed to probable vehicular damage due to proximity to alleys, driveways, or parking areas, shall be protected in accordance with Section 312.
19. A final inspection by the Fire Prevention Division is required prior to the cage being put into service.

Chapter 45 the following NFPA standard reference numbers are deleted and replaced with the following:

- 13 – 02
- 13D – 02
- 13R – 02
- 14 – 03
- 17A – 02
- 20 – 03
- 25 – 02
- 30 – 03
- 30A – 03
- 30B – 02
- 33 – 03
- 58 – 04
- 72 – 02
- 96 – 04
- 99 – 02
- 1124 – 03
- 2001 – 04

APPENDIX B

Section B103.3 is deleted in its entirety.

Section B105.1.1 is added to read as follows:

B105.1.1 Fire flow for residential developments with automatic fire sprinklers.

For residential developments that take advantage of the 50% reduction in the fire flow requirement for an automatic fire sprinkler system in each building, the sub-division plat shall contain the following note:

Residential fire sprinkler systems required:

All homes in this sub-division shall have a residential fire sprinkler system installed due to the reduction in fire flow requirements.

Section B105.2 is deleted in its entirety and replaced with the following:

B105.2 Buildings other than one- and two-family dwellings. The minimum fire flow and flow duration for buildings other than one- and two-family dwellings shall be as specified in Table B105.1.

Exceptions:

1. A reduction in required fire flow of up to 50 percent, as approved, is allowed when the building is provided with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 of the International Fire Code.
2. Where buildings are also of Type I or II construction and are a light-hazard occupancy as defined by NFPA 13, the reduction may be up to 75 percent. 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 B 105.1.
3. In H occupancies, no reduction in required fire flow is allowed when the building is provided with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 of the International Fire Code. 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 B 105.1.
4. In buildings with high-piled storage, a reduction in required fire flow of up to 25 percent, as approved, is allowed when the building is provided with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 of the International Fire Code. 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 B 105.1.

Note: The reduction allowed in this Exception does not apply to the flow duration requirements in Table B105.1 or to the number and distribution of fire hydrants in Table C105.1.

Section B105.3 is added as follows:

B105.3 Fire flow, fire sprinkler water demand, and hose demand. When determining the fire-flow requirements for buildings the required fire flow, the fire sprinkler water demand, and the hose demand must be added together.

APPENDIX C

Section C104.1 is deleted in its entirety and replaced with the following:

C104.1 Existing fire hydrants. Existing fire hydrants on public streets are allowed to be considered as available if they are within 750 feet (229m) of the building as measured by an approved route that fire apparatus would use to lay the large diameter water supply hoseline from the hydrant to the building. Existing fire hydrants on adjacent properties shall not be considered available unless fire apparatus access roads extend between properties and easements are established to prevent obstruction of such roads.

Section C105.2 is added to read as follows:

C105.2 Fire hydrant spacing for residential developments with automatic fire sprinklers. Single-family residential subdivisions that install residential fire sprinkler systems in accordance with fire department policy in all homes in a sub-division the average spacing between fire hydrants may be increased to 1000 feet (304.8 m). The maximum distance from any point on street or road frontage to a hydrant may be increased to 500 feet (152.4 m).

For single-family residential sub-divisions that require the installation of residential fire sprinkler systems in all homes and take a reduction in the fire hydrant spacing requirements, the sub-division plat shall contain the following note:

Residential fire sprinkler systems required:

All homes in this sub-division shall have a residential fire sprinkler system installed due to the reduction in fire hydrant spacing requirements.

APPENDIX D

Section D101.1 is deleted in its entirety and replaced with the following:

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

Section D103.1 is deleted in its entirety and replaced with the following:

D103.1 Access road width with a hydrant. Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 24 feet (7,315 mm) or as required by the City of Avondale Engineering Design Standards. See Figure D103.1.

Section D103.2 is deleted in its entirety and replaced with the following:

D103.2 Grade. Fire apparatus access roads shall not exceed 7 percent in grade in accordance with the City of Avondale Engineering Design Standards.

Exceptions:

1. Local streets shall not exceed 10 percent in grade in accordance with the City of Avondale Engineering Design Standards.
2. Grades steeper than 7 percent as approved by the fire marshal.

Section D103.3 is deleted in its entirety and replaced with the following:

D103.3 Turning radius. The minimum turning radius shall be in accordance with the City of Avondale Engineering Design Standards. For design purposes use the American Association of State Highway & Transportation Officials (AASHTO) WB-50 vehicle classification for fire apparatus access roads.

Section D103.5 is deleted in its entirety.

Section D103.6 is deleted in its entirety and replaced with the following:

D103.6 Signs. Where required by the fire marshal, fire apparatus access roads shall be marked with signs in accordance with fire department policy.

Section D106.1 is deleted in its entirety and replaced with the following:

D106.1 Projects having more than 100 dwelling units. Multiple-family residential projects having more than 100 dwelling units shall be equipped throughout with two separate and approved fire apparatus access roads, and shall meet the requirements of Section D104.3.

Exception: Projects having up to 200 dwelling units may have a single approved fire apparatus access road when all buildings, including nonresidential occupancies, are equipped throughout with approved automatic sprinkler systems installed in accordance with Section 903.3.1.1 or Section 903.3.1.2 of the International Fire Code.

Section D106.2 is deleted in its entirety and replaced with the following:

D106.2 Projects having more than 200 dwelling units. Multiple-family residential projects having more than 200 dwelling units shall be provided with two separate and approved fire apparatus access roads regardless of whether they are equipped with an approved automatic sprinkler system, and shall meet the requirements of Section D104.3.