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ORDINANCE NO.

AN ORDINANCE REPEALING AND REPLACING ARTICLE 7 OF CITY CODE CHAPTER 25-12 TO ADOPT THE 2021 INTERNATIONAL FIRE CODE AND LOCAL AMENDMENTS; AND CREATING OFFENSES.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF AUSTIN:

PART 1. City Code Chapter 25-12 is amended to repeal Article 7 (*Fire Code*) and replace it with a new Article 7 to read as follows:

ARTICLE 7. FIRE CODE

§ 25-12-171 INTERNATIONAL FIRE CODE.

(A) The International Fire Code and Appendices B and F, 2021 Edition, published by the International Code Council (“2021 International Fire Code”), are adopted and incorporated by reference into this section with the changes described in Subsection (B) and amendments in Section 25-12-173 (*Local Amendments to the 2021 International Fire Code*).

(B) The following sections are amended or deleted:

| | | | | | | |
|-----------|-------------|---------------|-------------|-------------|------------|-----------|
| 101.1 | 102.7.1 | 102.7.2 | 103.1 | 103.2 | 103.3 | 104.1 |
| 104.1.1 | 104.7 | 104.10 | 104.11.2 | 104.13 | 105.3.1 | 105.5 |
| 105.5.5 | 105.5.9 | 105.5.11 | 105.5.16.1 | 105.5.16.2 | 105.5.16.3 | 105.5.17 |
| 105.5.18 | 105.5.22 | 105.5.23 | 105.5.24 | 105.5.29 | 105.5.34 | 105.5.36 |
| 105.5.39 | 105.5.40 | 105.5.41 | 105.5.42 | 105.5.43 | 105.5.44 | 105.5.45 |
| 105.5.46 | 105.5.47 | 105.5.48 | 105.5.49 | 105.5.50 | 105.5.51 | 105.5.52 |
| 105.6 | 105.6.1 | 105.6.2 | 106.1 | 106.2 | 106.2.1 | 106.2.4 |
| 107 | 108.2.3 | 111.1 | 112.3.2 | 112.3.3 | 112.3.3.1 | 112.3.4 |
| 304.3.3 | 307.2 | 307.4 | 308.1.4 | 308.5 | 308.6 | 308.7 |
| 311.5 | 316.7 | 316.7.1 | 401.3 | 408 | 409 | 503.1 |
| 503.2.1 | 503.2.2 | 503.2.4 | 503.2.6 | 503.2.6.1 | 503.3 | 503.3.1 |
| 503.3.2 | 503.4.1 | 503.7 | 504.1 | 505.1 | 505.3 | 505.3.1 |
| 507.4 | 507.5.1 | 508.1.6 | 510.1 | 510.1.1 | 510.1.2 | 609.2 |
| 611 | 901.6 | Table 901.6.1 | | 901.6.3 | 903.2.1.6 | 903.2.4.2 |
| 903.2.9.3 | 903.3.1.1.1 | 903.3.1.2.1 | 903.3.1.2.2 | 903.3.5 | 903.3.6 | 903.3.9 |
| 904.9 | 904.13 | 904.14 | 905.1 | 905.1.1 | 905.3.4.1 | 905.5.3 |
| 905.4 | 906.1 | 907.1 | 907.2.1.3 | 907.2.3.1 | 907.2.6.4 | 907.2.7 |
| 907.2.8.1 | 907.2.8.2 | 907.2.9 | 907.2.9.1 | 907.5.2.1.1 | 907.6.1.1 | 907.6.2.1 |
| 907.6.7 | 909.5 | 909.6.3 | 909.10.2 | 909.12.4 | 909.18 | 912.1 |
| 912.1.1 | 912.4 | 912.5.1 | 914.5.3 | 916.1 | 916.4 | 916.5 |
| 916.6 | 916.7 | 916.8 | 916.8 | 916.10 | 1001.1 | 1032.2 |
| 1103.4.1 | 1103.4.8 | 1103.4.9 | 1103.5.6 | 1103.6 | 1103.7.6 | 1103.8.3 |

| | | | | | | |
|--------------------|-------------------|---|------------|--------------|------------|------------|
| 1103.8.4 | 1103.9 | 1207.1.1 | 1207.1.2.1 | 1207.6 | 1207.1 | 1207.4.7 |
| 1207.5.3 | 1207.5.4 | Table 1207.6 | | 1207.6.2.3 | 1207.6.6 | 1207.9.1 |
| 2301.1 | 2304.1 | 2304.2 | 2305.1.3 | 2305.2.1 | 2305.5 | 2306.7.6.2 |
| 2312.1 to 2312.8.6 | | 2403.5 | 2701.4 | 3103.5 | 3103.8.2 | 5001.1.2 |
| 5001.2 | 5001.2.3 | 5001.5 | 5001.5.1 | 5001.5.2 | 5001.7 | 5001.7.1 |
| 5001.7.2 | 5001.7.3 | 5001.7.4 | 5001.7.5 | 5001.7.6 | 5001.7.7 | 5001.7.8 |
| 5001.7.9 | Table 5003.1.1(1) | | 5003.2.2.3 | 5003.2.4.3 | 5003.3.1.5 | 5003.9.8 |
| 5004.2 | 5004.2.1 | 5004.2.2 | 5004.2.2.1 | 5004.2.2.5 | 5004.2.2.6 | 5005.1.8.1 |
| 5005.1.12 | | 5306.2 | 5306.2.1 | 5306.2.2 | 5306.3 | 5404.2 |
| 5404.2.1 | 5504.3.1.1 | 5601.1.6 | 5601.2.4 | 5601.2.5 | 5601.2.6 | 5601.4 |
| 5607.4 | 5607.5 | 5607.11.1 | 5607.12.1 | 5607.14 | 5607.16 | 5607.17 |
| 5607.18 | 5608.2.3 | 5703.4.1 to 5703.4.4.5.2 | | 5704.2.9.6.1 | | 5704.2.10 |
| 5704.2.10.1 | | 5704.2.11.2 | | 5704.2.11.3 | | |
| 5704.2.11.4 | | 5803.1.1 | | 6003.1.4.1 | | 6101.2 |
| 6103.2.1.2 | | 6103.2.2 | 6104.2 | 6104.3.2 | 6104.4 | 6107.2 |
| 6108.1 | 6109.11.2 | 6303.1.1.2.1 | | Chapter 80 | | |
| B105.1 to B105.1.2 | | Appendices F, M, M103.2, M103.3, M103.4, M103.5 | | | | |

(C) The following definitions are deleted:

| | | | |
|-----------------------|---------------------|---|-----------------------|
| Group E Day Care | High-hazard Group H | Institution Group I-1 | Institution Group I-2 |
| Institution Group I-4 | Group R-1 | Group R-3 Care Facilities within a Dwelling | |

(D) The city clerk shall retain a copy of the 2021 International Fire Code with the official ordinances of the City of Austin.

§ 25-12-172 CITATIONS TO THE FIRE CODE.

In the City Code, “Fire Code” means the 2021 Fire Code as adopted by Section 25-12-171 (*International Fire Code*), and as amended by Section 25-12-173 (*Local Amendments to the International Fire Code*).

§ 25-12-173 LOCAL AMENDMENTS TO THE FIRE CODE.

Each provision in this section is a substitute for the identically numbered provision deleted by Section 25-12-171(B),(C) (*International Fire Code*) or is an addition to the 2021 Fire Code:

[A]101.1 Title. These regulations shall be known as the Fire Code and hereinafter referred to as “this code.”

30 [A] **102.7.1 Conflicts.** In the event of a conflict between referenced provisions of the
31 International Mechanical Code and the Mechanical Code, the Mechanical Code prevails.
32 In the event of a conflict between referenced provisions of the International Plumbing
33 Code, the International Fuel Gas Code and the Plumbing Code, the Plumbing Code
34 prevails. Where differences occur between the provisions of the Fire Code and the
35 referenced standards, the provisions of the Fire Code prevail.

36 [A] **102.7.2 Provisions in referenced codes and standards.** Unless precedence is
37 specified by another ordinance of the City, where the extent of the reference to a
38 referenced code or standard includes subject matter that is within the scope of this code,
39 the provisions of this code, as applicable, shall take precedence over the provisions in the
40 referenced code or standard.

41 [A] **SECTION 103 FIRE PREVENTION**

42 [A] **103.1 General.** The Austin Fire Department, under the direction of the fire chief, is
43 authorized to implement, administer and enforce the Fire Code.

44 [A] **103.2 Appointment.** The fire chief is appointed by the City Manager in accordance
45 with the policies and procedures of the City of Austin and in compliance with state law.
46 The fire chief serves as the fire code official.

47 [A] **103.3 Deputies.** The fire chief appoints the fire marshal and assistant fire marshals,
48 inspectors, or other employees and delegates duties consistent with the policies and
49 procedures of the Austin Fire Department. Where the terms “fire code official”, “fire
50 chief”, “chief”, “fire department”, or “fire marshal” are used in the Fire Code, the
51 provisions apply to assistant fire marshals, inspectors, engineering professionals, and
52 other fire department employees in the execution of their assigned duties.

53 [A] **104.1 General.** The fire chief is authorized to administer, implement, and enforce
54 the Fire Code; is authorized to render interpretations of the Fire Code; and to adopt
55 policies, procedures, rules and regulations in order to implement the Fire Code. An
56 interpretation rendered or a policy, procedure, rule, or regulation adopted by the fire
57 chief must comply with the intent and purpose of the Fire Code and cannot have the
58 effect of waiving a requirement of the Fire Code. Under the fire chief's direction, the
59 fire department is authorized to enforce all ordinances of the jurisdiction pertaining to:

- 60 1. the prevention of fires;
- 61 2. the suppression or extinguishment of dangerous or hazardous fires;
- 62 3. the storage, use and handling of hazardous materials;
- 63 4. the installation and maintenance of automatic, manual and other private
64 fire alarm systems and fire-extinguishing equipment;

5. the maintenance and regulation of fire escapes;
6. the maintenance of fire protection and the elimination of fire hazards on land and in buildings, structures and other property, including those under construction;
7. the maintenance of means of egress; and
8. the investigation of the cause, origin and circumstances of fire and unauthorized releases of hazardous materials.

[A] 104.1.1 Authorized Personnel. The fire chief and members of the fire department assigned to enforce the Fire Code are authorized to issue citations for violations of the Fire Code.

[A] 104.10 Alternative materials and methods. The provisions of the Fire Code are not intended to prevent the installation of any material or to prohibit any method of construction not specifically prescribed by the Fire Code, provided that any such alternative has been approved. The fire chief is authorized to approve an alternative material or method of construction where the fire chief finds that the proposed design is satisfactory and complies with the intent of the provisions of the Fire Code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. The owner, lessee, or a representative shall apply for approval of an alternate material or method in writing, detailing the specifics of the alternate materials or methods including evidence of equivalence with the prescribed requirements of the Fire Code. If the alternative means or methods also involves matters regulated by the Building Code, the alternative means or methods is also subject to the approval of the building official.

[A] 104.13 Authority of the Chief. The fire chief, or the fire chief's designee, may order the evacuation of or cessation of its use or operation of any area, premises, building, building under construction, or vehicle that is or is in imminent danger of becoming a fire hazard, becoming a chemical exposure hazard, or becoming a life or health hazard as a result of flooding or other dangerous condition.

[A] 105.3.1 Expiration. An operational permit remains in effect until reissued, renewed, revoked, or for such a period of time as specified in the permit. Construction permits are issued and administered consistent with the Building Code. Unless otherwise provided in the Fire Code, permits are not transferable and any change in occupancy, operation, tenancy or ownership requires a new permit.

105.5 Required operational permits. The fire code official may issue an operational permit for an operation, practice, or function described in this section.

105.5.2 Aerosol products, aerosol cooking spray products and plastic aerosol 3 products. Not adopted.

105.5.3 Amusement buildings. Not adopted.

105.5.4 Aviation facilities. Not adopted.

105.5.5 Carnivals and fairs. An operational permit is required to conduct a carnival or fair.

105.5.6 Cellulose nitrate film. Not adopted.

105.5.7 Combustible dust-producing operations. Not adopted.

105.5.8 Combustible fibers. Not adopted.

105.5.9 Compressed gases. An operational permit for compressed gases is required and must comply with Section 105.6.21 (*Hazardous materials*).

105.5.10 Covered and open mall buildings. Not adopted.

105.5.11 Cryogenic fluids. An operational permit for cryogenic fluids is required and must comply with Section 105.6.21 (*Hazardous materials*).

105.5.12 Cutting and welding. Not adopted.

105.5.13 Dry Cleaning. Not adopted.

105.5.15 Exhibits and trade shows. An operational permit is required to operate exhibits and trade shows.

105.5.16 Explosives.

105.5.16.1 Blasting. An operational permit is required to use explosives or blasting agents at an addressed location for a specified period, which is based on the class of permit. Chapter 56 (*Explosives and fireworks*) establishes additional requirements for a blasting operational permit.

1. Class A: 45 days

2. Class B: 120 days

3. Class C: 1 year

4. Class D: 10 days

105.5.16.2 Explosives or Blasting Agents. An operational permit is required for the manufacture, storage, handling, sale, or use explosives, and explosive materials within the scope of Chapter 56 (*Explosives and fireworks*).

Exception: Storage in Group R-3 occupancies of smokeless propellant, black powder and small arms primers for personal use, not for resale and consistent with Section 5606.

105.5.15.3 Fireworks. An operational permit is required to manufacture, store, handle, sell, or use any quantity of fireworks or pyrotechnic special effects.

105.5.17 Fire protection systems. An annual operational permit is required for all fixed fire protection systems in buildings and facilities, including but not limited to fire alarm systems, fire sprinkler systems, commercial kitchen hood suppression systems, and mechanical smoke control systems. A single permit is required for each building or facility and must detail the types and locations of systems present. Inspections and testing that complies with the City of Austin Fire Protection Criteria Manual and any other applicable national standards is a condition of permit approval.

105.5.18 Flammable and combustible liquids. An operation permit for flammable and combustible liquids is required and must comply with Section 105.5.22.2 (*Hazardous materials*).

105.5.19 Floor finishing. Not adopted.

105.5.20 Fruit and crop ripening. Not adopted.

105.5.21 Fumigation and insecticidal fogging. Not adopted.

105.5.22 Hazardous Materials.

105.5.22.1 An operational permit is required to use or possess hazardous materials in a quantity in excess of that described in 105.6.21.2 below and meeting any one of the following criteria:

105.5.22.1.1 Materials with a toxicity rating of 2 or more, as defined in Appendix F.

105.5.22.1.2 Materials with a flammability rating of 2 or more, as defined in Appendix F.

105.5.22.1.3 Materials with an instability rating of 2 or more, as defined in Appendix F.

105.6.21.1.4 Compressed gases, liquefied compressed gases and cryogenic fluids.

105.5.22.2 An operational permit is required to use or possess hazardous materials if the aggregate quantity of each material with the same hazard rating, in the same physical state throughout the facility, is equal to or greater than the following:

MINIMUM AGGREGATE QUANTITY

| <u>Flammability</u> | <u>Rating</u> | <u>Quantity</u> |
|--|-----------------|--|
| <u>4</u> | <u>Extreme</u> | <u>0.5 pounds or 5 gallons</u> |
| <u>3</u> | <u>High</u> | <u>12 pounds or 10 gallons</u> |
| <u>2</u> | <u>Moderate</u> | <u>60 pounds or 120 gallons</u> |
| <u>Toxicity</u> | <u>Rating</u> | <u>Quantity</u> |
| <u>4</u> | <u>Extreme</u> | <u>0.35 ounces or 0.3 fluid ounces</u> |
| <u>3</u> | <u>High</u> | <u>10 pounds or 1 gallon</u> |
| <u>2</u> | <u>Moderate</u> | <u>110 pounds or 55 gallons</u> |
| <u>Instability</u> | <u>Rating</u> | <u>Quantity</u> |
| <u>4</u> | <u>Extreme</u> | <u>0.35 ounces or 0.3 fluid ounces</u> |
| <u>3</u> | <u>High</u> | <u>10 pounds or 1 gallon</u> |
| <u>2</u> | <u>Moderate</u> | <u>110 pounds or 55 gallons</u> |
| <u>Carbon Dioxide System</u> | | <u>101 pounds</u> |
| <u>Compressed gases and liquefied compressed gases</u> | | <u>100 cubic feet @ NTP</u> |
| <u>Cryogenic fluids</u> | | <u>1 gallon</u> |
| <u>Stationary and Mobile Energy Storage System (ESS)</u> | | <u>Energy Capacity or Quantity</u> |
| <u>Capacitor ESS – nameplate rating</u> | | <u>3 kWh</u> |
| <u>Flow batteries – nameplate rating</u> | | <u>20 kWh</u> |
| <u>Lithium ion ESS – nameplate rating</u> | | <u>20 kwh</u> |
| <u>Nickel metal hydride – nameplate rating</u> | | <u>70 kWh</u> |
| <u>Other battery technologies – nameplate rating</u> | | <u>10 kWh</u> |
| <u>Other electrochemical ESS technologies – nameplate rating</u> | | <u>3 kWh</u> |
| <u>Stationary lead-acid batteries - flooded and valve regulated, and Nickel-Cadmium ESS. Mobile ESS utilizing lead acid battery technology are exempt.</u> | | <u>15 gallons</u> |

105.5.22.3 An operational permit is required to dispense liquid fuels, regardless of hazard classification, from tank vehicles into the fuel tanks of motor vehicles at commercial, industrial, governmental or manufacturing establishments. A person may not dispense liquid fuels of any kind from tank vehicles into the fuel tanks of motor vehicles at a residence.

105.5.22.4 The criteria for the rating of hazardous materials are contained in NFPA Standard No. 704 (See Appendix F). The fire chief uses NFPA Standard No. 704 to

assign hazard ratings to hazardous materials. If the NFPA Fire Protection Handbook assigns a material a hazard rating, then that rating is used. When a rating is not provided, the fire chief uses NFPA 704, information contained in Material Safety Data Sheets (MSDS), Appendix E, or other commonly accepted published standards of nationally recognized organizations/authors to classify hazardous materials.

105.5.22.5 Compressed and liquefied gases and cryogenic fluids will be totaled on a quantitative basis for each hazard class. The materials may be reported in pounds or gallons but, for the purpose of regulation, are calculated in cubic feet by the Fire Department.

105.5.22.6 The state of a material (liquid, solid, gas) is based on its physical state at NTP.

105.5.22.7 Materials not requiring a permit. The following materials are not subject to the permitting requirements:

105.5.22.7.1 Inert gases that do not support combustion including argon, helium, krypton, neon, xenon, compressed air, and nitrogen. When stored as cryogenic fluids, these gases are subject to permitting requirements.

105.5.22.7.2 Any material used or stored for household purposes at a private residence.

105.5.22.7.3 Any material contained in a transportation vehicle when the vehicle is not being used for permanent storage.

105.5.22.7.4 Commercial products used at a facility solely for janitorial purposes and maintenance products that are necessary for the immediate, continued operation of equipment at the facility (not to include fuels) and are not for resale. This includes air conditioning refrigerant and pool chemicals when maintained in quantities less than the following:

TABLE 105.5.22.7.4 – MATERIAL LIMITS

| Material | Rating | Quantity |
|--|--------|----------------------|
| Corrosives (i.e. Muriatic Acid) | 3-0-0 | 4 gallons |
| Class 2 Oxidizers Trichloro-s-triazinetriene (trichloroisocyanuric acid) | 3-0-2 | 150 pounds |
| Class 3 Oxidizers Calcium hypochlorite (HTH, Hy-chlor) | 3-0-2 | 110 pounds |
| Air Conditioning Refrigerant | 2-0-0 | 2-30 pound cylinders |

105.5.22.7.5 Materials held solely as pharmaceutical products that are packaged for distribution to, and use by, the general public, except for those materials with a toxic or flammable hazard rating of 3 or more and reactive materials with a rating of 2 or more, based on the criteria in the Fire Protection Manual.

105.5.22.7.6 Any waste material regulated by the State of Texas under Chapter 361, Health and Safety Code, or under Federal regulations must be listed in a permit application, but will not require a permit nor be considered in setting the amount of the permit fee.

105.5.22.7.7 Nuclear and radioactive material(s) regulated by the State of Texas under Chapter 401, Health and Safety Code, or under Federal regulations must be listed in a permit application, but will not require a permit nor be considered in setting the amount of the permit fee.

105.5.22.7.8 Any material contained in a process vessel, except when the process vessel is being used for permanent storage.

105.5.22.7.9 Any material stored in an underground tank that complies with the permit requirements of the Development Services Department, or its successor department, and with the reporting requirements of the U.S. Environmental Protection Agency (EPA) Emergency Planning and Community Right-to-Know Act (EPCRA), also known as Title III of the Superfund Amendments and Reauthorization Act (SARA Title III), and if applicable, with the requirements of the Texas Hazard Communication Act.

105.5.22.7.10 Class II combustible liquids used to fuel emergency generators, located outside of buildings, and in approved tanks or containers less than 275 gallons in size.

105.5.22.7.11. Carbon dioxide systems utilizing high pressure cylinders that are not associated with beverage dispensing applications.

105.5.23 HPM facilities. HPM facilities, including Group H-5 occupancies are required to obtain a hazardous materials permit and must comply with Section 105.6.21.

105.5.24 High-piled storage. A triennial operational permit is required to use a building or portion thereof as a high-piled storage area that exceeds 500 square feet (46m²).

105.5.25 Hot work. Not adopted.

105.5.26 Industrial ovens. Not adopted.

105.5.27 Lumber yards and woodworking plants. Not adopted.

105.5.28 Liquid- or gas-fueled vehicles in assembly buildings. Not adopted.

105.5.29 LP-Gas. An operational permit is required for liquefied petroleum gas and must comply with Section 105.6.21 (Hazardous materials).

105.5.30 Magnesium. Not adopted.

105.5.31 Miscellaneous combustible storage. Not adopted.

105.5.33 Motor fuel-dispensing facilities. Not adopted.

105.5.34 Open burning. An operational permit is required to kindle or maintain an open fire or a fire on a public street, alley, road or other public or private ground. A person must comply with the instructions and stipulations of the permit. An open fire or fire includes trench burners (Section 308.5), mobile incinerators (Section 308.6) and agricultural burning (Section 308.7)

Exception: Recreational fires

105.5.35 Open flames and torches. Not adopted.

105.5.36 Open flames and candles. An operational permit is required to use open flames or candles in connection with an assembly area or the dining area of a restaurant or drinking establishment.

105.5.37 Organic coatings. An operational permit is required for organic coatings and must comply with Section 105.6.21 (*Hazardous materials*).

105.5.39 Places of assembly. An operational permit or appropriate certificate of occupancy is required to operate a place of assembly.

105.5.39.1 An annual operational permit is required to operate a place of assembly where 51% or more of the gross receipts at the location are from alcoholic beverage sales.

105.5.39.2 With concurrence of the Building Official, the fire chief may issue a temporary change of use permit to use a structure for public assembly in accordance with Section 408 of this code.

105.5.41 Private fire hydrants. Not adopted.

105.5.42 Pyrotechnic special effects material. An operational permit is required to use and handle pyrotechnic special effects material.

105.5.43 Pyroxylin plastic. Not adopted.

105.5.44 Refrigeration equipment. Not adopted.

105.5.45 Repair garages and motor fuel-dispensing facilities. Not adopted.

105.5.46 Rooftop heliports. Not adopted.

105.5.47 Spraying or dipping. Not adopted.

105.5.48. Storage of scrap tires and tire byproducts. Not adopted.

105.5.49 Temporary membrane structures and tents. An operational permit is required to operate an air-supported temporary membrane structure or a tent having an area in excess of 100 square feet (9.3 m²), or an aggregate area of multiple tents or membrane structures placed side by side in excess of 400 square feet (37m²).

Exceptions:

1. Tents used exclusively for recreational camping purposes.
2. Funeral tents and curtains or extensions attached thereto, when used for funeral services.
3. Tents that are not attached to, or located within 20 feet (6096 mm) of, a building shall not require a permit unless the tent is in excess of 400 square feet (37 m²).
4. Tents open on all sides which comply with all of the following:
 - 4.1 Individual tents having a maximum size of 700 square feet (65 m²).
 - 4.2 The aggregate area of multiple tents placed side by side without a firebreak clearance of not less than 12 feet (3658mm) shall not exceed 700 square feet (65 m²) total.
 - 4.3 A minimum clearance of 20 feet (6096 mm) to structures and other tents shall be provided.
5. Inflatable playground equipment at one- or two- family residences.
6. Inflatable playground equipment used for less than 24 hours at places of worship or education facilities (for ages served by the 6th grade and younger) when located a minimum of 20 feet from the nearest building.

105.5.50 Tire-rebuilding plant. Not adopted.

105.5.51 Waste handling. Not adopted.

105.5.52 Wood Products. Not adopted.

105.6 Required construction permits. The fire code official may issue construction permits for work as described in Section 105.7.1.

105.6.1 No Separate Construction Permits Required. Construction permits for permanent structures and systems that are issued through the building permit system administered by the Development Services Department, or its successor department.

105.6.2 Temporary membrane structures and tents. A construction permit is required to erect an air supported temporary membrane structure or tent having an

area in excess of 100 square feet (9.3 m²) or an aggregate area of multiple tents placed side by side in excess of 400 square feet (37 m²).

Exceptions:

1. Tents used exclusively for recreational camping purposes.
2. Funeral tents and curtains or extensions attached thereto, when used for funeral services.
3. Tents that are not attached in any way to or within 20 feet (6096 mm) of a building shall not require a permit unless the tent is in excess of 400 square feet (37 m²).
4. Tents open on all sides, which comply with all of the following;
 - 4.1 Individual tents having a maximum size of 700 square feet (65 m²).
 - 4.2 The aggregate area of multiple tents placed side by side without a fire break clearance of not less than 12 feet (3658 mm) shall not exceed 700 square feet (65 m²) total.
 - 4.3 A minimum clearance of 20 feet (3658 mm) to structures and other tents shall be provided.
5. Inflatable playground equipment at one- or two- family residences.
6. Inflatable playground equipment used for less than 24 hours at places of worship or education facilities (for ages served by the 6th grade and younger) when located a minimum of 20 feet from the nearest building.

[A] 106.1 Submittals. Construction documents and supporting data that are part of a site plan or building permit submittal must be submitted consistent with the requirements in Title 25 (Land Development). After building permit review, a shop drawing submittal must be submitted directly to the fire department in two or more sets in such form and detail as required by the fire chief. The construction documents shall be prepared by a registered design professional, licensed fire alarm planning superintendent (APS), or licensed fire sprinkler responsible managing employee (RME) as appropriate and as required by Texas Law. Construction documents must comply with the Fire Code and be consistent with the guidance in the City's "Fire Protection Criteria Manual".

Exception: The fire chief may waive the submission of construction documents and supporting data that is not required to be prepared by a registered design professional if the fire chief finds that the nature of the work applied for is such

that review of construction documents is not necessary to obtain compliance with the Fire Code.

[A] 106.2 Examination of documents. The fire chief shall examine or cause to be examined the accompanying construction documents and shall ascertain by such examinations whether the work indicated and described is in accordance with the requirements of this code the Fire Code.

[A] 106.2.1 Information on construction documents. Construction documents shall be drawn to scale, be on suitable material, and in a media acceptable to the City of Austin Development Services Department, or its successor department and the Austin Fire Department. Scale of reference shall be based on standard US empirical or SI units. A person who submits a shop drawing to the Fire Department that is drawn to a scale other than $\frac{1}{8}"=1'$ or $\frac{1}{4}"=1'$ must pay a fee, set by a separate ordinance, for non-standard drawing scales. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and must show, in detail, that the work will conform to the provisions of this code and relevant laws, ordinances, rules and regulations as determined by the fire code official.

[A] 106.2.4 Approved documents. Construction documents approved by the fire chief are approved with the intent that such construction documents comply in all respects with Fire Code. When plans, specifications, or other construction documents are approved or issued, approval does not authorize a violation of the Fire Code or any other City ordinance, regulation, or requirement. An approval that appears to authorize a person to violate or disregard a provision of the Fire Code is not valid. Review and approval by the fire department does not relieve the applicant of his or her responsibility to comply with the Fire Code. The fire chief may require a person to correct errors in the plans, specifications, or data; and may require a process, building operation, or use to cease when it is carried out in a manner that violates the Fire Code or other City ordinance, regulation, or requirement.

Section 107 FEES

[A] 107.1 Fees. A permit shall not be issued until the fees have been paid.

[A] 107.2 Schedule of fees. Each permit or service fee established in the Fire Code is set by separate ordinance.

[A] 107.4 Work commencing before permit issuance. Any person who commences any work, activity or operation regulated by this code before obtaining the necessary permits shall be subject to a notice of violation and to prosecution as provided in section 109.3 of this code. Any penalties assessed due to prosecution under this code shall be in addition to the required permit or service fees.

[A] 107.5 Related fees. The payment of the fee for the construction, alteration,

removal or demolition of work done in connection to or concurrently with the work or activity authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law.

[A] 107.6 Refunds. The refund policy of the City of Austin and the Austin Fire Department shall be applicable to the over payment of any fees associated with the administration of this code.

108.2.3 Re-inspections. When previously identified violations have not been corrected, a fee shall be assessed for a construction related re-inspection requested by the applicant or contractor. When a scheduled inspection fails, or is cancelled with less than a 24 hour notice, due to the fact that the applicant or contractor was not capable of nor prepared for the inspection to be conducted, a re-inspection fee shall be assessed. The re-inspection fee shall be in an amount set by separate ordinance. No subsequent inspections shall be made until the required fees have been paid and required documentation submitted.

111.1 Appeals. Appeals are handled consistent with Chapter 25-1, Article 7, Division 1 (*Appeals*).

112.3.2 Compliance with orders and notices. Orders and notices of violation issued or served as provided by this code shall be complied with by the owner, operator, occupant or other person responsible for the condition or violation to which the notice of violation pertains. In cases of immediate danger to persons or property, immediate compliance is required. If the building or other premises is not owner occupied, under lease or otherwise, and the order or notice requires additions or changes in the building or premises which would immediately become fixtures and be the property of the owner of the building or premises, such orders or notices shall be complied with by the owner.

Exception: When the owner and the occupant have agreed otherwise between themselves, in which event the occupant shall comply.

112.3.3 Prosecution of violations.

112.3.3.1 A violation of this code is a misdemeanor punishable as set forth in City Code Section 25-1-462 (*Criminal Enforcement*). The filing of a criminal action does not preclude the pursuit of a civil, quasi-judicial, or administrative action for violation of this code.

112.3.3.2 The fire chief may enforce the provisions of this code by pursuing all civil, quasi-judicial, administrative, and criminal actions; all remedies available to a city under state law; or by any combination of remedies available at law or equity. In any court action, the fire official may pursue the collection of attorney's fees and costs; and maximum interest on liens and judgments as allowed by law. The filing of a civil action does not preclude the pursuit of any other action or remedy, whether quasi-judicial, administrative, or criminal. All remedies

authorized under this code are cumulative of all others unless otherwise expressly provided.

112.3.3.3 Citations. Persons operating or maintaining an occupancy, premises or vehicle subject to this code who allow a hazard to exist or fail to take immediate action to abate a hazard on such occupancy, premises or vehicle when ordered or notified to do so by the fire chief shall be guilty of a misdemeanor.

112.3.4 Unauthorized tampering. Signs, notices, orders, tags or seals posted or affixed by the fire chief shall not be mutilated, destroyed or tampered with or removed without authorization from the fire chief.

202.1 Supplemental and replacement definitions. The following definitions in this subsection apply throughout this code and supplement the definitions in Section 202 (*General Definitions*) of the 2021 International Fire Code.

ACCESS ROADWAY. Any road(s) providing access around the perimeter of any building, to a building from a public street, or to a building or its fire department connection from a required fire hydrant.

ALL WEATHER DRIVING SURFACE. Hot mix asphaltic concrete or concrete pavement as per City of Austin Standard Specifications or other alternative roadway methods approved by the fire code official.

AUTOMOBILE WRECKING YARD. An area that stores salvage vehicles.

[B] BED AND BREAKFAST. A private residence having a limited number of sleeping rooms which are available for transient guests who have paid for accommodations. For the different classifications of Bed and Breakfast, refer to Section 25-2-781 (*Bed and Breakfast Residential Use Structures Classified*).

CERTIFICATION. A record of the test, including problems found and corrections made, documenting the actions on approved forms.

CITY. These terms mean the City of Austin, in the Hays, Travis and Williamson Counties the State of Texas. Geographically these terms indicate all territory within the corporate limits of the City of Austin and that territory annexed for limited purpose by the City of Austin in accordance with Article I, Section 7 of the Charter of the City of Austin.

[M] COMMERCIAL COOKING APPLIANCES. Appliances used in a commercial food service establishment for heating or cooking food and which produce grease vapors, steam, fumes, smoke or odors that are required to be removed through a local exhaust ventilation system. Such appliances include deep fat fryers; upright broilers; griddles; broilers; steam-jacketed kettles; hot-top ranges; under-fired broilers (charbroilers); ovens; barbecues; rotisseries; and similar appliances. For the purpose of this definition, a food service establishment shall include any building or a portion thereof used for the

preparation and serving of food for more than 6 hours per week, including food services within a residential board and care facility if the facility serves 12 or more residents.

EXTENSION CORD AND FLEXIBLE CORD. Flexible cord of any length which has one male electrical connector on one end and one or more female electrical connectors on the other end.

FIRE APPARATUS ACCESS ROAD. A road that provides fire apparatus access from a fire station to a facility, building or portion thereof. This is a general term inclusive of all other terms such as fire lane, fire zone, public street, private street, parking lot lane and access roadway.

FIRE COMMAND CENTER. The principal attended or unattended location where the status of the detection, alarm communications and control systems is displayed, and from which the system(s) can be manually controlled.

FIRE DEPARTMENT. The Austin Fire Department.

FIRE DEPARTMENT MASTER KEY. A limited issue key of special or controlled design to be carried by fire department officials in command which will open key boxes on specified properties.

FIRE LANE AND FIRE ZONE. A road, an off-street area, or other passageway developed to allow the passage of fire apparatus that is designated in accordance with this code that is to remain free and clear of parked or standing vehicles in order to provide access to buildings, processes, storage areas or fire appliances in case of fire or other emergency. A fire lane is not necessarily intended to be used by vehicular traffic other than fire apparatus.

HAZARDOUS PRODUCTION MATERIAL (HPM). A solid, liquid or gas associated with semiconductor manufacturing that has a degree-of-hazard rating health, flammability or instability of Class 3 or 4 as ranked by NFPA 704 and which is used directly in research, laboratory or production processes which have, as their end product, materials that are not hazardous. Class II combustible liquids shall also be classified as a hazardous production material when used in the manner described in this definition.

KEY BOX AND KNOX BOX. A secure device with a lock operable only by a fire department master key and containing building entry keys and other keys that may be required for access in an emergency.

INDEPENDENT EXIT/INDEPENDENT STAIRWAY/INDEPENDENT EXIT RAMP. An independent exit, independent stairway, or independent exit ramp is an exit or egress component that does not require the occupant to travel within 10 feet (3.048 m) of another apartment's door or window at any point in the path of egress.

LEGITIMATE COOKING FIRE. A fire kindled within the confines of an appliance or structure manufactured or built for the express purpose of cooking meals for consumption by human. Incidental cooking or warming of foods with an open recreational fire shall not be considered a “legitimate cooking fire”.

LEGITIMATE WARMING FIRE. A fire kindled within the confines of a metal or other non-combustible container at a construction site or other similar outdoor employment location for the sole purpose of allowing employees/workers to warm themselves without having to leave the workplace or construction site.

MOTOR VEHICLE FLUIDS. Liquids which are flammable, combustible or hazardous materials, such as crankcase fluids, fuel, brake fluids, transmission fluids, radiator fluids and gear oil. This definition does not include liquids which are permanently sealed, such as hydraulic fluid within shock absorbers.

OCCUPANCY CLASSIFICATION. For the purpose of the Fire Code, certain occupancies are defined as follows:

[BG] GROUP E, DAY CARE FACILITIES. This group includes buildings and structures or portions thereof occupied by more than six children older than 2 ½ years of age who receive educational, supervision or personal care services for fewer than 24 hours per day. A child care facility that provides care for more than six but no more than 100 children 2 ½ years or less of age, where the rooms in which the children are cared for are located on a level of exit discharge serving such rooms and each of these child care rooms has an exit door directly to the exterior, shall also be classified as Group E.

[BG] Six or fewer children. A facility having six or fewer children receiving such day care shall be classified as part of the primary occupancy.

[BG] Six or fewer children in a dwelling unit. A facility such as the above within a dwelling unit and having six or fewer children receiving such day care shall be classified as a Group R-3 occupancy or shall comply with the Residential Code.

[BG] HIGH-HAZARD GROUP H. High-hazard Group H occupancy includes, among others, the use of a building or structure, or a portion thereof, that involves the manufacturing, processing, generation or storage of materials that constitute a physical or health hazard in quantities in excess of those allowed in control areas complying with Section 5003.8.3, based on the maximum allowable quantity limits for control areas set forth in Tables 5003.1.1(1) and 5003.1.1(2). Hazardous occupancies are classified in Groups H-1, H-2, H-3, H-4 and H-5 and shall be in accordance with this code and the requirements of Section 415 of the Building Code.

[BG] INSTITUTIONAL GROUP I-1. The same meaning as in the Building Code.

[BG] Seven to sixteen persons receiving custodial care. A facility housing not fewer than seven and not more than 16 persons receiving custodial care shall be classified as Group R-4.

[BG] Six of fewer persons receiving care. A facility having six or fewer persons receiving custodial care shall be classified as part of the primary occupancy.

[BG] Six or fewer persons receiving care in a dwelling unit. A facility with six or fewer persons receiving custodial care shall be classified as a Group R-3 occupancy or shall comply with the Residential Code provided an automatic sprinkler system is installed in accordance with Section 903.3.1.3 or with Section P2904 of the Residential Code.

[BG] INSTITUTIONAL GROUP I-2. This occupancy shall include buildings and structures used for medical care on a 24-hour basis for more than six persons who are incapable of self-preservation. This group shall include, but not be limited to, the following: detoxification facilities, hospitals, nursing homes, and psychiatric hospitals.

[BG] Group I-2 Condition 1. This occupancy condition shall include facilities that provide nursing and medical care but do not provide emergency care, surgery, obstetrics or in-patient stabilization units for psychiatric or detoxification.

[B] Group I-2 with six or fewer persons receiving medical care. A facility with six or fewer persons receiving medical care shall be classified as Group R-3 or shall comply with the Residential Code provided an automatic sprinkler system is installed in accordance with Section 903.3.1.3 or Section P2904 of the Residential Code.

[BG] INSTITUTIONAL I-4, DAY CARE FACILITIES. This group shall include buildings and structures not classified above which are occupied by more than six persons of any age who receive custodial care for fewer than 24 hours per day by persons other than parents or guardians, relatives by blood, marriage or adoption, and in a place other than the home of the person cared for. This group shall include, but not be limited to, an adult day care.

[BG] RESIDENTIAL GROUP R Residential Group R includes, among others, the use of a building or structure, or a portion thereof, for sleeping purposes when not classified as an Institutional Group I or when not regulated by the Residential Code. Residential occupancies shall include the following:

[BG] R-1 Residential occupancies containing sleeping units where the occupants are primarily transient in nature, including: boarding houses (transient), hotels (transient), motels (transient), and bed and breakfast operations.

[BG] Group R-3 care facilities within a dwelling. Care facilities for six or fewer persons receiving care that are within a single-family dwelling are permitted to

comply with the International Residential Code, provided an automatic sprinkler system is installed in accordance with Section 903.3.1.3 or Section P2904 of the Residential Code.

Exception: Compliance with Section 903.3.1.3 is not required for adult care and childcare facilities that are within the proprietor's single-family home, provided that the home was constructed and occupied as a residence prior to October 1, 2010.

PERMANENT STORAGE. Storage for a period of over 30 days.

PROCESS VESSEL A container, including the associated piping, used or designed to be used to contain or promote a chemical or physical reaction.

SALVAGE VEHICLE A vehicle which is dismantled for parts or awaiting destruction.

STAIRWAY EXTERIOR A stairway that is open on at least two adjacent sides with 75% of the side with free area, except for required structural columns, beams, handrails and guards. The adjoining areas shall be either yards, courts or public ways. The other sides of the exterior stairway need not be open.

TESTS A complete check of the system under nationally recognized standards to determine that the system operates and functions as designed.

304.3.3 Capacity exceeding 1.5 cubic yards. Dumpsters and containers with an individual capacity of 1.5 cubic yards [40.5 cubic feet (1.15 m³)] or more shall not be stored in buildings or placed within 10 feet (3048 mm) of combustible walls, openings or combustible roof eave lines.

Exceptions:

1. Dumpsters or containers in areas protected by an approved automatic sprinkler system installed throughout in accordance with Section 903.3.1.1 or 903.3.1.2.
2. Storage in a structure shall not be prohibited where the structure is of Type I or Type IIA construction, located not less than 10 feet (3048 mm) from other buildings and used exclusively for dumpster or container storage.

307.2 Permit required. A permit shall be obtained from the fire department emergency prevention division 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, a warming fire, a rubbish fire, or a bonfire. 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. Rubbish includes waste material from the construction or demolition of buildings. For additional requirements concerning trench burning, see

Section 308.5. For mobile incinerators, see Section 308.6. For agricultural burning see Section 308.7.

Exception: A permit is not required for legitimate cooking fires or legitimate warming fires as defined in this chapter.

307.4 Location. When authorized by permits in accordance with Section 307.2, the location for open burning shall not be less than 50 feet (15 240 mm) from any structure, and provisions shall be made to prevent the fire from spreading to within 50 feet (15 240 mm) of any structure. Such fires shall be constantly attended by a competent person with an approved means to extinguish the fire.

Exceptions:

1. Fires in approved containers that are not less than 15 feet (4572 mm) from a structure.
2. Operation of a trench burner shall be in accordance with Section 308.5.
3. Operation of a mobile incinerator shall be in accordance with Section 308.6.
4. Open burning for agricultural purposes may be approved by the fire chief in accordance with Section 308.7.

308.1.4 Residential Barbecue Pits and Incinerators. No person may construct, erect, install, maintain or use any incinerator or barbecue pit or burn any combustible material to constitute a fire hazard by the use or burning or to endanger the life or property of any person. Residential barbecue pits, hibachis or other cooking appliances utilizing charcoal, wood or gas as a fuel may not be stored or used on any balconies of residential occupancies, on other combustible balconies, within five feet measured horizontally from any portion of a combustible building, or within fifteen feet measured along the shortest distance if the pit is located below any portion of a combustible building.

Exception: Detached one- and two-family dwellings.

308.5 Trench Burners. In addition to the provisions of Section 307 of the Fire Code, all trench burners in the City shall comply with the following:

308.5.1 Construction. The trench burner shall be located at the center of a circle three hundred feet in diameter, in which no combustible matter will be located or stored, except for the pile of combustible debris which has been readied for loading into the trench burner pit, except as otherwise provided by law.

1. Pertaining to trees, landscaping, erosion, drainage, or run-off control the surface of the land within the circle shall be cleared of any high grasses, and any trees, brush, and weeds.

2. The pit must be built in the ground and not above grade.
3. The dimensions of the pit shall be 14 feet wide, 40 feet long, and at least 10 feet deep, except in cases where a permit issued to the applicant by the Texas Commission on Environmental Quality (TCEQ) prescribes different dimensions. The ash generated by the operation of the trench burner shall be removed from the trench as necessary to maintain a minimum trench depth of 10 feet.
4. The pit, air blower or fan, and other operating equipment shall be securely enclosed by a locked gate and security fence of a minimum height of eight feet which completely surrounds the pit and equipment at all times when the trench burner is unattended. The top portions of the fence shall consist of at least three runs of barbed wire. The fencing shall not be removed until the pit is closed and filled. An approved Fire Department key lock shall be required to secure the gate.

308.5.2 Location. A trench burner must not be located within 1320 feet of any recreational area, building or structure that is not occupied or used solely by the owner of the property on which the trench burner is constructed.

308.5.3 Hours of Operation. The hours of continuous loading operation shall be between 8:00 a.m. and 4:00 p.m., Monday through Friday. Trench burners may not be operated on Saturday, Sunday or legal holidays.

1. The blower or fan will be allowed to operate an additional two hours from 4:00 p.m. to 6:00 p.m. to ensure cool down after its period of continuous loading operations.
2. The hours of operation may be changed by the fire chief when unusual atmospheric conditions exist.
3. No burning is permitted when air stagnation advisories are in effect for the area in which the trench burner is located.
4. No burning is permitted during periods of high fire hazard weather conditions.

308.5.4 Method of Operation. Material that may be burned is limited to trees, brush, untreated waste lumber, shrubs, roots, bushes, and all untreated wood waste cleared from the site described in the permit application. Combustible debris cleared from other sites may not be burned in the trench burner.

1. All other materials, including but not limited to paper, roofing, shingles, insulation, wiring, treated wood products, metal products, chemicals,

656 plastics, tires and other real or synthetic rubber materials may not be burned
657 in the pit. Flammable or combustible liquids may not be burned except for
658 ignition purposes.

- 659 2. Suitable fire protection shall be present on the site where the trench burner is
660 located during operation. Suitable fire protection consists of a trailer or tank
661 truck fitted with a water tank capable of transporting a 500 gallon water
662 supply to any location on the job site and an approved water delivery system
663 consisting of a pump, at least 100 feet of rubber booster hose having a
664 minimum diameter of three-fourths inch, and either a straight stream or
665 adjustable spray nozzle.
- 666 3. The pit must be closed and filled with dirt within 48 hours after the trench
667 burner operations are discontinued.
- 668 4. Combustible material may not be placed in the trench any higher than three
669 feet below the surface level.
- 670 5. Every trench burner must be attended when in operation. The trench burner
671 shall be completely extinguished before being left unattended.

672 **308.5.5 Permit Application.** The permit application must contain the following:

- 673 1. The name, address, and phone number of the individual or entity that owns
674 the trench burner unit.
- 675 2. The name, address, and phone number of the individual or entity responsible
676 for the operation of the trench burner unit.
- 677 3. A description of the site to be cleared, and the name, address and telephone
678 number of the owner of the property.
- 679 4. An operating schedule including initial date of operation and expected
680 number of weeks of operation.
- 681 5. A copy of the Texas Commission on Environmental Quality permit issued
682 for the construction of the unit, if a permit is required.
- 683 6. A statement from the applicant confirming the applicant will inform the
684 Watershed Protection Department, or its successor department, of the dates
685 the trench burner will be operating.
- 686 7. A description of the type and quantity of petroleum product utilized to ignite
687 the trench burner. If this is to be stored at the site, then the manner of storage
688 and quantity to be stored must be described. The method of igniting the
689 trench burner must be described.

- 690 8. Proof that the applicant has current liability insurance in the amount of
691 \$1,000,000 for personal injuries, and \$500,000 for property damage any
692 time the trench burner is in use.
- 693 9. The payment of the permit fee as established by the City Council.
- 694 10. Certification from the Development Services Department, or its successor
695 department, as required by Article 308.5.6 of this code.
- 696 11. A construction permit from the Texas Commission on Environmental
697 Quality must be obtained if required by Commission rule. If the trench
698 burner is exempt from the Commission permit requirements all conditions of
699 the exemption must be complied with.

700 **308.5.6 Environmental Protection.** The Development Services Department, or its
701 successor department, shall require the following before the issuance of certification:

- 702 1. The bottom of the trench is located at a minimum distance of 50 feet from
703 the water table;
- 704 2. No fissures are located inside or adjacent to the trench;
- 705 3. Ignition fuel shall be limited to combustible liquids, as defined by this code.
706 Approval shall also be granted where an alternative to the use of
707 combustible liquids is used to ignite the trench;
- 708 4. The method of igniting the trench ensures no amount of combustible liquid
709 greater than necessary to ignite the trench will be used; and,
- 710 5. The manner of storage of the product at the site is designed to prevent any
711 leak or accidental discharge, and where applicable, the hazardous materials
712 storage and registration requirements are met; and
- 713 6. An environmental review shall be conducted of the watershed of Lake
714 Austin, Lake Travis, or with the aquifer-related watershed of Barton,
715 Williamson, Slaughter, Big Bear, Little Bear and Onion Creek, including the
716 Edwards Aquifer recharge zone North and South of the Colorado River, all
717 as shown on the hazardous materials storage and registration map on file in
718 the Office of the City Clerk.

719 **308.6 Mobile Incinerators.** All mobile incinerators in the City must comply with the
720 following:

721 **308.6.1 Construction.** Each mobile incinerator must be constructed as follows:

1. Engineered and constructed of material and of a gauge to withstand normal operating temperature of 1200° F or higher without deformation.
2. Chimneys serving mobile incinerators must terminate into a spark arrester having an area not less than four times the net free area of the chimney. Openings shall not permit the passage of spheres having a diameter larger than ½ inch nor block the passage of spheres having a diameter smaller than 3/8 inch.
3. The exterior wall of the mobile incinerator must be of double wall construction. The incinerator must be designed such that the temperature rise above ambient temperature (750° F + 5° F) of any portion of the incinerator accessible to the operator shall not exceed 150° F.
4. Insulation must be installed, or adequate airspace provided, between the external casing and the inner wall as required to meet this temperature limitation.
5. Mobile incinerators must be constructed with a dual combustion chamber of which the secondary chamber must maintain a temperature of 1200° F or higher at all times waste material is being reduced by oxidation caused by heat of combustion.
6. The secondary chamber must be provided with a thermocouple connected to a temperature display for monitoring the temperature.
7. Any design not in compliance with the criteria and appropriate nationally recognized standards must have the construction reviewed and submitted as an alternative method under the seal of a registered professional engineer or a recognized testing laboratory.

308.6.2 Location. No mobile incinerator may be located:

1. Within 10 feet of any property line, and a minimum of 10 feet must be maintained between any incinerator and rubbish, dry grass, weeds, vegetation and other combustible materials.
2. Within 300 feet of any recreational area, residence or structure not occupied or used solely by the owner of the mobile incinerator or the owner of the property on which the mobile incinerator is used.

308.6.3 Hours of Operation. The hours of continuous loading operation shall be between 8:00 a.m. and 4:00 p.m., Monday through Friday. Mobile incinerators may not be operated on Saturday, Sunday or legal holidays.

1. The mobile incinerator may be allowed to operate an additional two hours from 4:00 p.m. to 6:00 p.m. to ensure cool down after its period of continuous loading operations.
2. The fire chief may change the hours of operation when unusual atmospheric conditions exist.
3. No burning is permitted during air stagnation advisories in effect in the area in which the mobile incinerator is located.
4. No burning is permitted during periods of high fire hazard weather conditions.

308.6.4 Method of Operation. Material to be burned in the mobile incinerator is limited to highly combustible waste, paper, wood, cardboard cartons, including up to 10 percent treated papers or plastic scraps.

1. Suitable fire protection must be present within a distance of 20 feet at all times of operation. Suitable fire protection consists of an approved water extinguisher having a minimum rating of 10-A, and one dry chemical portable fire extinguisher with at least a 2A-10BC rating.
2. Material to be incinerated may not be stored within 10 linear feet of any surface of the mobile incinerator's combustion chamber, chimney or hot ashes.
3. The mobile incinerator must be enclosed by a portable security fence of a minimum of four feet, or other equivalent approved barrier, which completely surrounds the mobile incinerator providing a clear space of five feet at all times when the unit is in operation. The fencing may not be removed until the incinerator is cool to the touch.
4. The mobile incinerator must not be moving and must be in a fixed position when operational or cooling.
5. Every mobile incinerator must be attended when in operation. It shall be completely extinguished before being left unattended.

308.6.5 Permit Application. The permit application must contain the following:

1. Name, address, and phone number of the individual or entity that owns the mobile incinerator.
2. Name, address, and phone number of the individual or entity responsible for the operation of the mobile incinerator.

3. Name, address, and phone number of the owner of the property where the mobile incinerator is to be operated.
4. Copy of the Texas Commission on Environmental Quality permit or exemption letter issued for the use of the unit. (See Chapter 382, Health and Safety Code).
5. Proof that the applicant has in effect liability insurance in the amount of \$1,000,000 for personal injuries, and \$500,000 for property damage any time the mobile incinerator is in use.
6. Written permissions of the owner of the property where the mobile incinerator is to be operated.
7. Certification from the Development Services Department, or its successor department, as required by Section 308.6.6 of this code.
8. The payment of the permit fee set by separate ordinance.

308.6.6 Environmental Protection. The Development Services Department, or its successor department, shall require the following before the issuance of certification:

1. A statement that the applicant will not deposit or discharge any waste in a manner that is in conflict with other applicable City Code requirements.
2. A description of the plan for storage and disposal of combustion residue.

308.7 Agricultural Burning. In addition to the provisions of Section 307 of the Fire Code, all agricultural burning in the City shall comply with the following:

308.7.1 Location. The location of any agricultural burning activity shall be limited to property zoned AG consisting of at least 150 contiguous acres. The burn site shall be located at least 50 feet from the nearest property line or agricultural structure and shall be at least 1320 feet from the nearest recreational property (i.e. park), building or structure not owned and occupied or used solely by the owner of the agricultural property.

308.7.2 Environmental conditions. The permit holder shall comply with applicable air quality regulations of the Texas Commission on Environmental Quality (TCEQ) including time limits and atmospheric conditions. Burning shall not be permitted during atmospheric inversions or other conditions that limit dispersion of the smoke plume.

308.7.3 Burning bans. Burning shall not be permitted during any weather related burn bans.

308.7.4 Fuel limitations. Material to be burned is limited to trees, brush, untreated waste lumber, shrubs, roots, bushes, and all untreated wood waste associated with the agricultural property for which the burn permit is issued. Distilled hydrocarbons including liquid fuels, lubricants, synthetic materials, tires, rubber, and plastics shall not be burned under an agricultural burn permit.

Exception: A limited quantity of liquid hydrocarbon fuel may be burned for the sole purpose of initial ignition of organic waste materials.

308.7.5 Insurance. Proof shall be provided at permit application that the applicant has current liability insurance in the amount of \$1,000,000 for personal injuries, and \$500,000 for property damage any time agricultural burning is in progress.

311.5 Placards. Any vacant or abandoned buildings or structures determined to be unsafe pursuant to Section 110 of this code relating to structural or interior hazards shall be marked as required by the Austin Code Department, or the successor department.

311.5.1 Placards for hazards related to emergency response. Any building or structure that is determined to present unique hazards to firefighters during emergency operations shall be protected or marked as required by Section 505.3 of this code.

316.7.1 Unprotected Construction Presenting Hazards To Firefighters in Existing Buildings. When existing buildings, including residential structures, are identified as employing construction methods or materials that have been shown by experience or testing to be associated with early failure or failure with little or no warning under fire exposure, the premises identification markings shall be revised to achieve compliance with Section 505.3.

Exceptions:

1. Buildings protected throughout by automatic fire sprinklers in accordance with 903.3.1.1, 903.3.1.2 or 903.3.1.3.
2. Buildings with a noncombustible or limited combustible membrane that shields the floor or roof construction materials from fire exposure. Such membranes may be constructed using gypsum wallboard of at least ½" nominal thickness, cementous fiberboard of at least ¼ inch nominal thickness, or fire-retardant treated wood (FRTW) of at least ½ inch nominal thickness.

401.3 Emergency responder notification. Notification of emergency responders shall be in accordance with Sections 401.3.1 through 401.3.4.

401.3.1 Emergency events. Except as provided in Section 401.3.4, in the event an unwanted fire occurs, or upon the discovery of a fire, explosion, deflagration, smoke or unauthorized release of flammable, toxic, or hazardous materials on any property, the owner or occupant shall immediately report such condition to the fire department. Building employees and tenants shall implement the appropriate emergency plans and procedures.

401.3.2 Alarm activations. Upon activation of a fire alarm signal, employees or staff shall immediately notify the fire department.

401.3.3 Delayed notification. A person shall not, by verbal or written directive, require any delay in the reporting of a fire or unauthorized chemical release to the fire department.

401.3.4 Emergency Response Teams and Fire Brigades. Facilities complying with Section 5003.9.1 by maintaining on-site emergency response teams (ERT) or industrial fire brigades that comply with the requirements of Occupational Safety and Health Administration (OSHA) regulations in 29 CFR 1910.120 or 29 CFR 1910 Subpart L may, on completion of an audit of compliance by the fire chief (audits may be performed during annual inspections by the fire department) and contingent on continued ERT/fire brigade compliance, develop site-specific procedures for determining reporting requirements based on facility staffing and qualifications.

401.3.4.1 Guidance is published in the Fire Protection Criteria Manual to help assure equitable assessment of site procedures. The procedures must be submitted to the fire chief for review and approval. Maintenance of the ERT or fire brigade shall be verified by a periodic audit during inspections by the Fire Department. This provision does not waive a facility's or organization's reporting obligations under State or Federal regulations.

401.3.4.2 Failure to maintain and provide records of internal responses will result in revocation of the facility's procedural approach to reporting.

SECTION 408 TEMPORARY CHANGE OF USE PERMITS

408.1 Scope. Temporary Change of Use Permits shall be in accordance with this Section. A temporary permit for a facility or building for public assembly use is not intended to be a means for creating a permanent assembly occupancy or use.

408.1.2 Temporary Change of Use To a Public Assembly (TCOU) Permit. A TCOU to a public assembly permit is required for any occupancy not classified as Group A with a gathering of more than 50 people for civic, social, recreational or religious functions. A permit is required for gatherings of 50 or more people confined by fences, walls or similar occupancies.

408.2 Annual Permit Limit. Not more than twelve TCOU permits shall be issued for a given address during a 12-month period. The measurement period shall be based on the date the first permit was approved during a given calendar year.

408.2.1 Permit Duration. The duration of the TCOU permit shall not exceed 14 calendar days.

408.3 Permit Application. A TCOU permit application shall be submitted to the fire department for plan review. Applications and required plan information shall be submitted 21 calendar days prior to the event start date.

408.4 Fire Watch. The Fire Marshal's Office may require a fire watch or standby if additional fire and life safety hazards are identified during plan review.

409 FIRST RESPONDER EMERGENCY PLANS

409.1 Scope. First Responder Emergency Plans shall be plans assembled by AFD to aid First Responders in familiarity with the building and its fire safety features in the event of an emergency. Plans will also aid with annual maintenance inspections.

409.2 Building Floor Plans. At the completion of new projects, the Architect/Engineer shall submit to AFD an electronic set of building floor plan as-builts in an approved format (PDF, DWG, DXF).

409.2.1 Existing Buildings. Existing buildings shall have 3 years to submit building floor plan of AFD.

409.3 Plan Requirements. Building floor plans submitted to AFD shall contain the following information, as applicable:

- (a) Locations of exits, exit passageways, and horizontal exits.
- (b) Location of fire alarm control panel and remote annunciator panel.
- (c) Location of fire department connection.
- (d) Location of all standpipes and hose valve connections.
- (e) Rated wall locations.

503.1 Where required. Fire apparatus access roads shall be provided and maintained in accordance with Sections 503.1.1 through 503.1.5. Where required fire apparatus access roads are located on property other than a public right-of-way, the required fire apparatus access road shall be located within the legal boundaries of the property unless otherwise approved by the fire code official.

503.1.1 Buildings and facilities. Approved fire apparatus access roads shall be provided for every facility, building or portion of a building hereafter constructed or moved into or within the jurisdiction. The fire apparatus access road shall comply with the requirements of this section and shall extend to within 150 feet

(45 720 mm) of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility.

Exceptions:

1. The fire chief is authorized to increase the dimension of 150 feet (45 720 mm) where any of the following conditions occur:

1.1. The building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.

1.2. Fire apparatus access roads cannot be installed because of location on property, topography, waterways, nonnegotiable grades or other similar conditions, and an approved alternative means of fire protection is provided by the owner and has been approved by the fire chief.

1.3. There are not more than two Group R-3 or Group U occupancies.

2. Where approved by the fire code official, fire apparatus access roads shall be permitted to be exempted or modified for solar photovoltaic power generation facilities.

3. Where approved by the fire chief, the fire apparatus access roads for a facility, building or portion of a building hereafter constructed, may be located on adjacent property(s), provided the fire apparatus access roads on the adjacent property(s) are bound in perpetuity to any and all associated properties necessary to comply with the fire apparatus road requirements herein by either a Unified Development Agreement (UDA) or a Joint Use Access Easement (JUAE) that is approved and recorded with the county in which the properties are located.

503.1.4 Approval of Fire Zones on Site Plans. The Director of the Development Services Department, or its successor department, shall submit site plans of proposed commercial developments to the fire chief for his review and approval of the adequacy of fire zones before the issuance of a building permit for the development.

503.1.5 Official records. All required fire apparatus access roads that are not located within a public right-of-way shall be registered with the fire department.

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 25 feet (7620 mm), except for approved security gates in accordance with Section 503.6 and the Fire Protection Criteria Manual, and an unobstructed vertical clearance of not less than 14 feet (4267 mm).

Exceptions.

1. The unobstructed roadway width may be reduced to less than 25 feet for all or part of the required roadway so long as the access road complies with the appropriate minimum street width for dedicated City streets, and
 - a. Such fire access roadways, or portions of such roadways, which are less than 25 feet wide are not in locations where aerial apparatus deployment could be necessary to achieve control and/or extinguishment of a fire, and
 - b. Turning radii are adequate for maneuvering Fire Department and other emergency services vehicles.
2. The unobstructed roadway width may be reduced to less than 25 feet for all or part of the required roadway so long as the access road complies with the appropriate minimum street width for dedicated City streets and
 - a. The access roadway is part of a system of roadways or driveways that include interconnected public and/or private roads or driveways that provide multiple pathways for emergency vehicles to access the structures served by the roadway system, provided that a fire vehicle blocking the roadway within the narrowed length will not create a dead-end road segment in excess of 150 feet long.
 - b. The width of each segment is sufficiently wide to accommodate the deployment of emergency vehicles anticipated for that segment during a potential emergency (e.g. outrigger placement and aerial operations for fires in multi-story structures), and turning radii are adequate for maneuvering Fire Department and other emergency services vehicles.
 - c. Divided roadways serving as fire lanes are allowed to consist of two lanes each 15 feet wide, one on each side of the division in locations where aerial operations are not anticipated.

503.2.2 Authority. The fire chief shall have the authority to require an increase in the minimum access widths where they are inadequate for fire or rescue operations or to permit a decrease in width when necessary to meet the public safety objectives of the City of Austin provided the street or access roadway remains compliant with 503.2.1.

503.2.4 Turning radius. The required inside turning radius of a fire apparatus access road shall be 25 feet (7.62 m). The required outside turning radius of a fire apparatus access road shall be 50 feet (15.24 m).

503.2.6 Bridge and elevated surfaces. Where a bridge or an elevated surface is part of a fire apparatus access road, the bridge shall be constructed and maintained in accordance with AASHTO HB-17 or the latest addition of AASHTO Load and Resistance Factor

Design accepted by the Texas Department of Transportation. Bridges and elevated surfaces shall be designed for a live load sufficient to carry the imposed loads of fire apparatus. Vehicle load limits shall be posted at both entrances to bridges where required by the fire chief. A designated fire lane shall be maintained for the purpose of vehicle access and shall prohibit obstructions as per Section 503.3. The entire bridge deck or elevated surface shall be designed and maintained to support fire apparatus operations as required and approved by the fire chief.

503.2.6.1 Operational and outrigger loads. Where an elevated surface or structure or portions of a structure are subject to operational loads with deployment of outriggers utilizing a crane, lift or ladder, the structure shall be designed and maintained to support the following independent static loading conditions as required and approved by the fire chief: 1) a load of 43,200 pounds on one outrigger and 2) a load of 28,600 pounds on each of two adjacent outriggers with 18 feet of separation on centers (the total load is 57,200 pounds.) The contact area of each outrigger is 24 inches × 24 inches. In addition to verifying that special inspections per the Building Code, the design engineer of record shall make periodic construction observations and upon substantial completion of the work, the design engineer shall provide the fire chief an engineer's letter of concurrence that the work and materials were installed in substantial conformance with the fire chief's record document.

503.3 Designation, Location, and Maintenance of Fire Zones Official Records. All fire apparatus access roads required by Sections 503.1.1 and 3206.6 and that are out of the public right-of-way, are designated as fire zones or fire lanes, to maintain the required unobstructed clearance in accordance with Section 503.2.1 as amended. The fire department will keep records of the designation and location of fire zones and fire lanes.

Exception: Fire apparatus access roads between aisles of parking or under porte cocheres need not be designated as fire zones.

503.3.1 Tow Away Zones. All fire zones and fire lanes shall be designated as tow away zones. The designation of the fire zones or fire lanes does not make the City responsible for the maintenance of the fire zones or fire lanes on private property, but the owner of the property continues to be responsible for the maintenance of the area.

503.3.2 Signs and Identification Markers Designating Fire Zones/Fire Lanes. After designation of a fire zone or fire lane under this article, the fire chief shall give notice of the designation to the owner of the property, directing the owner to cause, at the expense of the owner, markings to be painted on any areas designated as a fire zone or fire lane. The markings must be red with white stenciling reading "FIRE ZONE/TOW AWAY ZONE" or "FIRE LANE/TOW AWAY ZONE" in lettering at least three

inches in height. The stenciling shall be at intervals of 35 feet or less. In addition, the owner shall cause signs to be posted at both ends of a fire zone or fire lane and at each entry and exit point which constitutes a portion of the fire zone or fire lane. Alternative marking of fire zones and fire lanes may be approved by the fire chief provided fire zones or fire lanes are clearly identified at both ends and at intervals not to exceed 35 feet and are clearly marked "Tow Away Zones" at least every 35 feet. The signs shall be installed with the top of the sign no higher than eight feet above grade and no less than five feet above grade.

503.4.1. Traffic calming devices. Geometric street features intended to mitigate unsafe traffic conditions such as speeding or excessive cut-through traffic shall be designed to address both traffic safety and emergency access requirements. Approved street features shall mitigate the traffic conditions identified by the city traffic engineer while providing for adequate emergency vehicle access to the satisfaction of the fire department.

503.7 Persons authorized to Issue Citations. A citation for a charge of parking, standing, or stopping in a fire zone or fire lane in violation of this article may be issued by a licensed peace officer employed by the City, an employee of the Fire Department designated by the fire chief, an employee of the City authorized to issue tickets for parking violations by the City Code, or a private security guard employed by an agency operating under either a license or a letter of authority issued by the Texas Board of Private Investigators and Private Security Agencies, and who is employed by the owner or lessee of the property on which a fire zone has been established.

504.1 Required Access. Exterior doors and openings required by the code or the International Building Code shall be maintained accessible for emergency access by the fire department. An approved access walkway constructed of approved materials at least 36 inches in width leading from fire apparatus access roads to exterior openings shall be provided when required by the fire chief. The walkway shall be constructed in accordance with Section 1003.4.

505.1 Address identification. New and existing buildings shall be provided with approved address identification in accordance with the Fire Protection Criteria Manual.

505.3 Premise Hazard Identification Signs. Structures that the fire chief deems to have the potential to present an unusual level of hazard to firefighters during fire ground operations shall be identified such that it is readily identifiable to responding fire department personnel. Such structures may or may not present obvious dangers to the occupants of the building when no fire is present. Potentially hazardous structures may be identified as prescribed by this code, by the Building Code, or by fire department safety policies and procedures.

505.3.1 Hazardous Address Numbering. Structures that are required to be readily identifiable by responding fire department personnel shall have unique address numbering signs. The signs shall be installed on all sides of the building facing emergency vehicle access established in accordance with Section 503 or facing an approach directly from public rights-of-way. Signs will consist of the address numbers of the building in 8-inch tall white numbers on a solid red background. The address numbers will be oriented vertically. The signage will be reflective to be visible at night, weather resistant and permanent.

507.3 Fire flow. Fire flow requirements for buildings or portions of buildings and facilities shall be determined in accordance with Appendix B of the Fire Code.

507.4 Water supply test. The fire department emergency prevention division shall be notified prior to the water supply test. Water supply tests shall be conducted by or witnessed by the fire department emergency prevention division.

507.5.1 Where required. Where a portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than 400 feet (122 m) from the nearest hydrant on a fire apparatus access road or more than 500 feet (152 m) from secondary hydrants needed to supply the minimum fire flow, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains shall be provided where required by the fire chief.

Exceptions:

1. For Group R-3 and Group U occupancies, the distance requirement shall be 600 feet (183 m).
2. For buildings equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the distance requirement for all required fire hydrants shall be 500 feet (152 m).

507.5.3 Private fire service mains and water tanks. Private fire service mains, including private fire hydrants and water tanks, shall be inspected, tested and maintained consistent with NFPA 25, *Standard for Inspection, Testing and Maintenance of Water-Base Fire Protection Systems*; the *Fire Criteria Manual* and the American Water Works Association (AWWA) Manual M-17, *Installation, Field Testing and Maintenance of Fire Hydrants* at the following intervals:

1. Private fire hydrants (all types): Inspection annually and after each operation; flow test and maintenance annually to ensure proper functioning in accordance with the following:
 - a. Private fire hydrants shall be flushed annually. Chlorine residual tests will be performed on all private hydrant systems not separated from potable water

uses by an approved back-flow prevention device. The unseparated hydrants shall be flushed until the free chlorine residual meets or exceeds the 0.2 mg/l minimum established by the Texas Commission on Environmental Quality in Section 290.46(f)(1) of the Rules and regulations for Public Water Systems. Chlorine residual shall be determined using the N,N-diethyl-p-phenylenediamine (DPD) method.

b. Static testing shall be performed in accordance with AWWA Manual M-17, Installation, Field Testing and Maintenance of Fire Hydrants, Chapter 4.

c. Flow tests shall be conducted in accordance with Manual M-17, Installation, Field Testing and Maintenance of Fire Hydrants, Chapter 6.

2. Fire service main piping: Inspection of exposed, annually; flow test every 5 years.

3. Fire service main piping strainers: Inspection and maintenance after each use.

507.5.7 Fire-protection equipment and fire hydrants. Fire-protection equipment and fire hydrants shall be clearly identified in an approved manner to prevent obstruction by parking and other obstructions.

All fire hydrants shall be painted in accordance with City of Austin Standard Specifications. With the approval of the fire chief, private hydrants may be painted an alternate reflective color; multi-colored hydrants are prohibited. When required by the chief, hydrant locations shall be identified by the installation of reflective markers.

507.6 Protection of potable water systems. Fire hydrants and the supply piping to them which contain chemicals or additives shall be separated from sources of potable water by a reduced pressure backflow assembly installed at the connection to the potable water system. Backflow assemblies shall be operationally tested and maintained in accordance with Chapter 15-1 (*Cross-Connection Regulations*).

Private fire hydrants located at a distance from a flowing water service such that the volume of water in the hydrant lead is more than 100 gallons shall have backflow prevention protection as required by Chapter 15-1 (*Cross-Connection Regulations*).

Private fire hydrant systems not maintained, flushed and tested for chlorine residual in accordance with Section 507.5.3, item 1 a. shall be provided with backflow prevention protection in accordance with Chapter 15-1 (*Cross-Connection Regulations*).

507.6.1 Special inspections. Austin Water Utility shall inspect private property to identify each existing private fire hydrant connected to the City's potable water distribution system. The owner of the property or the water service customer shall bear the costs and the responsibility to provide a flushing and maintenance program in

1146 accordance with Section 507.5.3 or to provide backflow prevention protection in
1147 accordance with Chapter 15-1 (*Cross-Connection Regulations*).

1148 Further modifications shall be made by, and at the expense of, the property owner or
1149 water service customer as necessary to correct any water supply deficiencies (flow or
1150 pressure) resulting from the installation of required backflow prevention protection
1151 assemblies.

1152 **508.1.6 Required Features.** The fire command center shall comply with NFPA 72 and
1153 shall contain the following features:

1154 Items 1 through 6 remain unchanged.

- 1155 7. Controls for unlocking stairway doors simultaneously. Stairways doors shall be
1156 physically unlocked by UL listed fire alarm system components. The unlocking
1157 means shall be a red light switch mounted on the wall in the command room with
1158 appropriate signage or other approved method.

1159 Items 8 through 13.3 remain unchanged.

1160 **13.4** Exit access stairway and exit stairway information that includes: number of exit
1161 access stairways and exit stairways in building, each exit access stairway and exit
1162 stairway designation and floors served; location where each exit access stairway
1163 and exit stairway discharges; interior exit stairways that are pressurized; exit
1164 stairways provided with emergency lighting; each exit stairway that allows reentry;
1165 exit stairways providing roof access; elevator information that includes: number of
1166 elevator banks, elevator bank designation, elevator car numbers and respective
1167 floors that they serve; location of elevator machine rooms, control rooms and
1168 control spaces; location of sky lobby; location of freight elevator banks; location of
1169 the Fire-fighters Service Access Elevator banks when applicable; and location of
1170 Occupant Evacuation Elevator banks when applicable.

1171 Items 14 through 18 remain unchanged.

1172 **510.1 Emergency responder communication coverage in buildings.** Approved in-
1173 building, two-way emergency responder communication coverage for emergency
1174 responders shall be provided in all new buildings. In-building, two-way emergency
1175 responder communication coverage within the building shall be based on the existing
1176 coverage levels of the public safety communication systems utilized by the jurisdiction,
1177 measured at the exterior of the building. This section shall not require improvement of
1178 the existing public safety communication systems.

1179 **Exceptions:** Where it is determined by the fire chief that the radio coverage system
1180 is not needed.

605.4 Fuel oil storage systems. Fuel oil storage systems for building heating systems shall be installed and maintained in accordance with this code. Tanks and fuel-oil piping systems shall be installed in accordance with the Mechanical Code. Aboveground storage tanks and piping for generators shall comply Chapter 57.

605.4.1.2 Fuel oil storage for stationary generators. Aboveground outdoor fuel oil storage for stationary generators in quantities exceeding 660 gallons shall meet the following requirements.

- (1) All storage must be located 50 ft. from a property line that is or can be built upon, including the opposite side of a public way.
- (2) For installations storing all fuel oil in UL 2085 Aboveground Storage Tank, the distance from a property line that is or can be built upon, including the opposite side of a public way shall be in accordance with NFPA 30.
- (3) All tank openings shall be above the tank liquid level
- (4) All installations exceeding an aggregate volume of 20,000 gallons (75708 L) shall be subject to public notification requirements of Section 5704.2.9.6.1, Exception 3.

605.4.2 Fuel oil storage inside buildings. Fuel oil storage inside buildings shall comply with Sections 605.4.2.2 through 605.4.2.8 and Chapter 57.

605.4.2.1 Approval Indoor fuel oil storage tanks shall be in accordance with UL 80, UL 142 or UL 2085.

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

- (1) 120 gallons of Class II combustible liquid in unsprinklered buildings where stored in a tank complying with UL 80, UL 142 or UL 2085.
- (2) 330 gallons of Class III combustible liquid in unsprinklered buildings where stored in a tank complying with UL 80, UL 142 or UL 2085.
- (3) 660 gallons (2498 L) in buildings equipped with an *automatic sprinkler* system in accordance with Section 903.3.1.1, where stored in a tank complying with UL 80, UL 142 or UL 2085.
- (4) 3,000 gallons (11 356 L) in a building equipped with an automatic sprinkler system in accordance with Section 9-3.1.1, when all of the following are met:
 - (a) All storage is in protected aboveground tanks complying with UL 2085 and Section 5704.2.9.7.
 - (b) Tanks are listed as secondary containment tanks as required by UL 2085 and the secondary containment is monitored visually or automatically.

- (c) All storage is located 6 stories or less above the lowest level of fire department access.
- (d) All piping for the tanks above the ground level have welded connections except where replaceable components are installed

605.4.2.3 Restricted use and connection. Tanks installed in accordance with Section 605.4.2 shall be used only to supply fuel oil to fuel-burning equipment, generators or fire pumps installed in accordance with Section 605.4.2.5. Connections between tanks and equipment supplied by such tanks shall be made using closed piping systems In accordance with the Mechanical Code. Closed piping systems for generators shall comply with Chapter 57.

605.4.2.6 Separation. Rooms containing fuel oil tanks for internal combustion engines shall be separated from the remainder of the building by *fire barriers, horizontal assemblies*, or both, with a minimum 1-hour *fire-resistance rating* with 1-hour fire-protection-rated *opening protectives* constructed in accordance with the Building Code.

[M] 609.2 Where required. A Type I hood shall be installed at or above all commercial cooking appliances and domestic cooking appliances used for commercial purposes that produce grease vapors.

Exception: A Type I hood shall not be required for an electric cooking appliance where an approved testing agency provides documentation that the appliance effluent contains less than 5 mg/m³ or less of grease when tested at an exhaust flow rate of 500 CFM (0.236 m³/s) in accordance with UL 710B. The appliance component controls and safety interlocks shall be inspected in accordance with the manufacturer installation instructions by qualified service personnel a minimum of once every 6 months and results of the inspection shall be available on the premises for review by the fire chief. When provided, automatic fire extinguishing systems shall be in accordance with Section 904.12.

611 Automated External Defibrillator (AED) in High-Rise Buildings

611.1 Locations. All buildings that have occupied floors located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access shall have at least one Automated External Defibrillator (AED) located on each occupied level.

Exception: The provisions of this section shall not apply to the following buildings and structures:

- (1) Airport traffic control towers in accordance with Section 412.2 of the Building Code.
- (2) Open parking garages in accordance with Section 406.5 of the Building Code.

- (3) Group A-5 occupancies in accordance Section 303.6 of the Building Code.
- (4) Group H-1, H-2 or H-3 in accordance with Section 415 of the Building Code.

611.2 Type. All AEDs used in high-rise buildings must be of the type approved by the United States Food and Drug Administration (FDA).

611.3 Accessibility. All AEDs must be available for public use.

1. All AEDs shall be located in the elevator lobby unless otherwise approved by the fire chief.
2. Standard industry accepted signs shall mark the location of each AED.

611.4 Maintenance. All AEDs shall be maintained and tested according to manufacturer recommendations.

1. Maintenance records shall be kept for a period of 1 year.
2. Disposable supplies (Defibrillation pads) shall be replaced upon their expiration date or following use.

611.5 Medical Direction. A licensed physician shall be involved to ensure compliance with the requirements of the Health and Safety Code, chapter 779, Automated External Defibrillators.

611.6 Training. The person or entity that acquires an AED shall ensure that users are trained in cardiopulmonary resuscitation (CPR) and use of the automated external defibrillator (AED) in a course approved by the Texas Department of State Health Services

611.7 Notifying Emergency Medical Services Providers. Upon acquisition of an AED, the person or entity shall notify the Fire Department AED Coordinator of the existence, location and type of AED.

901.6 Inspection, testing and maintenance. Fire detection, alarm, and extinguishing systems, mechanical smoke exhaust systems, mechanical smoke control systems and smoke and heat vent systems shall be maintained in an operative condition at all times, and shall be replaced or repaired where defective. Non-required fire protection systems and equipment shall be inspected, tested and maintained or removed.

TABLE 901.6.1 FIRE PROTECTION SYSTEM MAINTENANCE STANDARDS.

| SYSTEM | STANDARD |
|--|----------|
| Portable fire extinguishers | NFPA 10 |
| Carbon dioxide fire-extinguishing system | NFPA 12 |

| | |
|---------------------------------------|-----------|
| Halon 1301 fire-extinguishing systems | NFPA 12A |
| Dry-chemical extinguishing systems | NFPA 17 |
| Wet-chemical extinguishing systems | NFPA 17A |
| Water-based fire protection systems | NFPA 25 |
| Fire alarm systems | NFPA 72 |
| Smoke and heat venting systems | NFPA 204 |
| Mechanical smoke control systems | NFPA 92 |
| Water-mist systems | NFPA 750 |
| Clean-agent extinguishing systems | NFPA 2001 |

901.6.3 Records. Records of all system inspections, tests and maintenance required by the referenced standards shall be maintained on the premises for a minimum of three years and shall be copied to the fire chief upon request.

903.2.1.6 Assembly occupancies on roofs. Where an occupied roof has an assembly occupancy with an occupant load exceeding 100 for Group A-2 and 300 for other Group A occupancies, all floors between the occupied roof and the level of exit discharge shall be equipped with an automatic sprinkler system in accordance with Section 903.3.1.1.

Exception: Open parking garages of Type I or II construction.

903.2.4.2 Group F-1 distilled spirits and beverages. An automatic sprinkler system shall be provided throughout a Group F-1 fire area used for the manufacture or mixing of over 20% by volume (15.8% by weight) of ethyl alcohol distilled spirits in an aqueous solution in a volume exceeding the Maximum Allowable Quantity per Control Area.

[BG] 903.2.8.1.1 Group R-1 Bed and Breakfast occupancies. Compliance with Section 903.2.8 (*Group R*) is not required for a single structure Group R-1 Bed and Breakfast occupancy as defined in Section 25-2-781 (*Bed and Breakfast Residential Use Structures Classified*) when the owner resides within the Bed and Breakfast occupancy and provided that:

- (1) the structure is a detached single family home that was legally constructed and occupied as a single family residence prior to January 1, 2006;
- (2) the total number of sleeping rooms has not been increased after January 1, 2006;
- (3) the residence is protected by a monitored residential style fire/security system with an appropriate automatic smoke detection system installed throughout the residence with occupant notification devices in accordance with Section 907.5; and
- (4) the residential style fire/security system shall be inspected, tested and maintained in accordance with Section 907.8.

903.3.1.1.1 Exempt locations. When approved, automatic sprinkler protection shall not be required in the following rooms or areas where such rooms or areas are protected with an approved automatic fire detection system in accordance with Section 907.2 that will respond to visible or invisible particles of combustion. Sprinklers shall not be omitted from a room merely because it is damp, of fire-resistance-rated construction or contains electrical equipment.

(1) Provision remains unchanged.

(2) Transformer rooms owned and operated by an electric utility and separated from the remainder of the building by walls and floor/ceiling or roof/ceiling assemblies having a fire-resistance rating of not less than two hours. The automatic fire detection system for exempt locations is not required.

(3) Provision remains unchanged.

(4) Provision remains unchanged.

(5) Provision remains unchanged.

903.3.1.2.1 Balconies and decks. Sprinkler protection shall be provided for exterior balconies, decks and ground floor patios of dwelling units and sleeping units where the either of the following conditions exists:

(1) the building is of Type V construction, or of Type III construction if the balcony or deck is framed with wood, provided there is a roof or deck above;
or

(2) exterior balconies, decks, and ground floor patios of dwelling units and sleeping units are constructed in accordance with Section 705.2.3.1, Exception 3 of the Building Code.

Sidewall sprinklers that are used to protect such areas shall be permitted to be located such that their deflectors are within 1 inch (25 mm) to 6 inches (152 mm) below the structural members and a maximum distance of 14 inches (356 mm) below the deck of the exterior balconies and decks that are constructed of open wood joist construction.

903.3.1.2.2 Balcony closets. Sprinkler protection shall be provided for all balcony closets.

Section 903.3.5 Water supplies. Water supplies for automatic sprinkler systems shall comply with this section and the standards referenced in Section 903.3.1. Fire hydrant flow tests shall be in accordance with Section 507.4. Protection of potable water supplies shall be in accordance with Section 507.5.6.

903.3.5.3 Water supplies designed for automatic sprinkler systems shall provide a safety factor of ten pounds per square inch gauge (PSIG). The safety factor shall be based on the calculated system design flow and pressure.

Exception: A safety factor less than those defined in this Section may be approved by the fire chief only if historical water supply data is available to demonstrate that reasonable expected fluctuations will not cause the water supply to fall below the system demand.

903.3.5.4 Hose Stream Demand. The minimum calculated hose stream demand for Type V-B and Type V-A construction, as defined in the Building Code, shall be a minimum of 250 Gallons Per Minute (GPM).

903.3.6 Hose threads. Fire hose threads and fittings used in connection with automatic sprinkler systems shall be approved and shall be National Standard Hose Thread.

903.3.9 Flexible Sprinkler Hose Fittings. Flexible hoses used in automatic sprinkler systems shall be limited in length to a maximum of 6 feet. The extinguishing agent shall pass through a maximum of one 6-foot section before discharging from the sprinkler orifice (head). Approval of shop drawing submittals shall be required for all uses of flexible hose sprinkler piping, and where more than one flexible hose sprinkler drop is used in a remodel application, the adequacy of the water supply shall be verified by hydraulic calculations.

903.4.2 Alarms. A listed fire alarm bell, located on the exterior of the building in an approved location, shall be connected to each automatic sprinkler system. The fire alarm bell shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Where a fire alarm system is installed, actuation of the automatic sprinkler system shall actuate the building fire alarm system.

904.9 Halon systems. Halogenated extinguishing systems shall be installed, maintained, and periodically inspected and tested in accordance with NFPA 12A and their listing. The conditions of approval of all Halon automatic fire-extinguishing systems shall include (i) a demonstration of need acceptable to the fire chief detailing a critical need for the system such as a direct effect on life safety that cannot be adequately addressed by other types of suppression systems, and (ii) an approved method of testing that does not include the intentional release of Halon gas.

904.13 Commercial cooking systems. The automatic fire-extinguishing system for commercial cooking systems shall be of a type recognized for protection of commercial cooking equipment and exhaust systems of the type and arrangement protected. Each pre-engineered automatic dry- and wet-chemical extinguishing system shall be tested in accordance with UL 300 and listed and labeled for its intended application. Other types of extinguishing systems shall be listed and labeled for specific use as protection for commercial cooking operations. The system shall be installed in accordance with this

code, its listing and the manufacturer's installation instructions. Automatic fire suppression systems of the following types shall be installed in accordance with the referenced standard indicated, as follows:

1. Carbon-dioxide extinguishing systems, NFPA 12.
2. Automatic sprinkler system, NFPA 13.
3. Foam-water sprinkler system or foam-water spray systems, NFPA 16.
4. Dry-chemical extinguishing systems, NFPA 17.
5. Wet-chemical extinguishing systems, NFPA 17A.

Exception 1: Factory-built commercial cooking recirculating systems that are tested in accordance with UL 710B, and listed and installed in accordance with Section 304.1 of the Mechanical Code.

Exception 2: With the concurrence of the building official, commercial cooking equipment used intermittently for periods which total less than 6 hours per week may be served by a Type II ventilation hood without fixed fire suppression. A portable fire extinguisher rated for commercial cooking applications shall be provided.

904.13 Domestic cooking systems facilities. in Group I-2 Condition 1. Cooktops and ranges installed in the following occupancies shall be protected in accordance with Section 904.14.1:

- (1) In Group I-1 occupancies where domestic cooking facilities are installed in accordance with Section 420.9 of the Building Code.
- (2) In Group I-2 occupancies where domestic cooking facilities are installed in accordance with Section 407.2.7 of the Building Code

Exception: I-2 Foster Care facilities providing care for 6 or fewer children 2.5 years of age or younger.

905.1 General. Standpipe systems shall be provided in new buildings and structures in accordance with this section. Fire hose threads used in connection with new fire standpipe systems shall be approved and shall be National Standard Hose Thread. Except as otherwise approved by the fire chief, existing standpipe fire hose threads shall be national standard hose thread. The location of fire department hose connections shall be approved. In buildings used for high-piled combustible storage, hose connections shall be in accordance with Chapter 32 (*High-Piled Combustible Storage*).

905.1.1 Hose. With the concurrence of the building official, hoses need not be installed or maintained on standpipes of any class when the occupancy does not provide training in the use of standpipe hose and the employees, residents, or other regular occupants of the occupancy are trained or instructed to evacuate and evacuation drills are conducted at intervals agreed on by the owner or agent and the fire department.

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

- (1) In every required interior exit stairway, a hose connection shall be provided for each story above and below grade plane. Hose connections shall be located at the intermediate floor landing unless otherwise approved by the fire chief.

Items 2 through 4 and item 6 remain unchanged

- (5) Where the roof has a slope less than four units vertical in 12 units horizontal (33.3-percent slope), a hose connection shall be located to serve the roof or at the highest landing of a stairway with stair access to the roof provided in accordance with Section 1009.16. An additional hose connection shall be provided at the top of the most hydraulically remote standpipe for testing purposes.

905.5.3 Class II system hose. If installed, the minimum diameter for standpipe hose shall be 1½-inch (38 mm) and such hose shall be listed for this service.

907.2 Where required, new buildings and structures. An approved manual, automatic or manual and automatic fire alarm system installed in accordance with the provisions of this code and NFPA 72 shall be provided in new buildings and structures in accordance with Sections 907.2.1 through 907.2.23 and provide occupant notification in accordance with Section 907.6, unless other requirements are provided by another section of this code. The fire alarm control panel or a full function remote annunciator shall be installed at the main entrance for use by fire department personnel.

A minimum of one manual fire alarm box shall be provided in an approved location to initiate a fire alarm signal for fire alarm systems employing automatic fire detectors or water-flow detection devices. Where other sections of this code allow elimination of fire alarm boxes due to sprinklers, a single fire alarm box shall be installed. The manual fire alarm box is required to provide a means for fire watch personnel to initiate an alarm during a sprinkler system impairment event.

Exceptions:

1. The manual fire alarm box is not required for fire alarm systems dedicated to elevator recall control and supervisory service.
2. Automatic heat detection required by this section shall not be required if automatic sprinkler protection installed in accordance with Section 903.3.1.1 or 903.3.1.2 is provided and connected to the building fire alarm system.
3. Where ambient conditions prohibit installation of automatic smoke detection, other approved automatic fire detection may be allowed.
4. Duct smoke detectors installed in accordance with applicable mechanical code requirements for stand-alone operation, located in separate lease spaces, occupied or vacant, of shell buildings need not be connected to the fire alarm control panels (FACP) where the FACP is only required for the sprinkler monitoring system.

907.2.1.3 Electrical Shunt for Amplified Sound Conditions. For venues with amplified music or sound systems, in Group A occupancies having an occupant load of 300 or more, electrical shunts shall be provided to de-energize the music or sound systems upon alarm activation as necessary to demonstrate compliance with the audibility requirements of NFPA 72.

907.2.3.1 Common Areas within a Group E Day Care Occupancies. Group E day care occupancies shall be provided with a fire alarm system in accordance with Section 907.2.3 and shall be protected by smoke detectors installed in accordance with this section, the listing of the detectors and NFPA 72, and shall activate notification in accordance with Section 907.5. Detectors shall be placed throughout all corridors of all floors containing the day care facility, in lounges, and in each room occupied by children.

Exceptions:

1. A day care housed within and serving the students of a Group E occupancy, such as a public charter or private school, grades K-12, is permitted to comply with the alarm and detection requirements of Section 907.2.3.
2. Group E day cares serving 12 or fewer children located in a state licensed or registered Child-Care Home, provided that the dwelling is protected with interconnected hard wired smoke alarms located as required by this section, 907.2.3.1, and powered as required for a new home in accordance with the International Residential Code and NFPA 72 or battery operated in accordance with Section 1103.8.3 and maintained in accordance with Section 1103.8.4. When such day cares serve hearing impaired children, parents, or guardians, the smoke alarms shall be listed for both audible and visual alarm service.

907.2.6.4 Common Areas within Group I-4 Day Care Occupancies. Group I-4 day care occupancies shall be protected by a fire alarm system which monitors smoke detectors installed in accordance with this section, the listing of the detectors and NFPA 72 and activates notification devices in accordance with Section 907.5. Detectors shall be placed on each story in front of doors to the stairways throughout the corridors of all floors containing the day care facility, lounges and each room used by occupants receiving custodial care.

907.2.8.2 Automatic smoke detection system. An automatic smoke detection system that activates the occupant notification system in accordance with Section 907.6 shall be installed throughout all group R-1 occupancies. Listed system-type automatic detectors shall be installed within interior corridors serving sleeping units and unseparated areas such as recreational rooms, laundry rooms, and similar areas served by interior corridors providing access to and egress from sleeping units.

Exception: An automatic smoke detection system is not required in buildings that do not have interior corridors serving sleeping units, where each sleeping unit has a means of egress door opening directly to an exit or to an exterior exit access, an egress balcony or similar exit access that leads directly to an exit.

907.2.9 Group R-2. Fire alarm systems and smoke alarms shall be installed in Group R-2 occupancies as required in Sections 907.2.9.1 thru 907.2.9.2.

907.2.9.1 Manual and automatic fire alarm system. A manual and automatic fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in Group R-2 occupancies where:

1. Any dwelling unit or sleeping unit is located three or more stories above the lowest level of exit discharge;
2. Any dwelling unit or sleeping unit is located more than one story below the highest level of exit discharge of exits serving the dwelling unit or sleeping unit; or
3. The building contains more than 16 dwelling units or sleeping units.

Listed system-type automatic detectors shall be installed within interior corridors serving as the primary access and egress for dwelling units, and unseparated common areas such as recreational room, laundry rooms and similar areas. Heat detection may be installed in lieu of smoke detection in areas that are not suitable for smoke detection in accordance with NFPA 72 (2013 edition), Sections 17.1.7, and 17.1.8.

Exceptions:

1. A fire alarm system is not required in buildings not more than two stories in height where all dwelling units or sleeping units and contiguous attic and crawl spaces are separated from each other and public or common areas by at least 1-hour fire partitions and each dwelling unit or sleeping unit has an exit directly to a public way, exit court or yard.
2. Manual fire alarm boxes are not required throughout the building when all the following conditions are met:
 - 2.1. The building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or Section 903.3.1.2;
 - 2.2. The notification appliances will automatically activate throughout the notification zones upon sprinkler water flow; and
3. A separate fire alarm system is not required in buildings that do not have interior corridors serving dwelling units and are protected by an approved automatic sprinkler system installed in accordance with 903.3.1.1 or 903.3.1.2, provided that sprinkler system activation results in a local alarm designed to notify all occupants, and dwelling units have a means of egress door opening directly to an exterior exit access that leads directly to the exists or are served by open ended corridors as defined in Section 202 and designed in accordance with Section 1027.6, Exception 3.

907.5.2.1.1 Average sound pressure. The audible alarm notification appliances shall provide a sound pressure level of 15 decibels (dBA) above the average ambient sound level or 5 dBA above the maximum sound level having a duration of not less than 60 seconds, whichever is greater, in every occupiable space, including occupiable balconies within the building.

907.6.1 Wiring. Wiring shall comply with the requirements of NFPA 70 and NFPA 72. Wireless protection systems utilizing radio-frequency transmitting devices shall comply with the special requirements for supervision of low-power wireless systems in NFPA 72.

907.6.1.1 Surge protection devices. Surge protection devices (SPDs) for fire alarm circuits shall be in accordance with Sections 907.6.1.1 through 907.6.1.3.

SPDs shall be listed for the repeated limiting of transient voltage surges on 60 Hertz power circuits not exceeding 1,000 Volts in accordance with UL 1449, *Standard for Surge Protective Devices*. SPDs for power-limited and non-power-limited fire alarm circuits shall be listed in accordance with UL 497B *Protectors for Data Communications and Fire Alarm Circuits*.

907.6.1.2 Circuits extending beyond one building. Non-power-limited and power-limited signaling system circuits that extend beyond building and routed outdoors shall be provided with surge protection devices (SPDs) in accordance with Article 760.32 of the Electrical Code.

907.6.1.3 Fire Alarm Equipment. An SPD shall be installed on the dedicated AC branch circuit connected to any piece of fire alarm equipment that requires a dedicated AC branch circuit.

907.6.1.4 Signaling Line Circuit (SLC) Protection. Each SLC shall be provided with an SPD at the connection to the panel that controls the SLC.

907.6.2.1 Protection of fire alarm control unit and notification power supplies. In areas that are not continuously occupied, a single smoke detector shall be provided at the location of each fire alarm control unit, notification appliance circuit power extenders, and supervising station transmitting equipment.

Exceptions:

1. Where ambient conditions prohibit installation of automatic smoke detection, when approved, a heat detector shall be permitted.

907.6.7 Annunciation and control. The main fire alarm control panel or a full function remote annunciator shall be installed at the main entrance or at an approved location near the main entrance of buildings with fire alarm systems.

909.5 Smoke barrier construction. Smoke barriers required for passive smoke control and a smoke control system using the pressurization method shall comply with Section 709 of the International Building Code. Smoke barriers shall be constructed and sealed to limit leakage areas exclusive of protected openings. The maximum allowable leakage area shall be the aggregate area calculated using the following leakage area ratios:

1. Exterior walls: $A/A_w = 0.00035$ (includes construction cracks, and cracks around windows and doors)
2. Stairwell walls: $A/A_w = 0.00035$ (includes construction cracks but not cracks around windows or doors)
3. Elevator shaft walls: $A/A_w = 0.0018$ (includes construction cracks but not cracks around doors)
4. Floors: $A/A_F = 0.00017$ (includes construction cracks and gaps around penetrations)

Where:

A = Total leakage area, square feet (m^2)

A_F = Unit floor or roof area of barrier, square feet (m^2)

A_w = Unit wall area of barrier, square feet (m^2)

The leakage area ratios shown do not include openings due to gaps around doors and operable windows. The total leakage area of the smoke barrier shall be determined in accordance with Section 909.5.1 and tested in accordance with Section 909.5.2.

909.10.2 Ducts. Duct materials and joints shall be capable of withstanding the probable temperatures and pressures to which they are exposed as determined in accordance with Section 909.10. Shafts constructed of gypsum board or gypsum panel products are not allowed. Ducts shall be constructed and supported in accordance with the Mechanical Code. Ducts shall be leak tested to 1.5 times the maximum design pressure in accordance with nationally accepted practices. Measured leakage shall not exceed 5 percent of design flow. Results of such testing shall be a part of the documentation procedure. Ducts shall be supported directly from fire-resistance-rated structural elements of the building by substantial, noncombustible supports.

Exception: Flexible connections, for the purpose of vibration isolation, complying with the Mechanical Code and that are constructed of approved fire-resistance-rated materials.

909.12.4 Automatic Control. Where completely automatic control is required or used, the automatic-control sequences shall be initiated from an appropriately zoned automatic sprinkler system complying with Section 903.3.1.1, an automatic smoke detection system complying with 907.2.13, manual controls that are readily accessible to the fire department and any smoke detectors required by the engineering analysis.

909.18.8 Testing for smoke control. Smoke control systems shall be tested by a special inspector.

909.20 Smokeproof enclosures. Where required by Section 1023.12 of the International Building Code, a smokeproof enclosure shall be constructed in accordance with this section. A smokeproof enclosure shall consist of a pressurized interior exit stairway or ramp that is enclosed in accordance with the applicable provisions of Building Code Section 1023 and a pressurized vestibule meeting the requirements of this section. Where access to the roof is required, such access shall be from the smokeproof enclosure where a smokeproof enclosure is required.

909.20.1 Access. Access to the stairway or ramp shall be by way of a vestibule. The minimum dimension of the vestibule shall be not less than the required width of the corridor leading to the vestibule but shall not have a width of less than 44 inches (1118 mm) and shall not have a length of less than 72 inches (1829 mm) in the direction of egress travel.

909.20.2.1 Door closers. Doors in a smokeproof enclosure shall be self-closing and self-latching.

909.20.2 Construction. The smokeproof enclosure shall be separated from the remainder of the building by not less than 2-hour fire barriers constructed in accordance with Section 707 of the Building Code or horizontal assemblies constructed in accordance with Section 711 of the Building Code, or both. Openings are not permitted other than the required means of egress doors. The vestibule shall be separated from the stairway or ramp by not less than 2-hour fire barriers constructed in accordance with Section 707 of the Building Code or horizontal assemblies constructed in accordance with Section 711 of the Building Code, or both.

909.20.3 Pressurized stair and entrance vestibule systems. The provisions of Sections 909.20.3.1 through 909.20.3.4 shall apply to smokeproof enclosures using a pressurized stair and pressurized entrance vestibule.

909.20.3.1 Pressurization system. Using fans with motor speeds controlled by variable-frequency drives, the stair and entrance vestibules shall be pressurized to accommodate two conditions:

1. All stair and entrance vestibule doors closed.
2. All stair and entrance vestibule doors closed plus all stair tower exterior ground floor level doors opened.

Validation of the pressurization fan sizes shall include the analysis described in Fire Code Section 909.4 under both winter and summer conditions using the most recent ASHRAE climatic data tables for Austin, Texas. Use of algebraic equations for sizing of pressurization fans shall be acceptable only for simple idealized buildings that are served with only a stair and entrance vestibule pressurization system. Sizing of pressurization fans for buildings that include multiple types of mechanical smoke control systems, mixed-use occupancies or are very tall buildings shall be performed using computer modeling software.

909.20.3.2 Pressure difference. Under the two conditions listed in Section 909.20.3.1, the stairs shall be pressurized to not less than 0.05 inch of water (12.44 Pa) positive pressure relative to the entrance vestibule. The entrance vestibule shall be pressurized to not less than 0.05 inch of water (12.44 Pa) positive pressure relative to the fire floor. The pressure difference across the closed door from the stair to vestibule shall be balanced to within 10-percent of the pressure difference across the door from the vestibule to the building. The minimum allowable total pressure difference across the smokeproof enclosure shall be not less than 0.10 inch of water. The pressure difference across smokeproof enclosure doors shall not exceed 30 pounds (133 N) maximum force to begin opening the door.

909.20.3.3 Dampered relief opening. A relief vent sized at 5,000 cfm and an opening point of 0.35 inch of water (field adjustable) shall be provided at the upper portion of the stair shaft.

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

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

Exception: Control wiring and power wiring located outside of a 2-hour fire barrier construction shall be protected using any one of the following methods:

1. Cables used for survivability of required critical circuits shall be listed in accordance with UL 2196 and shall have a fire-resistance rating of not less than 2 hours.
2. Where encased with not less than 2 inches (51 mm) of concrete.

- 1715 3. Electrical circuit protective systems shall have a fire-resistance rating of
1716 not less than 2 hours. Electrical circuit protective systems shall be
1717 installed in accordance with their listing requirements.
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1719 **909.22.6 Components bypassing weekly test.** Where components of the smoke control
1720 system are bypassed by the preprogrammed weekly test required by Section 909.12.1,
1721 such components shall be tested annually. The system shall be tested under standby
1722 power conditions.

1723 **912.1 Installation.** Fire department connections shall be installed in accordance with the
1724 NFPA standard applicable to the system design and shall comply with Sections 912.1.1
1725 through 912.7.

1726 **912.1.1 Number of Hose Connections.** Fire department connections (FDC's) shall
1727 include a minimum of two 2½ inch (63.5 mm) female National Standard Hose Thread
1728 (NST) inlet connections. Where system design flow rates exceed 500 gpm (1,893 lpm), a
1729 minimum of one FDC inlet connection shall be installed for each 250 gpm (946 lpm) or
1730 portion thereof.

1731 **Exception:** A single 2½ inch FDC inlet shall be provided for NFPA 13R
1732 automatic sprinkler systems.

1733 **912.4 Access.** Immediate access to fire department connections shall be maintained at all
1734 times and without obstruction by fences, bushes, trees, walls or any other fixed or
1735 moveable object for a minimum of 3 feet (914 mm). Access to fire department
1736 connections shall be approved by the fire chief.

1737 **Exception:** Fences, where provided with an access gate equipped with a sign
1738 complying with the legend requirements of Section 912.5 and a means of
1739 emergency operation. Locks, if installed shall be openable by use of a fire
1740 department Knox Key. The gate and means of emergency operation shall be
1741 approved by the fire chief and maintained operational at all times.

1742 **912.4.1 Locking fire department connection caps.** The fire chief is authorized to
1743 require locking caps on fire department connections for water-based fire protection
1744 systems. The locking caps shall be manufactured by an approved manufacturer and used
1745 and maintained as designed.

1746 **912.4.1.2 Locking fire department connection caps in existing buildings or**
1747 **structures.** The fire chief is authorized to require locking caps on fire department
1748 connections (FDC) for water-based fire protection systems serving existing buildings
1749 where the fire department has observed obstructions placed in the FDC or where the FDC
1750 is missing caps. The locking caps shall be manufactured by an approved manufacturer
1751 and used and maintained as designed.

912.5.1 Fire Department Connection Placard – for existing structures. In addition to the signage required in 912.5.1, an all-weather, permanent, system placard shall be placed in a visible location adjacent to the fire department connection on all structures with a fire protection system requiring pressures exceeding 150psi. The placard text shall be white reflective letters, 1 ½ inch minimum height, on either a red or black background. The placard shall contain the following information:

1. Required system pressure at FDC inlet;
2. Area of building served by FDC; and
3. System PRV locations.

914.5.3 Compartment smoke control system. Where compartmentation is required by Section 405.4 of the Building Code, each compartment shall have an independent smoke control system. The system shall be automatically activated and capable of manual operation from the firefighter's smoke control panel in accordance with Section 907.2.18.

916.1 Gas detection systems. Gas detection systems required by this code shall comply with Sections 916.2 through 916.11. When prescribed by other adopted standards, vapor detector systems shall comply with Section 916.

Carbon monoxide detection systems shall comply with Section 915.

Carbon dioxide gas detectors for insulated liquid carbon dioxide systems used in beverage dispensing application shall comply with Section 5307.3.

916.4 Power connections. Gas detection systems supplies shall be in accordance with Section 907.6.2. Carbon dioxide gas detectors ~~or~~ for beverage dispensing applications shall be permitted to be cord connected to an unswitched receptacle using an approved restraining means that secures the plug to the receptacle.

916.5 Emergency and standby power. Standby or emergency power shall be provided in accordance with Section 1203.2.7. The gas detection system shall initiate a supervisory signal at an approved location if the secondary power supply is interrupted.

916.6 Gas detector locations. Gas detectors shall be installed ~~in~~ at approved storage or use locations where leaking gases are expected to accumulate. Gases or vapors that present a health hazard and are stored or used outside of gas rooms, gas cabinets or exhausted enclosures shall be located based on the vapor density of the gas @ NTP.

916.6.1 Gas detector selection. Gas detectors shall selected be based on the physical hazard or health hazard of the hazardous material being measured.

916.7 Gas sampling. Gas sampling shall be performed continuously. Sample analysis shall be processed immediately after sampling, except as follows:

1. For HPM gases, sample analysis shall be performed at intervals not exceeding 30 minutes.
2. For highly toxic and toxic gases, sample analysis shall be performed at intervals not exceeding 5 minutes, in accordance with Section 6004.2.2.7.
3. Where a less frequent or delayed sampling interval is approved.

916.8 System activation. A gas detection alarm shall be initiated where any detector detects a concentration of gas exceeding the following thresholds:

1. For flammable gases, a gas concentration exceeding 25 percent of the lower flammability limit (LFL).
2. For nonflammable gases, a gas concentration exceeding its Permissible Exposure Limit or 8-hour Time-Weighted Average, unless a different threshold is specified by the section of this code requiring a gas detection system.
3. For simple asphyxiant gases, a gas concentration equal to or less than 19.5% volume of oxygen in air at NTP.

Upon activation of a gas detection alarm, alarm signals or other required responses shall be as specified by the section of this code requiring a gas detection system. Audible and visible alarm signals associated with a gas detection alarm shall be distinct from fire alarm and carbon monoxide alarm signals.

916.10 Fire alarm system connections. Gas detectors and gas detection systems connected to fire alarm systems shall be in accordance with NFPA 72.

1001.1 Scope. The provisions of this chapter shall specify the requirements of means of egress and shall apply to the design, installation of means of egress. For those requirements, refer to the Building Code. Refer to section 1032 of the Fire Code for maintenance of the means of egress.

1032.2 Reliability. Required exit accesses, exits or exit discharges shall be continuously maintained free from obstructions or impediments to full instant use in the case of fire or other emergency when the areas served by such exits are occupied. Security devices, including drop bars, affecting means of egress shall require approval of the fire chief. Doors utilizing drop bars must have signage on the exterior of the door stating "Door equipped with drop bar". Doors utilizing drop bars must have signage on the interior of the door stating "Drop bar must be removed when building is occupied". When security devices are not in use, they must be secured in a manner where unauthorized use is prevented, such as:

1. Locking bar in a keeper near the door.
2. Securing bar in an office, locked closet, or similar location not accessible to the general public.

Approval to use security devices outside the scope of this code may be revoked for failure to meet the letter and intent of these rules.

1102.1 Supplemental Definitions. The definitions in the 2021 Fire Code are adopted as published except that supplemental definitions are added or amended. The following supplemental definitions are defined in Section 202.1.1. For the purposes of this chapter and as used elsewhere in this code, these definitions shall have the meanings shown in Section 202.1.1.

INDEPENDENT EXIT/INDEPENDENT STAIRWAY/INDEPENDENT EXIT RAMP.

1103.4.1 Group I-2 and I-3 occupancies. *This section is deleted in its entirety.*

1103.4.8 Occupancies other than Group I-2 and I-3. *This section is deleted in its entirety.*

1103.4.9 Waste and linen chutes. *This section is deleted in its entirety.*

1103.5.56 Group B ambulatory health care facilities. An automatic sprinkler system shall be installed throughout all existing fire areas containing a Group B ambulatory health care facility occupancy when the facility is designed to allow either of the following conditions to exist at any time:

1. Four or more care recipients are incapable of self-preservation.
2. One or more care recipients who are incapable of self-preservation are located at other than the level of exit discharge serving such occupancy.

1103.6.1 Existing multiple story buildings. Existing structures with occupied floors located more than 50 feet (15,240 mm) above or below the lowest level of fire department access shall be equipped with standpipes installed in accordance with Section 905. The standpipes shall have an approved fire department connection with hose connections at each floor level above or below the lowest level of fire department access. The fire chief is authorized to approve the installation of manual standpipe systems to achieve compliance with this section where the system is demonstrated to be capable of providing the required hose flow and pressure at the highest standpipe outlet while the fire department is providing the water supply to the fire department connection (FDC) at a maximum FDC inlet pressure of 150 psi (10.3 bar).

1103.7.6 Group R-2. An automatic or manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-2 occupancies more than three stories in height or with more than 16 dwelling or sleeping units. A plan for achieving compliance shall be completed by the owner within 12 months of the discovery of the deficiency. Compliance shall be achieved within 24 months of the discovery of the deficiency.

Exceptions:

1. A fire alarm system is not required in existing R-2 occupancies where each living unit is separated from other contiguous living units by fire barriers having a fire-resistance rating of not less than 0.75 hour, and where each living unit has either its own independent exit or its own independent stairway or ramp discharging at grade. When conditions warrant, the fire chief is authorized to accept an alternate minimum distance from the egress path to nearby doors and windows of apartments.
2. A separate fire alarm system is not required in buildings that are equipped throughout with an approved supervised automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and having a local alarm to notify all occupants.
3. A fire alarm system is not required in buildings that do not have interior corridors serving dwelling units and are protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, 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 1023.6, Exception 4.

1103.8.3 Power source. In Group R occupancies, single-station smoke alarms shall receive their primary power from the building wiring provided that such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms with integral strobes that are not equipped with battery backup shall be connected to an emergency electrical system. Smoke alarms shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection. Listed single-station battery-operated smoke alarms installed or replaced shall be replaced with a non-replaceable, non-removable battery that can power the smoke alarm for a minimum of 10 years.

Exceptions:

1. Smoke alarms are permitted to be solely battery operated in existing buildings in locations where smoke alarms were not required to be powered by the building wiring under the code in effect at the time of construction and where no construction is taking place.
2. Smoke alarms are permitted to be solely battery operated in buildings that are not served from a commercial power source.
3. Smoke alarms are permitted to be solely battery operated in existing areas of buildings in locations where smoke alarms were not required to be powered

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by the building wiring under the code in effect at the time of construction and undergoing alterations or repairs that do not result in the removal of interior walls or ceiling finishes exposing the structure.

1103.8.4 Smoke Alarm Service Life. Single-station battery-operated smoke alarms shall be replaced when the smoke alarm has been in service for ten years.

1103.9 Carbon monoxide alarms. When interior work requiring a building permit is done in existing Group I-1, I-2, I-4, and R occupancies, they shall be equipped with carbon monoxide alarms in accordance with Section 915 in the unit(s) in which the work was performed, except that the carbon monoxide alarms shall be allowed to be solely battery operated.

1207.1.1 Scope. Energy Storage System (ESS) having capacities exceeding the values in Table 1207.1.1 shall comply with this section.

TABLE 1207.1.1
ENERGY STORAGE SYSTEM (ESS) THRESHOLD QUANTITIES

| TECHNOLOGY | ENERGY CAPACITY ^a |
|--------------------------------------|------------------------------|
| Capacitor ESS | 3 kWhr |
| Flow Batteries ^b | 20 kWhr |
| Lead-acid batteries, all types | See Section 1207.1.2, item 3 |
| Lithium-ion batteries | 20 kWhr |
| Nickel metal hydride (Ni-MH) | 70 kWhr |
| Nickel-cadmium batteries (Ni-Cd) | See Section 1207.1.2, item 3 |
| Other battery technologies | 10 kWhr |
| Other electrochemical ESS technology | 3 kWhr |

a. Energy capacity is the total energy capable of being stored (nameplate rating), not the usable energy rating. For units rated in amp-hours, kWhr shall equal rated voltage time amp-hour rating divided by 1,000

b. Shall include vanadium, zinc-bromine, polysulfide-bromide and other flowing electrolyte-type technologies.

1207.1.2 Permits. Permits shall be obtained for ESS as follows:

1. Construction permits shall be obtained for stationary ESS installations and mobile ESS charging and mobile station covered by Section 1207.10.1. Permits shall be obtained in accordance with Section 105.5.22.
2. Operational permits shall be obtained for stationary ESS installations and mobile ESS charging and mobile station covered by Section 1207.1.1 that employ Capacitor ESS, Lithium-ion batteries, Ni-MH, or other electrochemical ESS technologies. Permits shall be obtained in accordance with Section 105.5.22
3. Operational permits for stationary ESS installations utilizing fifteen or more U.S. gallons of corrosive electrolyte in flooded lead-acid, valve regulated lead-acid batteries or Ni-Cd batteries be obtained in accordance with Section 105.5.22 based on Health Hazard Category 3 liquids.

1207.1.6 Fire Remediation. Where a fire other event has damaged the ESS and ignition or re-ignition is possible, the system owner, agent or lessee shall take the following actions, at their expense, to mitigate the hazard or remove damaged equipment from the premise to an approved location.

1207.1.6.1 Fire Mitigation Personnel. Where, in the opinion of the fire chief, it is essential for public safety that trained personnel be on-site to respond to possible ignition or re-ignition of a damaged ESS, the system owner, agent or lessee shall immediately dispatch one or more fire mitigation personnel to the premises, as required, at their expense. Fire mitigation personnel responsible for the preparation of the Decommissioning Plan and in accordance with Section 1207.2.3, shall be approved. The personnel shall remain on duty continuously until the damaged energy storage equipment is removed from the premises and located to an approved location, or earlier if the fire mitigation personnel can demonstrate to the fire chief that the public safety hazard is mitigated.

1207.1.6.3 Responsibility for Unauthorized Discharge. An incident that requires fire remediation shall be treated as an Unauthorized Discharge. The person, firm or corporation responsible for an unauthorized discharge shall institute and complete all actions necessary to remedy the effects of such unauthorized discharge, whether sudden or gradual, at no cost to the jurisdiction, in accordance with Section 5003.3.1.5.

1207.1 General. The provisions in this section are applicable to stationary and mobile energy storage systems (ESS). Battery-electric vehicles using technology identified in Table 1207.1.1 and marked with a label complying with 49 CFR 567.4 that certifies compliance with the Federal Motor Vehicle Safety Standards are subject to the Fire Remediation provisions in Section 1207.1.6, including responsibility for an Unauthorized Discharge.

1207.4.7 Toxic and highly toxic gases. ESS that have the potential to release toxic and highly toxic gas during charging, discharging and normal use conditions are prohibited.

1207.5.3. Elevation. Electrochemical ESS shall not be located in the following areas:

1. Where the floor is located more than 20 feet above the lowest level of fire department vehicle access.
2. Where the floor is located below the lowest level of exit discharge.

Exceptions

1. Lead-acid and nickel-cadmium battery systems less than 50 VAC and 60 VDC.

1207.5.4 Fire detection. An approved automatic smoke detection system or radiant energy-sensing fire detection system complying with Section 907.2 shall be installed in

rooms, indoor areas and walk-in units containing electrochemical ESS. An approved radiant energy-sensing fire detection system shall be installed to protect open parking garage and rooftop installations. Alarm signals from detection systems shall be transmitted to a central station, proprietary or remote station service in accordance with NFPA 72, or where approved to a constantly attended location.

Exception: Lead-acid battery ESS with an electrolyte volume of 50 US gallons or less.

TABLE 1207.6 - ELECTROCHEMICAL ESS TECHNOLOGY SPECIFIC REQUIREMENTS

| COMPLIANCE REQUIRED ^b | | BATTERY TECHNOLOGY | | | | OTHER ESS AND BATTERY TECHNOLOGIES ^b | CAPACITOR ESS ^b |
|----------------------------------|----------|--------------------|------------------|------------------|------|---|----------------------------|
| Feature | Section | Lead-Acid | Ni-CD & Ni-MH | Lithium-Ion | Flow | | |
| Exhaust ventilation | 1207.6.1 | Yes | Yes | No | Yes | Yes | Yes |
| Explosion control | 1207.6.3 | No | Yes ^a | Yes | No | Yes | Yes |
| Safety caps | 1207.6.4 | Yes | Yes | No | No | Yes | Yes |
| Spill control & neutralization | 1207.6.2 | Yes ^c | Yes ^c | No | Yes | Yes | Yes |
| Thermal runaway | 1207.6.5 | Yes ^d | Yes | Yes ^e | No | Yes ^e | Yes |
| Thermal runaway detection system | 1207.6.7 | No | No | Yes | No | No | No |

b. Applicable to vented-type (i.e., flooded) nickel-cadmium and lead-acid batteries.

c. Not required for vented-type (i.e., flooded) lead-acid batteries.

d. Thermal runaway protection is permitted to be part of a battery management system that has been evaluated with battery as part of the evaluation to UL 1973.

1207.6.2.3 Special provisions for Lead-Acid ESS. The requirements of Section 1207.6.2 shall apply only when the aggregate capacity of multiple vessels exceeds 50 gallons or lead-acid and nickel-cadmium battery systems operating at less than 50 VAC and 60 VDC.

1207.6.6 Thermal Runaway Detection System

1207.6.6.1 When Required. A thermal runaway detection system shall be provided for lithium-ion battery storage systems with an energy capacity greater than 20 kWh.

EXCEPTION: Group R-3 & R-4 occupancies.

1207.6.6.1 Approvals. Devices designed to detect the thermal runaway of a lithium-ion cell containing a flammable or combustible liquid shall be listed in accordance with UL 2075, *Gas and Vapor Detectors and Sensors*.

1207.6.6.2 Performance. The thermal runaway detector shall activate upon detection of gas vapors produced by flammable or combustible liquid in a lithium-ion cell at the start of a thermal runaway event. Upon detection of a thermal runaway event the detection system shall shutdown the ESS rack releasing flammable or combustible gas vapors and transmit a supervisory fire alarm signal. Detection of a thermal runaway event shall activate the mechanical ventilation when it is provided as method of explosion control.

Thermal runaway detectors shall operate independently of the ESS Energy Storage Management System.

1207.6.6.3 Annunciation. The thermal runaway detector shall be capable of identifying the ESS rack where thermal runaway occurred.

1207.9.1 Rooftop Installations. For the purpose of Table 1207.9, rooftop ESS are prohibited on the roof of buildings 30 feet or more above the lowest level of fire department vehicle access.

CHAPTER 23 MOTOR FUEL-DISPENSING FACILITIES, REPAIR GARAGES, AND AUTOMOBILE WRECKING YARDS.

2301.1 Scope. Automotive motor fuel-dispensing facilities, marine motor fuel-dispensing facilities, fleet vehicle motor fuel-dispensing facilities, automobile wrecking yards, and repair garages shall be in accordance with this chapter and the Building Code, the Plumbing Code and the Mechanical Code. Such operations shall include both operations that are accessible to the public and private operations.

2304.1 Supervision of dispensing. The dispensing of fuel at motor fuel-dispensing facilities shall be conducted by a qualified attendant who is a Texas Commission on Environmental Quality (TCEQ) certified UST Operator or shall be under the supervision of a qualified attendant who is a TCEQ certified UST Operator at all times or shall be in accordance with Section 2304.3.

2304.2 Attended self-service motor fuel-dispensing facilities. Attended self-service motor fuel-dispensing facilities shall comply with Sections 2304.2.1 through 2304.2.5. Attended self-service motor fuel-dispensing facilities shall have at least one TCEQ certified UST Operator on duty while the facility is open for business. The attendant's primary function shall be to supervise, observe and control the dispensing of fuel. The attendant shall prevent the dispensing of fuel into containers that do not comply with Section 2304.4.1, control sources of ignition, give immediate attention to accidental spills or releases, and be prepared to use fire extinguishers.

2305.1.3 Tank fill connections. Delivery of flammable liquids to tanks shall be made by means of approved liquid- and vapor-tight connections between the delivery hose and tank fill pipe. Where tanks are equipped with any type of vapor recovery system, all connections required to be made for the safe and proper functioning of the particular vapor recovery process shall be made. Such connections shall be made liquid and vapor tight and remain connected throughout the unloading process. Vapors shall not be discharged at grade level during delivery.

2305.2.1 Inspections. Flammable and combustible liquid fuel dispensing and containment equipment shall be inspected at least once every sixty days in accordance with the regulations of the TCEQ in order to verify that it is in proper working order and not subject to leakage.

2305.3 Spill control. Provisions shall be made to prevent liquids spilled during dispensing operations from flowing into buildings or off of the property on which the tank is located. Acceptable methods include, but shall not be limited to, grading driveways, raising doorsills, or other approved means.

2306.7.6.2 Testing. The automatic closing function of automatic closing fuel delivery hose nozzles that dispense Class I, II, and III liquids shall be tested an annual basis.

Section 2312 AUTOMOBILE WRECKING YARDS

2312.1 Scope. Automobile wrecking yards shall comply with this section and the Building Code. Rubbish handling operations are addressed in Chapter 3 (*General Requirements*).

2312.2 Fire apparatus access roads. Fire apparatus access roads shall be constructed and maintained throughout the site in accordance with Section 503.

2312.3 Welding and cutting. Welding and cutting operations shall be in accordance with Chapter 35 (*Welding and Other Hot Work*).

2312.4 Housekeeping. Combustible rubbish accumulated on the site shall be collected and stored in approved containers, rooms or vaults of noncombustible materials. Combustible vegetation, cut or uncut, shall be removed when determined by the chief to be a fire hazard.

2312.5 Fire protection. Offices, storage buildings and vehicles used for site operations shall each be provided with at least one portable fire extinguisher with a rating of not less than 4-A:40-B:C. When required by the chief, additional portable fire extinguishers shall be provided in specific use areas in accordance with NFPA 10.

2312.6 Tires. Tires shall be stored on racks in an approved manner or shall be piled in accordance with Chapter 34 (*Tire Rebuilding and Tire Storage*).

2312.7 Burning operations. The burning of salvage vehicles and salvage or waste materials shall be in accordance with Chapter 3 (*General Requirements*) and regulations adopted by the Texas Commission on Environmental Quality.

2312.8 Motor Vehicle fluids and hazardous materials.

2312.8.1 General. The storage, use and handling of motor vehicle fluids and hazardous materials, such as those used to operate air bags and electrical systems, shall be in accordance with Section 2312 (*Automobile Wrecking Yards*), Section 2311 (*Repair Garages*), Chapter 50 (*Hazardous Materials – General Provisions*), and Chapter 57 (*Flammable and Combustible Liquids*).

2312.8.2 Motor Vehicle Fluids. Motor vehicle fluids shall be drained from salvage vehicles when such fluids are leaking. Storage and handling of motor vehicle fluids shall be done in an approved manner. Flammable and combustible liquids shall be stored and handled in accordance with Section 2311 (*Repair Garages*), Chapter 50 (*Hazardous Materials – General Provisions*), and Chapter 57 (*Flammable and Combustible Liquids*).

2312.8.3 Mitigation for Vehicle Fluid Leaks. Supplies or equipment capable of mitigating leaks from fuel tanks, crankcases, brake systems and transmissions shall be

kept available on site. Single-use plugging, diking and absorbent materials shall be disposed of as hazardous waste and removed from the site in a manner approved by federal, state or local requirements.

2312.8.4 Air Bag Systems. Removed air bag systems shall be handled and stored in accordance with Chapter 50 (*Hazardous Materials – General Provisions*).

2312.8.5 Lead-acid Batteries. Lead-acid batteries shall be removed from salvage vehicles when such batteries are leaking. Lead-acid batteries that have been removed from vehicles shall be stored in an approved manner.

2312.8.6. Container Destruction. Destruction of vehicle containers containing liquids or gases defined as flammable or combustible by this code is prohibited unless the containers are properly drained and the by-product stored or disposed of in accordance with Chapter 50 (*Hazardous Materials – General Provisions*), are filled with an inert material or purged, and at the time of destruction, have a vapor content less than 25 percent of the by-product's lower explosive limit or an oxygen content of less than 10 percent.

2403.5 Mixing and Blending Area. Mixing, blending, and similar operations involving less than 10 gallons of Class I or Class II liquids, outside of a room approved for inside use, dispensing and mixing in accordance with 5705.3.7, must be performed in an area meeting the following requirements:

1. All electrical service within 10 feet of the mixing operations must meet the Class I, Division II requirements of the Electrical Code.
2. Ventilation for the area must be adequate to maintain flammable vapors under 25 percent of the lower explosive limit of the most volatile material in use. A line of site partition of one-hour construction must separate the mixing and blending operations from other spray finishing operations and flammable liquids storage.

2701.4 Existing buildings and existing fabrication areas. Existing buildings and existing *fabrication areas* shall comply with this chapter.

Exceptions:

1. Transportation and handling of HPM in *corridors* and enclosures for *stairways* and *ramps* shall be allowed where in compliance with Section 2705.3.2 and the Building Code.
2. The aggregate quantity of flammable, pyrophoric, toxic and highly toxic gases in a single fabrication area allowed in Table 2704.2.2.1 Footnote d. shall be limited to 9000 cubic feet at NTP.

3103.5 Use periods. Temporary tents, air supported, air-inflated or tensioned membrane structures of any size that are independent of and separated by at least 20 feet (6096 mm) from any building as specified in Section 2403.8.2 shall not be erected for a period of more than 180 days within a 12-month period on a single premises. Temporary tents, air supported, air-inflated or tensioned membrane structures of any size that are in any way attached to or within 20 feet (6096 mm) of a building shall not be issued a permit for a continuous period of more than 30 days or for a total of more than 90 days within a 12-month period on a single premises. Tents, air supported, air-inflated or tensioned membrane structures used for periods exceeding these limits shall be considered buildings or structures regulated by the Building Code and shall be required to be erected under a building permit and obtain a certificate of occupancy.

3103.8.2 Location. Tents or membrane structures shall not be located within 20 feet (6096 mm) of lot lines, buildings, other tents or membrane structures, parked vehicles or internal combustion engines. For the purpose of determining required distances, support ropes and guy wires shall be considered as part of the temporary membrane structure, or tent.

Exceptions:

1. Separation distance between membrane structures and tents not used for cooking, is not required when the aggregate floor area does not exceed 15,000 square feet (1394 m²).
2. Membrane structures or tents need not be separated from buildings when all of the following conditions are met:
 - 2.1. The aggregate floor area of the membrane structure or tent shall not exceed 10,000 square feet (929 m²).
 - 2.2. The aggregate floor area and total height of the building and membrane structure or tent shall not exceed the allowable floor area or the allowable height, in stories or feet, including increases as indicated in the Building Code.
 - 2.3. Required means of egress are provided for both the building and the membrane structure or tent including travel distances.
 - 2.4. Fire apparatus access roads are provided in accordance with Section 503.
 - 2.5. Occupant load is, for the purposes of complying with Chapters 9 and 10 of the Building Code and Fire Code, based on the aggregate of the building floor area and the area under the membrane structure or tent.

5001.1.2 Purpose. This chapter regulates the handling and storage of hazardous materials in aboveground storage facilities. Underground storage facilities are regulated by City Code Chapter 6-2 (*Hazardous Materials*).

5001.2 Material classification. Hazardous materials are those chemicals or substances defined as such in this code. Definitions of hazardous materials shall apply to all hazardous materials, including those materials regulated elsewhere in this code. Appendix E contains descriptions and examples of materials included in hazard categories.

5001.2.3 Radioactive Materials. Storage of radioactive materials shall be in accordance with the provisions set forth by the Texas Department of State Health Services, Radiation Control Program.

5001.5 Permits. No person, firm, or corporation may store, dispense, use, or handle hazardous materials in more than the quantities named in Section 105.6 unless a valid permit has been issued under this chapter.

When required by the fire chief, permit holders shall apply for approval to permanently close a storage, use or handling facility. Such application shall be submitted at least 30 days prior to the termination of the storage, use or handling of hazardous materials. The fire chief is authorized to require that the application be accompanied by an approved facility closure plan in accordance with Section 5001.6.3.

5001.5.1 Hazardous Materials Management Plan. Where required by the fire chief, an application for a permit shall include a Hazardous Materials Management Plan (HMMP). The HMMP shall include a facility site plan clearly designating the following:

1. locations of and access to each storage and use area;
2. maximum amount of each material stored or used in each area and the range of container sizes used;
3. location of emergency equipment, including emergency isolation and mitigation valves and devices, and product conveying piping containing liquids or gases, other than utility-owned fuel gas lines and low-pressure fuel gas lines. The normal position of valves (on/off or open/closed) shall be provided for position indicating valves;
4. location where liaison will meet emergency responders;
5. facility evacuation meeting point locations;
6. the general purpose of other areas within the building;

7. storage plan showing the intended storage arrangement, including the location and dimensions of aisles, the location of all aboveground and underground tanks and their appurtenances including, but not limited to, sumps, vaults, below-grade treatment systems and piping;
7. the hazard classes in each area;
8. locations of all control areas and Group H occupancies; and
9. emergency exits.

The plans shall be legible and drawn approximately to scale. Separate distribution systems are allowed to be shown on separate pages.

5001.5.2 Hazardous Materials Inventory Statement (HMIS). Where required by the fire chief, an application for a permit shall include an HMIS, such as Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III, Tier II Report or other approved statement. The HMIS shall include the following information:

1. manufacturer's name;
2. chemical names, product or trade names, hazardous ingredients;
3. United Nations (UN), North America (NA) and the Chemical Abstract Service (CAS) identification number (as applicable and as available);
4. maximum quantities stored or used on-site at one time, including amounts in use-closed systems and amounts in use-open systems;
5. location where stored or used;
6. container sizes; and
7. hazard classifications including the NFPA 704 rating of each chemical.

5001.7 Permit Procedure. A hazardous materials permit shall be granted after:

1. The applicant has filed with the Fire Department a completed hazardous materials permit application, in accordance with Section 5001.5 and this section; and
2. The applicant has paid the application fee set by separate ordinance.

5001.7.1 Application. A Hazardous Materials Permit Application shall include the following:

1. general information including the name, address, and telephone number of the facility, the number of employees, hours of operation, and a name and emergency telephone number of the primary emergency contact person;
2. an HMMP in accordance with Section 5001.5.1 which includes a facility site plan and a storage map, which shall identify the location of hazardous materials storage areas, and access to the materials; and
3. a Hazardous Materials Inventory Statement (HMIS) in accordance with Section 5001.5.2.

5001.7.1.1 The facility site plan required in Section 5001.5.1 may be omitted from applications when, in the opinion of the fire chief, the plan will not provide additional information necessary to prevent an actual or potential hazard to the public health, safety, or welfare (including the health, safety, or welfare of firefighters) or to facilitate the fire department's response in the event of an emergency involving hazardous materials at the facility.

5001.7.2 Permit Required. No person, firm, or corporation may install, repair, abandon, remove, place temporarily out of service, close, or substantially modify a storage facility or other area required to be permitted under this chapter without a permit. Section 5001.6.3 also applies.

Exceptions:

1. Routine maintenance.
2. For emergency repair work performed on an emergency basis, application for permit shall be made within two working days of commencement of work.
3. Businesses with an annual permit through the Development Services Department may perform work in accordance with the provisions of the Building Code and rules governing the facilities.

Permit holders shall apply for approval to close bulk storage, use, or handling facility at least 30 days before the termination of the storage, use, or handling of hazardous materials. The applicant shall include any change or alteration of the facility closure plan filed under Section 5001.6.3 of this chapter. This 30 day period may be waived by the chief.

5001.7.3 Permit Effective Date. The fire department shall grant or deny a permit application no later than 60 days after receipt of the completed application. The Department will provide written confirmation to the applicant demonstrating receipt of the application within 30 days of receipt of the application. If the

department fails to grant or deny the permit within 60 days, the permit is considered to be issued and in effect. The fire department may inspect the business for satisfactory storage and use of hazardous materials. The operation of a facility under a permit issued before inspection constitutes the permission of the facility owner/operator for the chief to enter on the facility for the purpose of conducting the required inspection. Refusal to allow the inspection shall constitute a prima facie cause to revoke the permit under Section 105.6.

5001.7.4 Permit Term and Renewal. A permit is granted for a term of three years from the date of issuance. Permits may be renewed every three years on the anniversary of permit issuance. At the discretion of the fire chief, a permit may be issued for a shorter period. The fee assessed for the permits shall be prorated for the appropriate time. If a permit is issued for a shorter period at the request of the applicant, an additional handling fee may be assessed, not to exceed the actual cost of clerical processing time.

5001.7.5 Annexation Procedure. A facility brought under regulation by this chapter through annexation shall file a permit application with the fire department no later than 90 days after the effective date of annexation. The department shall grant or deny a permit application submitted under this subsection no later than six months after receipt of the completed application. If the department fails to grant or deny the permit within the period, the permit is considered to be issued and in effect. The fire department shall inspect the business for satisfactory storage or use of hazardous materials. The operation of a facility under a permit issued before inspection constitutes the permission of the facility owner/operator for the fire chief to enter on the facility for the purpose of conducting the required inspection. Refusal to allow the inspection shall constitute a prima facie cause to revoke the permit under Section 105.5 (*Revocation*).

5001.7.6 Permit Denial. If the fire department denies a permit, the department shall notify the applicant in writing of the action. The notification must include a statement of the department's reasons for the action.

5001.7.7 Transfer. A permit may be transferred to a new owner or operator of a business at the same location if the new owner or operator by letter to the fire department accepts responsibility for all obligations under this chapter at the time of the transfer of the business. All permit transfers are subject to the approval of the fire chief.

5001.7.8 Fees. No permit may be granted, renewed or continued in effect until the fee set by separate ordinance has been paid. The fee shall be paid at the time an application is filed.

5001.7.9 Amendment. Any information required to be submitted by this chapter shall be amended or supplemented no later than 30 days after the occurrence of an event that would render the information inaccurate. Unless the change(s) would affect the ability of emergency response personnel to safely respond to an emergency, an amendment or supplement is not required to record:

1. minor changes in the quantities of hazardous materials stored;
2. the temporary storage of hazardous materials at the facility; or
3. a temporary change of hazardous materials storage location.

5002.1 Supplemental Definitions. The definitions in the 2021 International Fire Code are adopted as published except that supplemental definitions are added or amended. The following supplemental definitions are defined in Section 202.1.1. For the purposes of this chapter and as used elsewhere in this code, these definitions shall have the meanings shown in Section 202.1.1.

PERMANENT STORAGE.

PERMIT.

PROCESS VESSEL.

Table 5003.1.1(1) Footnote i

- i. The maximum allowable quantity for fuel oil storage may be increased in accordance with Section 605.4.1.

5003.2.2.3 Emergency isolation. Where gases or liquids having a hazard ranking of Health Class 3 or 4, Flammability Class 4 or Instability Class 3 or 4 in accordance with NFPA 704 are carried in pressurized piping above 15 pounds per square inch gauge (psig) (103 kPa), an approved means of leak detection and emergency shutoff or excess flow control shall be provided. Where the piping originates from within a hazardous material storage room or area, the excess flow control shall be located within the storage room or area. Where the piping originates from a bulk source, the excess flow control shall be located as close to the bulk source as practical.

Exceptions:

1. Piping for inlet connections designed to prevent backflow.
2. Piping for pressure relief devices.

5003.2.4.3 Indoor Tank Filling. Aboveground stationary tanks used for the indoor storage of hazardous materials shall be filled using one of the liquid transfer methods in

Section 5005.1.10. The transfer of hazardous materials to indoor stationary tanks from tank vehicles shall be done from a liquid tight remote fill connection located outdoors. Fill connections shall be not more than five feet above the finished ground level, in an approved location in close proximity to the parked delivery vehicle. Connections shall be five feet away from building openings. Such connections shall be closed and liquid tight when not in use and shall be properly identified.

5003.3.1.5 Responsibility for cleanup. The person, firm or corporation responsible for an unauthorized discharge shall institute and complete all actions necessary to remedy the effects of such unauthorized discharge, whether sudden or gradual, at no cost to the jurisdiction. When deemed necessary by the fire chief, cleanup may be initiated by the fire department or by an authorized individual or firm. Costs associated with such cleanup shall be borne by the owner, operator or other person responsible for the unauthorized discharge. Such costs shall include but shall not be limited to:

1. chemical absorbent or adsorbent materials;
2. chemical neutralizers;
3. chemical resistant suits, gloves, or boots;
4. chemical containment drums;
5. vapor suppression foams;
6. containment tools;
7. chemical detection devices; and
8. personnel costs for incident related overtime activities.

5003.9.8 Separation of incompatible materials. Incompatible materials in storage and storage of materials that are incompatible with materials in use shall be separated when the stored materials are in containers having a capacity of more than five pounds (2 kg) or 0.5 gallon (2 L). Separation shall be accomplished by:

1. Segregating incompatible materials in storage by a distance of not less than 20 feet (6096 mm).

Exception: Segregation of less than exempt amounts of corrosive and oxidizing materials, when such materials are necessary to maintain swimming pools for Group R occupancies, may be accomplished by a minimum separation of five feet (1524 mm).

2. Isolating incompatible materials in storage by a noncombustible partition extending not less than 18 inches (457 mm) above and to the sides of the stored material.
3. Storing liquid and solid materials in hazardous material storage cabinets.
4. Storing compressed gases in gas cabinets or exhausted enclosures in accordance with Sections 5003.8.5 and 5003.8.6. Materials that are incompatible shall not be stored within the same cabinet or exhausted enclosure.

5004.2 Spill control and secondary containment for liquid and solid hazardous materials. Tanks, rooms, buildings or areas used for the storage of liquid or solid hazardous materials shall be provided with spill control and secondary containment in accordance with Sections 5004.2.1 through 5004.2.3.

Exceptions:

1. Outdoor storage of containers on approved containment pallets in accordance with Section 5004.2.3.
2. Liquids that are a gas at NTP.

5004.2.1 Spill control for hazardous material liquids. Tanks, rooms, buildings or areas used for the storage of hazardous material liquids in excess of the lesser of the maximum allowable quantities established by Tables 5003.1.1(1) and 5003.1.1(2) or limits specifically set in Chapters 51 through 67 shall be provided with spill control to prevent the flow of liquids to adjoining areas. Floors in indoor locations and similar surfaces in outdoor locations shall be constructed to contain a spill from the largest single vessel by one of the following methods:

1. Liquid-tight sloped or recessed floors in indoor locations or similar areas in outdoor locations.
2. Liquid-tight floors in indoor locations or similar areas in outdoor locations provided with liquid-tight raised or recessed sills or dikes.
3. Sumps and collection systems.
4. Other approved engineered systems.

Except for surfacing, the floors, sills, dikes, sumps and collection systems shall be constructed of noncombustible material, and the liquid-tight seal shall be compatible with the material stored. When liquid-tight sills or dikes are provided, they are not required at perimeter openings having an open-grate trench across the opening that connects to an approved collection system.

5004.2.2 Secondary containment for hazardous material liquids and solids. Where required by Table 5004.2.2 tanks, buildings, rooms or areas used for the storage of hazardous materials liquids or solids shall be provided with secondary containment in accordance with this section when the quantity of materials exceeds the maximum allowable quantity as established by Tables 5003.1.1(1) and 5003.1.1(2) or limits specifically set in Chapters 51 through 67.

5004.2.2.1 Containment and drainage methods. The tank, building, room or area shall contain or drain the hazardous materials and fire protection water through the use of one of the following methods:

1. Liquid-tight sloped or recessed floors in indoor locations or similar areas in outdoor locations.
2. Liquid-tight floors in indoor locations or similar areas in outdoor locations provided with liquid-tight raised or recessed sills or dikes.
3. Sumps and collection systems.
4. Drainage systems leading to an approved location.
5. Other approved engineered systems.

5004.2.2.2 Incompatible materials. Incompatible materials used in open systems shall be separated from each other in the secondary containment system. Incompatible materials are allowed to be combined when they have been rendered acceptable by an approved means for discharge into the public sewer.

5004.2.2.5 Monitoring. An approved monitoring method shall be provided to detect hazardous materials in the secondary containment system. The monitoring method is allowed to be visual inspection of the primary or secondary containment, or other approved means. Where secondary containment is subject to the intrusion of water, a monitoring method for detecting water shall be provided. Where monitoring devices are provided, they shall be connected to an approved visual or audible alarm.

Leak-detecting devices must be tested annually by the owner or occupant of the property on which the devices are located. Test results shall be maintained on the premises and be available to the fire chief on request.

5004.2.2.6 Drainage system design. Drainage systems shall be in accordance with the Plumbing Code and all of the following:

1. The slope of floors to drains in indoor locations, or similar areas in outdoor locations shall not be less than 1 percent.

2. Drains from indoor storage areas shall be sized to carry the volume of the fire protection water as determined by the design density discharged from the automatic fire-extinguishing system over the minimum required system design area or area of the room or area in which the storage is located, whichever is smaller.
3. Drains from outdoor storage areas shall be sized to carry the volume of the fire flow and the volume of a 24-hour rainfall as determined by a 25-year storm.
4. Materials of construction for drainage systems shall be compatible with the materials stored.
5. Incompatible materials used in open systems shall be separated from each other in the drainage system. Incompatible materials are allowed to be combined when they have been rendered acceptable by an approved means for discharge into the public sewer.
6. Drains, including overflow from secondary containment, shall terminate in an approved location away from buildings, valves, means of egress, fire access roadways, adjoining property storm drains, waterways and critical environmental features (CEF's). Tanks shall be set back at 150 feet (45,720 mm) from any recognized waterway or CEF.

5005.1.8.1 Gas cabinets, exhausted enclosures, and exhaust ducts with a cross sectional dimension of 10 inches or greater shall be internally sprinklered.

5306.2 Interior supply location. Medical gases shall be stored in areas dedicated to the storage of such gases without other storage or uses. Where containers of medical gases in quantities greater than 300 ft³ (8.5 m³) and less than 1500 ft³ (42.5 m³) are located inside buildings, they shall be in a 1-hour exterior room, a 1-hour interior room or a gas cabinet in accordance with Section 5306.2.1, 5306.2.2, or 5306.2.3, respectively. Where containers of medical gases in excess of 1500 ft³ (42.5 m³) and less than 3,000 ft³ (85 m³) are located inside a building, they shall be protected by a local application fire sprinkler system in addition to the room or cabinet enclosure required by 5306.2.1, 5306.2.2 or 5306.2.3. Rooms or areas where medical gases are stored or used in quantities exceeding 3000 ft³ (85 m³) per control area shall be in accordance with the Building Code for high-hazard Group H occupancies.

5306.2.1 One-hour exterior rooms. A 1-hour exterior room shall be a room or enclosure separated from the remainder of the building by fire barriers constructed in accordance with Section 707 of the Building Code or horizontal assemblies constructed in accordance with Section 711 of the Building Code, or both, with a fire-resistance rating of not less than 1 hour. Openings between the room or enclosure and interior spaces shall be self-closing smoke- and draft-control assemblies having a fire protection rating of not

less than 1 hour. Rooms shall have at least one exterior wall that is provided with at least two vents. Each vent shall not be less than 72 square inches (0.046 m²) in area. One vent shall be within 12 inches (304.8 mm) of the floor and one shall be within 12 inches (304.8 mm) of the ceiling. Rooms containing medical gases in excess of 1500 ft³ (42.5 m³) and less than 3,000 ft³ (85 m³) shall be provided with at least one local application automatic sprinkler to provide container cooling in case of fire.

5306.2.2 One-hour interior room. When an exterior wall cannot be provided for the room, the room shall be exhausted through a duct to the exterior. Supply and exhaust ducts shall be enclosed in a 1-hour-rated shaft enclosure from the room to the exterior. Approved mechanical ventilation shall comply with the Mechanical Code and be provided at a minimum rate of 1 cubic foot per minute per square foot [0.00508 m³/(s × m²)] of the area of the room. Rooms containing medical gases in excess of 1500 ft³ (42.5 m³) and less than 3,000 ft³ (85 m³) shall be provided with at least one local application automatic sprinkler to provide container cooling in case of fire.

5306.2.3 Gas cabinets. Gas cabinets shall be constructed in accordance with Section 5003.8.6 and the following:

1. The average velocity of ventilation at the face of access ports or windows shall not be less than 200 feet per minute (61 m/s) with a minimum of 150 feet per minute (46 m/s) at any point of the access port or window.
2. Connected to a ducted exhaust system with exhaust ducts enclosed in a 1-hour shaft enclosure to the exterior.
3. Internally sprinklered when the quantity of medical gases exceeds 1500 ft³ (42.5 m³).

5306.3 Exterior supply locations. Oxidizer medical gas systems located on the exterior of a building shall be located in accordance with Section 6304.2.1.

5404.2 Outdoor storage. Outdoor storage of corrosive materials shall be in accordance with Sections 5001, 5003, 5004 and this chapter.

Exception: Up to 10 gallons of corrosive liquids may be stored outside of buildings without spill control, drainage, and secondary containment provided:

1. The volume of individual containers is less than five gallons;
2. The containers are constructed of metal or plastic; and
3. The containers are located a minimum of 10 feet from property lines, exit openings, and storm water drains.

5404.2.1 Above-ground outside storage tanks. Above-ground outside storage tanks of corrosive liquids shall be provided with secondary containment in accordance with Section 5004.2.2.

5504.3.1.1 Stationary Containers. Stationary containers shall be separated from exposure hazards in accordance with the provisions applicable to the type of fluid contained and the minimum separation distance indicated in Table 5504.3.1.1. Storage of flammable cryogenic fluids, including liquefied natural gas (LNG), in aggregate quantities exceeding 15,000 gallons (56,781 L) water capacity is prohibited outside of a light industry (LI) zoning district except as provided in this section.

The placement of aboveground or below ground containers of flammable cryogenic fluids, including liquefied natural gas (LNG), in aggregate quantities exceeding 15,000 gallon water (56,781 L) capacity may be considered for other locations on a case-by-case basis provided zoning issues, secondary containment, and fire exposures are satisfactorily addressed including the identification of hazard ratings in accordance with Appendix F. Where the nearest off-site exposure(s) is(are) less than 500 feet (152.4 m) from the container(s) the placement may be permitted outside of a light industry (LI) zoning district by the fire chief only after notification of owners/occupants of properties within 500 feet (152.4 m), requesting their input in order to assess the potential effect on the community. Notice to adjacent property owners shall be accomplished in accordance with the established procedures outlined in the Title 25 (*Land Development*) for notice of applications and administrative actions or decisions.

5601.2.4 Financial responsibility. Before a permit is issued, the applicant shall submit proof of a public liability insurance policy, in the principal sum of \$5,000,000 for personal injuries and \$5,000,000 for property damage. The policy shall be current and shall name the City as an additional insured for the purpose of the payment of all damages to persons or property that arise from, or are caused by, the conduct of any act authorized by the permit upon which any judicial judgment results. The fire chief is authorized to specify a greater or lesser amount when, in his or her opinion, conditions at the location of use indicate a greater or lesser amount is required. Government entities shall be exempt from this bond requirement.

Exception: The insurance requirements for fireworks and pyrotechnics are as follows:

- Aerial displays must carry a Certificate of Insurance for a minimum of \$1,000,000 (bodily injury) and \$500,000 (property damage).
- Non-aerial displays must carry a Certificate of Insurance for a minimum of \$500,000 (bodily injury) and \$300,000 (property damage). The City of Austin must be named as co-insured on the policy.
- The *fire chief* is authorized to specify a greater or lesser amount when, in his or her opinion, conditions at the location of use indicate a greater or lesser amount is required.

5601.2.4.1 Blasting. Before approval to do blasting is issued, the applicant for approval shall submit a certificate of insurance in such form, amount and coverage as determined by the legal department of the jurisdiction to be adequate in each case to indemnify the jurisdiction against any and all damages arising from permitted blasting.

5601.2.4.2 Fireworks display.

The permit holder shall furnish a certificate of insurance in an amount deemed adequate by the *fire chief* for the payment of all potential damages to a person or persons or to property by reason of the permitted display, and arising from any acts of the permit holder, the agent, employees or subcontractors.

5601.2.5 Permit application, review and fees. Blasting permit application, review and fees shall be in accordance with Sections 5601.2.5.1, 5601.2.5.2 and 5601.2.5.3

5601.2.5.1 Permit application. To obtain a permit, the blaster must file with the fire chief an application at least 120 days in advance of the proposed work date. Each application must describe the proposed work, the location of the work, and the other pertinent information as may be required.

5601.2.5.2 Permit review. The fire chief may require written comments on each permit application from the various affected City departments. When in the opinion of the fire chief the departments have a valid objection to the issuance of a permit, no permit may be approved until the objection has been resolved to the satisfaction of the fire chief.

5601.2.5.3 Permit Fees. Permits authorized by the provisions of Section 5601.2.5 may be issued only on payment of the appropriate fee, which is set by separate ordinance. City departments are not required to pay permit fees when engaged in the work described in this section.

5601.2.6 Permit Denial. When in the opinion of the fire chief there is a substantial danger to life, health, or property in the immediate area exposed to the blasting, fireworks display or use of pyrotechnic materials for which a permit is being requested, the request shall be denied.

5601.4 Qualifications. Persons in charge of magazines, blasting, fireworks display, or pyrotechnic special effect operations shall not be under the influence of alcohol or drugs that impair sensory or motor skills, shall not be less than 21 years of age and shall demonstrate knowledge of all safety precautions related to the storage, handling or use of *explosives, explosive materials* or fireworks. Persons actively involved in or responsible for blasting, fireworks displays, or the production of pyrotechnic special effects or displays shall meet all applicable federal, state and local license requirements for the work or activity being performed. Persons actively involved in blasting must also meet the following:

1. have no felony convictions or two or more misdemeanors within two years preceding the date of application for a permit, containing intoxication as an element of the offense; and
2. have no revoked, suspended, or terminated blaster's license, or any criminal action involving blasting activities pending in a federal, state, or municipal court of law.

5607.4 Restricted hours. Surface-blasting operations shall only be conducted during daylight hours between sunrise and sunset. Other blasting shall be performed during daylight hours unless otherwise *approved* by the *fire chief*. Prior written approval is required for blasting to be conducted on Sunday, legal holidays, or between the hours of 5:00 p.m. and 8:00 a.m. on other days.

5607.5 Notification. All blasting operations must be preceded by a pre-blast notification to the owners or managers of all affected premises. The range of the pre-blast notification shall be at the discretion of the blaster and as required by the permit. Where blasting is being conducted in the vicinity of utility lines or rights-of-way, the blaster shall notify the appropriate representatives of the Austin Utility Location and Coordination Committee and the Austin Transportation Department not less than 120 days in advance of blasting, specifying the location and intended time of such blasting. Verbal notices shall be confirmed with written notice.

Exception: In an emergency situation, the time limit shall not apply where *approved*.

5607.11.1 Approved blasting machines must be used. All other equipment is prohibited.

5607.12.1 Only blasting trunk wire of 18 gauge minimum may be used while conducting blasting operations under permits.

5607.14 Post-blast procedures. After the blast, the following procedures shall be observed.

1. Persons shall not return to the blast area until allowed to do so by the fire chief upon a recommendation from the blaster in charge.
2. The blaster shall allow sufficient time for smoke and fumes to dissipate and for dust to settle before returning to or approaching the blast area.
3. The blaster shall inspect the entire blast site for misfires before allowing other personnel to return to the blast area.

5607.16 Particle velocity limits and air overpressures. Particle velocities and air overpressures shall be in accordance with this section and Chapter 11 of NFPA 495. Particle velocities, frequencies, or air overpressure in excess of the prescribed limits

shall require the immediate suspension of blasting and initiation of corrective measures. The fire chief may grant or require deviations from these limits as required to adequately protect the public safety.

5607.16.1 Particle velocity. Particle velocities shall not exceed 1.7 inches per second. Monitoring of particle velocities for all blasting operations shall be carried out as required in this section. When particle velocities exceed 0.5 inches per second, blast frequencies shall also be monitored.

5607.16.2 Air overpressures. Air overpressures shall not exceed the value specified in Chapter 11 of NFPA 495.

5607.17 Blast Monitoring. A blast monitor, such as a seismic blast recording machine, is required during all blasting operations for which a permit is issued by the City. Particle velocity shall be recorded in three mutually perpendicular axes. The maximum particle velocity shall be the maximum of any of the three axes. Blast monitoring shall be performed by an independent company, experienced in planning and implementing blast monitoring programs. The blast monitoring company shall prepare monitoring plans and shall be responsible for ensuring that the monitor sensors are placed properly and that the measuring and recording instruments function properly. The monitoring company shall prepare blast monitoring reports. All monitoring reports shall carry the seal of an engineer licensed in the State of Texas and shall be retained on file by the permit holder. These reports shall be submitted to the Fire Department.

Exception: When, in the opinion of the fire chief, the damage to structures or buildings due to blasting operations is unlikely, the requirements of this subsection may be waived.

5607.18 Conditions of Approval. The fire chief shall set other conditions for the approval of the application that are necessary to adequately protect public health and safety. These conditions may include, but are not limited to, reduced allowable particle velocities, reduced allowable air overpressure, additional monitoring, increased insurance protection, hours of operation, type and amount of explosives used, evacuations or shelter-in-place for occupants in adjacent structures, and engineered blasting plans.

5703.4 Spill Control, Drainage Control, and Secondary Containment.

5703.4.1 General. Tanks, buildings, rooms, and areas used for storage, dispensing, use, mixing, or handling of Class I, II, and III-A liquids shall be provided with a means to control spillage and to contain or drain spillage and fire protection water as set forth in Section 5004.2.

Exception: Up to 10 gallons of Class I, II, and III liquids may be stored outside of buildings without spill control, drainage, and secondary containment, provided:

1. The volume of individual containers is less than 5 gallons;
2. The containers are constructed of metal or plastic; and,
3. The containers are located a minimum of 10 feet from property lines, exit openings, and storm water drains.

5703.4.2 Spill Control. When spill control is required, floors of rooms, buildings or areas containing flammable or combustible liquids must be sloped; constructed with sumps and collection systems; recessed a minimum of four inches (101.6 mm); provided with a liquid-tight, raised sill to a minimum height of four inches (101.6 mm) to prevent the flow of liquids to adjoining areas; or otherwise constructed to contain a spill from the largest single container or tank. The floor and sill must be constructed of noncombustible material and must be liquid-tight. The liquid-tight seal must be compatible with the material being stored. When raised sills are provided, they are not required at perimeter openings that are provided with an open-grate trench across the opening that connects to an approved drainage control system.

5703.4.3 Drainage Control.

5703.4.3.1 General. When drainage control is required, rooms, buildings or areas must be provided with a drainage system to direct the flow of liquids to an approved location or treatment system, or be provided with secondary containment for the flammable and combustible liquids and fire protection water.

5703.4.3.2 Sizing. Drains shall be sized to carry the sprinkler system design flow rate over the sprinkler system design area. The slope of drains may not be less than one percent. The drains must be liquid-tight. Materials used to construct drainage systems must be compatible with the stored materials.

5703.4.3.3 Incompatible Materials. Incompatible materials must be separated from each other in drainage systems.

Exception: Incompatible materials are allowed to be combined when they have been rendered acceptable for discharge by an approved means into the public sewer.

5703.4.3.4 Neutralizers and Treatment Systems. Drainage systems for spillage and fire-protection water which are directed to a neutralizer or treatment system shall comply with the following:

1. The system must be designed to handle the maximum worst-case spill from the single largest container plus the volume of fire protection water from the system over the minimum design area for a water flow duration of 20 minutes; and

- 2719 2. Overflow control from the neutralizer or treatment system must direct
2720 liquid leakage and fire protection water to a safe location away from
2721 buildings, material, or fire-protection control valves, means of egress,
2722 adjoining properties or fire apparatus access roadways.

2723 **5703.4.4 Secondary Containment.** When secondary containment is required:

- 2724 1. Drains must be directed to a containment system or other location designed
2725 as secondary containment for flammable or combustible liquids and fire-
2726 protection water; or
- 2727 2. The room, building or area must be designed to provide secondary
2728 containment of flammable and combustible liquids and fire-protection water
2729 through the use of recessed floors or liquid-tight, raised sills.

2730 **5703.4.4.1 Sizing of Indoor Containment.** Secondary containment must be
2731 designed to retain the spill from the largest single container plus the design flow
2732 rate of the sprinkler system for the area of the room or area in which the storage
2733 is located or the sprinkler system design area, whichever is smaller. The
2734 containment capacity must be capable of containing the water flow from a
2735 discharge having a duration of 20 minutes.

2736 **5703.4.4.2 Sizing of Outdoor Containment.** If the storage area is open to
2737 rainfall, the secondary containment shall be designed to accommodate the
2738 volume of the largest container or tank plus a 24-hour rainfall as determined by
2739 a 25-year storm.

2740 **Exception:** Listed tanks constructed with an integral method of secondary
2741 containment.

2742 **5703.4.4.3 Construction of Secondary Containment.** The floor and walls of
2743 the secondary containment must be constructed of noncombustible material and
2744 must be liquid-tight. The liquid-tight seal must be compatible with the material
2745 being stored. In addition to these requirements, walls must be constructed in
2746 accordance with Section 5004.2.

2747 **5703.4.4.4 Overflow.** Overflow control from the secondary containment system
2748 must direct liquid leakage and fire-protection water to a safe location away
2749 from buildings, material or fire-protection control valves, means of egress, fire
2750 apparatus access roadways, adjoining properties, storm drains, waterways, and
2751 critical environmental features (CEFs). Tanks shall be set back at least 150 feet
2752 from any recognized waterway or CEF.

2753 **5703.4.4.5 Monitoring and Leak Detection.**

2754 **5703.4.4.5.1 Method.** A monitoring method capable of detecting hazardous
2755 material leakage from the primary containment into the secondary

containment must be provided. When visual inspection of the primary containment is not practical, other approved means of monitoring are allowed. When double walled tanks are used to provide secondary containment for Class I and II liquids, automatic leak detection devices must be provided. When secondary containment is subject to the intrusion of water, a monitoring method for detecting the water must be provided. When monitoring devices are provided, they must be connected to distinct visual or audible alarms.

5703.4.4.5.2 Testing. Leak-detecting devices shall be tested annually by the owner or occupant of the property on which they were located. Test results shall be maintained on the premises and available to the fire chief on request.

5704.2.9.6.1 Locations where above-ground tanks are prohibited. Storage of Class I and II liquids in above-ground tanks outside of buildings is prohibited outside of a major industry (MI) district.

Exceptions:

1. The storage of up to 12,000 gallons (45,425 L) of Class I and II liquids within the limits defined as Light Industrial is allowable provided the tank is listed and labeled “protected aboveground tank,” and is installed in accordance with Section 5704.2.9.7 and its listing. The product shall be a noncorrosive, nonreactive liquid having a specific gravity equal to or less than one.
2. The storage of up to 1,100 gallons (4,164 L) of Class I and II liquids at construction sites is allowed provided the tank is listed, labeled, and installed in accordance with its listing.
3. The placement of aboveground storage tanks at other locations or of greater capacity may be considered on a case-by-case basis provided zoning issues, secondary containment, and fire exposures are satisfactorily addressed. The placement of aboveground tanks of Class I and II liquids in aggregate quantities exceeding 12,000 gallons (45,425 L) water capacity, where the nearest off-site exposure(s) is (are) less than 500 feet (152.4 m) from the tank(s), may be permitted by the fire chief only after notification of owners/occupants of properties within 500 feet (152.4 m) requesting their input in order to assess the potential effect on the community. Notice to adjacent property owners shall be accomplished in accordance with the established procedures outlined in the Title 25 (*Land Development*) for notice of applications and administrative actions or decisions.

5704.2.10 Drainage and diking. The area surrounding a tank or group of tanks shall be provided with drainage control or shall be diked to prevent accidental discharge of liquid from endangering adjacent tanks, adjoining property, reaching waterways, or CEF's.

Exceptions:

1. For tank installations having an aggregate volume of less than 50,000 gallons, the fire chief is authorized to alter or waive these requirements based on a technical report which demonstrates that such tank or group of tanks does not constitute a hazard to other tanks, waterways, CEF's, or adjoining property, after consideration of special features such as topographical conditions, nature of occupancy and proximity to buildings on the same or adjacent property, capacity, and construction of proposed tanks and character of liquids to be stored, and nature and quantity of private and public fire protection provided.
2. Drainage control and diking is not required for listed secondary containment tanks.

5704.2.10.1 Volumetric capacity. The volumetric capacity of the diked area shall not be less than the greatest amount of liquid that can be released from the largest tank within the diked area plus a 24-hour rainfall as determined by a 25-year storm. The capacity of the diked area enclosing more than one tank shall be calculated by deducting the volume of the tanks other than the largest tank below the height of the dike.

5704.2.11.1 Location. Flammable and combustible liquid storage tanks located underground shall be in accordance with all of the following:

1. Tanks shall be located with respect to existing foundations and supports such that the loads carried by the latter cannot be transmitted to any portion of the area excavated for the installation of the tank.
2. The distance from any part of an excavated area intended for the installation of a tank for storing liquids to the nearest wall of a basement, pit, cellar, or lot line shall not be less than five feet (1523 mm).
3. A minimum distance of two feet (610 mm), shell to shell, shall be maintained between underground tanks.

5704.2.11.2 Depth and cover. Excavation for underground storage tanks shall be made with due care to avoid undermining of foundations of existing structures. Underground tanks shall be set on firm foundations and surrounded with at least two feet (610 mm) of noncorrosive inert material, such as clean sand or pea gravel well tamped in place or in accordance with the manufacturer's installation instructions. Tanks shall be covered with a minimum of two feet (610 mm) of earth or shall be covered by not less than one foot (305 mm) of earth, on top of which

shall be placed a slab of reinforced concrete not less than four inches (102 mm) thick.

When underground tanks are, or are likely to be, subjected to traffic, they shall be protected against damage from vehicles passing over them by at least three feet (915 mm) of earth cover, or 18 inches (457 mm) of well-tamped earth plus six inches (152 mm) of reinforced concrete, or eight inches (203 mm) of asphaltic concrete. When asphaltic or reinforced concrete paving is used as part of the protection, it shall extend at least two feet (610 mm) horizontally beyond the outline of the tank in all directions.

For tanks built in accordance with Section 5704.2.7, the burial depth and the height of the vent line shall be such that the static head imposed at the bottom of the tank will not exceed 10 psig (68.9 kPa) if the fill or vent pipe is filled with liquid.

If the depth of cover exceeds seven feet (2134 mm) or the manufacturer's specifications, reinforcements shall be provided in accordance with the tank manufacturer's recommendations.

Nonmetallic underground tanks shall be installed in accordance with the manufacturer's instructions. The minimum depth of cover shall be as specified above in this section.

5704.2.11.4.1 Inventory control. Daily inventory records shall be maintained for underground storage tank systems. Fill and withdrawal amounts shall be reconciled monthly.

5803.1.1 Special limitations for indoor storage and use. Flammable gases shall not be stored or used in Group A, E, I or R occupancies or in offices in Group B occupancies.

Exceptions.

1. Cylinders of nonliquefied compressed gases not exceeding a capacity of 250 cubic feet (7.08 m³) or liquefied gases not exceeding a capacity of 40 pounds (18 kg) each at normal temperature and pressure (NTP) used for maintenance purposes, patient care or operation of equipment.
2. Food service operations in accordance with Section 6103.2.1.7.

6003.1.4.1 Floors. In addition to the requirements set forth in Section 5004.12, floors of storage shall be of liquid-tight construction.

6101.2 Permits. The requirements in this chapter for permits to store or use hazardous materials within the City are applicable to a permit to store, use, handle, or dispense LP-gas, or to install or maintain an LP-gas container.

Permits shall be required as set forth in Section 105.6. As noted in Section 105.6.21.7 of these amendments, a permit is not required for non-commercial use at a single family residence. However, the information concerning location and exposures, as outlined in the Fire Protection Criteria Manual, shall be provided to the Fire Department by the owner of the residence.

Where a single container is over 2,000 gallon (7571 L) or the aggregate capacity of containers is over 4,000 gallons (15,142 L) water capacity, the installer shall submit plans for the installation.

Distributors shall not fill an LP-gas container for which a permit is required unless a permit for installation has been issued for that location by the fire chief.

6103.2.1.2 Construction and temporary heating. Portable LP-gas containers are allowed to be used in buildings or areas of buildings undergoing construction or for temporary heating as set forth in Sections 6.20.4, 6.20.5 and 6.20.8 of NFPA 58.

6103.2.2 Industrial vehicles and floor maintenance machines. LP-gas containers on industrial vehicles and floor maintenance machines shall comply with Sections 11.14 and 11.15 of NFPA 58.

6104.2 Maximum capacity within established limits. The storage of LP-gas in aggregate quantities greater than 2000 gallons (7571 L) water capacity is not permitted within the city. The storage of LP-gas in aboveground or below ground containers, greater than 24 gallons (91 L) water capacity and up to a maximum of 2000 gallons (7571 L) water capacity, is prohibited outside of Major Industry (MI) or Light Industry (LI) districts. Location of containers within a Light Industry zoning district may be approved by the fire chief, subject to zoning and fire exposure concerns being satisfactorily addressed.

Exceptions:

1. The fire chief may approve the placement of aboveground or below ground containers for single family residential, multi-family residential or commercial occupancies on a case-by-case basis, provided the container and appurtenances are listed and installed in accordance with that listing, and issues such as zoning and fire exposures are satisfactorily addressed. Guidance for evaluating locations for acceptability is published in the Fire Protection Criteria Manual.
2. Where the nearest off-site exposure(s) is(are) less than 1,000 feet (304.8 m) from the tank(s), the fire chief may approve the placement of aboveground or below ground containers of LP-gas in aggregate quantities exceeding 2000 gallon water capacity only after notification of owners/occupants within 1,000 feet (304.8 m) of the tank(s) to assess the potential effect on the community. Notice to adjacent property owners and occupants shall be accomplished in accordance with the established procedures outlined in the

Title 25 (*Land Development*) for notice of applications and administrative actions or decisions, with the exception that notice shall be made to a distance of 1000 feet (304.8 m).

6104.3.2 Special hazards. LP-gas containers shall also be located with respect to special hazards including, but not limited to, above-ground flammable or combustible liquid tanks, oxygen or gaseous hydrogen containers, flooding or electric power lines as specified in Sections 6.4 and 6.5 of NFPA 58.

6104.4 Multiple LP-gas container installations. Multiple LP-gas container installations with a total water storage capacity of more than 180,000 gallons (681 300 L) [150,000-gallon (567 750 L) LP-gas capacity] shall be subdivided into groups containing not more than 180,000 gallons (681 300 L) in each group. Such groups shall be separated by a distance of not less than 50 feet (15 240 mm), unless the containers are protected in accordance with one of the following:

1. Mounded in an approved manner.
2. Protected with approved insulation on areas that are subject to impingement of ignited gas from pipelines or other leakage.
3. Protected by firewalls of approved construction.
4. Protected by an approved system for application of water as specified in Table 6.4.1.2 of NFPA 58.
5. Protected by other approved means.

Where one of these forms of protection is provided, the separation shall not be less than 25 feet (7620 mm) between LP-gas container groups.

6107.2 Smoking and other sources of ignition. “No Smoking” signs complying with Section 310 shall be posted when required by the fire chief. Smoking within 25 feet (7620 mm) of a point of transfer, while filling operations are in progress at LP-gas containers or vehicles, shall be prohibited.

Control of other sources of ignition shall comply with Chapter 3 of this code and Section 6.23 of NFPA 58.

6108.1 General. Fire protection shall be provided for installations having LP-gas storage containers with a water capacity of more than 4,000 gallons (15,140 L), as required by Section 6.29 of NFPA 58.

6109.11.2 Construction. The construction of such buildings and rooms shall comply with requirements for Group H occupancies in the Building Code, Chapter 10 of NFPA 58 and both of the following:

1. Adequate vents shall be provided to the outside at both top and bottom, located at least five feet (1524 mm) from building openings.
2. The entire area shall be classified for the purposes of ignition source control in accordance with Section 6.23 of NFPA 58.

6303.1.1.1.2.1 A maximum of 110 pounds (49.9 kg) of solid Class 3 oxidizer is allowed in nonresidential detached storage adjacent to Group R occupancies, when such materials are necessary for maintenance purposes associated with swimming pools. The oxidizers shall be stored in approved containers and in an approved manner.

CHAPTER 80 REFERENCED STANDARDS

This chapter lists the standards that are referenced in various sections of this document and the 2021 International Fire Code. The standards within Chapter 80 of the published 2021 International Fire Code and the amendments adopted by the City are listed herein and in the published code by the promulgating agency of the standard, the standard identification, the effective date and title, and the section or sections of this document that reference the standard. The references specifically amended below replace the reference within the published code. All other references remain as published by the ICC. The application of the referenced standards shall be as specified in Section 102.7.

National Fire
Protection Association
Batterymarch Park
Quincy, MA 02269

NFPA

| Standard Reference Number | Title | Referenced In Code Section Number |
|---------------------------------|--|--|
| 13—2019 | Installation of Sprinkler Systems | 903.3.1.1, 903.3.2, 903.3.5.1.1, 903.3.8.2, 903.3.8.3.5, 904.11, 905.3.4, 907.6.3, 1009.3, 1103. 4.8, 3201.1, 3204.2, Table 3206.2, 3206.4.1, 3206.9, 3207.2, 3207.2.1, 3208.2.2, 3208.2.2.1, 3208.4, 3210.1, 3401.1, 5104.1, 5104.1.1, 5106.5.7, 5704.3.3.9, Table 5704.3.6.3(7), 5704.3.7.5.1, 5704.3.8.4 |
| 13D—2019 | Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes. | 903.3.1.3, 903.3.5.1.1 |
| 13R—2019 | Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height. | 903.3.1.2, 903.3.5.2 903.3.5.1.2, 903.4 |
| 14 — 2019 | Installation of Standpipe and Hose Systems | 905.2, 905.4.2, 905.6.2, |

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| | 905.8 |
| 30 — 2021 Flammable and Combustible Liquids Code | 610.1, 5701.2, 5703.6.2, 5703.6.2.1, 5704.2.7, 5704.2.7.1, 5704.2.7.2, 5704.2.7.3.2, 5704.2.7.4, 5704.2.7.6, 5704.2.7.7, 5704.2.7.8, 5704.2.7.9, 5704.2.9.3, 5704.2.9.4, 5704.2.9.6.1.1, 5704.2.9.6.1.2, 5704.2.9.6.1.3, 5704.2.9.6.1.4, 5704.2.9.6.1.5, 5704.2.9.6.2, 5704.2.9.7.4, 5704.2.10.2, 5704.2.11.4, 5704.2.11.5.2, 5704.2.12.1, 5704.3.1, 5704.3.6, Table 5704.3.6.3(1), Table 5704.3.6.3(2), Table 5704.3.6.3(3), 5704.3.7.2.3, 5704.3.8.4, 5706.8.3 |
| 58 — 2020 Liquefied Petroleum Gas Code | 603.4.2.1.1, 2307.4, 6101.1, 6103.1, 6103.2.1, 6103.2.1.2, 6103.2.1.7, 6103.2.2, 6104.1, 6104.3.2, 6104.4, 6105.2, 6106.2, 6106.3, 6107.2, 6107.4, 6108.1, 6108.2, 6109.11.2, 6111.3 |
| 72—2019 National Fire Alarm and Signaling Code | 508.1.5, Table 901.6.1, 903.4.1, 904.3.5, 907.2, 907.2.6, 907.2.9.3, 907.2.11, 907.2.13.2, 907.3, 907.3.3, 907.3.4, 907.5.2.1.2, 907.5.2.2, 907.6, 907.6.1, 907.6.2, |

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| | 907.6.5, 907.7, 907.7.1, 907.7.2, 907.8, 907.8.2, 907.8.5, 1103.3 |
| 1221 – 2019 Standard for the Installation, Maintenance and Use of Emergency Services Communication Systems, Chapters 1, 3, and 5 and Section 9.6 only. | 907.2.13.2 |

B105.1 One- and two-family dwellings. The minimum fire-flow requirements for detached one- and two-family dwellings having a fire-flow calculation area which does not exceed 3,600 square feet (344.5 m²) and separated from adjacent homes and structures by at least 10 feet (3.05 m) shall be 1,000 gallons per minute (3785.4 L/min).

B105.1.1 The minimum fire-flow requirements one- and two-family dwellings, including townhomes, having a fire-flow calculation area which does not exceed 3,600 square feet (344.5 m²) and separated from adjacent homes and structures by less than 10 feet (3.05 m) shall be 1,500 gallons per minute (3785.4 L/min).

B105.1.2 Fire-flow and flow duration for dwellings having a fire-flow calculation area in excess of 3,600 square feet (344.5 m²) shall not be less than that specified in Table B105.1.

Exception: A reduction in required fire flow of 50 percent, as approved, is allowed when the building is provided with an approved automatic sprinkler system.

APPENDIX F HAZARDOUS MATERIALS, HAZARD RANKING

F101.2 General. The hazard rating of a material is required to be included in the hazardous materials inventory and shall be determined by evaluating the potential for harm and the relative toxicity of the material or mixture of materials as a whole. NFPA Standard 704, "Standard System for the Identification of the Fire Hazards of Materials for Emergency Response", shall be used to the extent possible in identifying degree of hazard and is declared to be part of this code as if set forth in full in this section. MSDS's, published data (Irving Sax, etc.), Table F101.2, or Appendix E shall be used when NFPA 704-2017 does not apply or provides insufficient guidance, e.g. oxidizers. Sections 105.5.21 and 5001.2 also include applicable requirements.

As noted in Section 4.2 of NFPA 704, there could be specific reasons to alter the degree of hazard assigned to a specific material; for example, ignition temperature, flammable range or susceptibility of a container to rupture by an internal combustion explosion or to metal failure while under pressure or because of heat from external fire. As a result, the degree of hazard assigned for the same material can vary when assessed by different people of equal competence.

The hazard rankings assigned to each class represent reasonable minimum hazard levels for a given class based on the use of criteria established by NFPA 704. Specific cases of use or storage may dictate the use of higher degrees of hazard in certain cases.

PART 2. This ordinance takes effect on September 1, 2021.

PASSED AND APPROVED

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_____, 2021

Steve Adler

Mayor

APPROVED: _____

ATTEST: _____

Anne L. Morgan
City Attorney

Jannette S. Goodall
City Clerk