

# Recommended Amendments to the 1997 Uniform Building Code

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**\*\*Section 209; add a new definition to read as follows:**

**HIGH-RISE BUILDING** is a building having floors used for human occupancy located more than 55 feet (16 764 mm) above the lowest level of fire department vehicle access.

REASON: To provide a definition that did not previously exist in the Code.

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**\*\*Section 214; change definition of “Mechanical Code” to read as follows:**

**MECHANICAL CODE** is the *Uniform International Mechanical Code*<sup>TM</sup> promulgated by the International Conference of Building Officials, as adopted by this jurisdiction.

REASON: To reference NCTCOG’s recommended code.

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**\*\*Section 217; change definition of “Plumbing Code” to read as follows:**

**PLUMBING CODE** is the *International Plumbing Code*<sup>TM</sup>, as adopted by this jurisdiction.

REASON: To reference NCTCOG’s recommended code.

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**\*\*Section 220; add a new definition for “Self-Service Storage Facility”.**

**SELF-SERVICE STORAGE FACILITY** is real property designed and used for the purpose of renting or leasing individual storage and removing personal property on a self-service basis.

REASON: To provide a definition of a term used in a recommended amendment.

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**\*\*Section 302.4, Exception #3; changed to read as follows:**

3. In the one-hour occupancy separation between Group R, Division 3 and Group U Occupancies, the separation may be limited to the installation of not less than one-half inch gypsum board, or materials approved for one-hour fire-resistive construction on the garage side; and a ~~self-closing~~, tightfitting ~~solid wood weather stripped~~ door 1 3/8 inches (35 mm) in thickness, or a ~~self-closing~~, tightfitting door having a fire-protection rating of not less than 20 minutes when tested in accordance with Part II of UBC Standard 7-2, which is a part of this code, is permitted in lieu ...{remainder to read the same}.

REASON: To make the code consistent with the prevailing practice in the region.

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**\*\*Section 305.9; change to read as follows:**

**305.9 Fire Alarm Systems.** An approved fire alarm system shall be provided for Group E Occupancies ~~with an occupant load of 50 or more persons.~~ In Division 3 Occupancies, system smoke detectors shall be installed in all rooms used by children. In Group E Occupancies provided with an ... *{remainder of section unchanged}* ...

REASON: To provide a higher level of protection for rooms occupied by children in Group E, Division 3 occupancies.

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**\*\*Section 310.9.1.3; add an Exception to read as follows:**

**Exception:** Whenever rewiring or new wiring occurs during the alteration, repair or addition process that, in the opinion of the Building Official, makes it possible to hardwire the smoke detectors, then those that can be hardwired shall be installed as required for new construction.

REASON: To add an exception that encourages the hardwiring of smoke detectors when circumstances would feasibly allow it.

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**\*\*Section 310.9.1.4; add a sentence at the end to read as follows:**

If, in the opinion of the Building Official, the sounding of one alarm is not loud enough to be heard in all sleeping areas, one or more detectors may be required to be interconnected.

REASON: In very large dwellings, the alarm should alert occupants in all sleeping areas.

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**\*\*Section 311.2.3.5; changed to read as follows:**

**311.2.3.5 Vehicle barriers.** In parking garages where any parking area is located more than 5 feet (1524 mm) above the adjacent grade, deck, floor or ramp, vehicle barriers shall be provided.  
*{remainder of section unchanged}*

REASON: To provide additional definition as to when vehicle barriers are required in parking garages.

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**\*\*Section 403.1; changed to read as follows:**

**SECTION 403 -- SPECIAL PROVISIONS FOR ~~GROUP B OFFICE BUILDINGS AND GROUP R, DIVISION 1~~ HIGH RISE OCCUPANCIES**

**403.1 Scope.** This section applies to all ~~Group B office buildings and Group R, Division 1~~ Occupancies, each having floors used for human occupancy located more than ~~75~~ 55 feet (~~22-860~~ 16 764 mm) above the ... *{remainder of paragraph unchanged}* ... with Section 403.2 .

**Exception:** Open parking garages in compliance with Section 311.9.

REASON: Longtime regional amendment – based on equipment available – companion to allow tradeoffs.

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**\*\*Section 403.2.2, item #2; changed to read as follows:**

2. Except for corridors in ~~Group B offices and Group R, Division 1 Occupancies~~, and partitions separating dwelling units or guest rooms, all interior-nonbearing partitions required to be one-hour fire-resistive construction by Table 6-A may be of non-combustible construction without a fire-resistive time period. For allowable reduction of corridor construction, see Section 1004.3.4.3.

REASON: Current practice in many cities in the region.

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**\*\*Section 403.2.2, item #3; delete.**

~~3. Fire dampers, other than those needed to protect floor-ceiling assemblies to maintain the fire resistance of the assembly.~~

REASON: To retain a requirement for fire dampers even if an automatic sprinkler system exists.

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**\*\*Section 403.5.2; add a third paragraph to read as follows:**

Actuation of any automatic or manual device shall initiate an alarm signal on the alarming floor, the floor above, and the floor below and identify on an annunciator the zone or address from which the alarm signal originated.

REASON: To provide cost savings with a more practical provision.

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**\*\*Section 403.5.3; change to read as follows:**

**403.5.3 Fire department communication system.** A two-way, approved fire department communication system shall be provided for fire department use. It shall operate between the central control station and elevators, elevator lobbies, emergency and standby power rooms, fire pump room and at entries into enclosed inside stairways at each floor level.

REASON: To expand the areas in which a fire department communication system is located.

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**\*\*Section 403.7, item #1; add an Exception #4 to read as follows:**

4. When corridors are not required to be of fire-resistive construction under Section 1004.3.4.3, the elevator lobby is not required.

REASON: To provide a sprinkler tradeoff to promote installation of automatic sprinkler systems.

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**\*\*Section 503.4.8; add a third paragraph to read as follows:**

For one- and two-family dwellings and apartment buildings, open metal carport structures may be constructed within zero (0) feet of the property line without fire-resistive or opening protection when the location of such is approved as required by other City ordinances.

REASON: Unreasonable to expect firewall on carports.

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**\*\*Section 504.3; change the exceptions to read as follows:**

**Exceptions:** 1. The major occupancy classification of a building may be used to determine the allowable area of such building when the major use occupies not less than 90 percent of the area of any floor of ~~the~~ a non-sprinklered building, or not less than 80 percent of the area of any floor of a building provided with an automatic sprinkler system throughout; and provided that other minor accessory uses shall not exceed the basic area permitted by Table 5-B for such minor uses and that various uses are separated as specified in Section 302.4.

2. Groups, B, F, M and S and Group H, Division 5 Occupancies complying with the provisions of Section 505.2 may contain other occupancies provided that such occupancies do not occupy more than 10 percent of the area of any floor of a non-sprinklered building, or not more than 20 percent of the area of any floor of a building provided with an automatic sprinkler system throughout; nor more than the basic area permitted in the occupancy by Table 5-B for such occupancy, and further provided that such occupancies are separated as specified in Section 302.4.

REASON: To provide a sprinkler tradeoff to promote installation of automatic sprinkler systems.

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**\*\*Section 505.2; add a third paragraph to read as follows:**

In other than Group H, Divisions 1, 2 or 3 Occupancies, the area of the following buildings shall not be limited if the building is provided with an approved automatic sprinkler system throughout as specified in Chapter 9, and entirely surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width. The unlimited area provisions of this paragraph cannot be used in conjunction with the fire-resistive substitution provisions of Section 508.

1. Type II-FR buildings.
2. Type II-1hr buildings with five or less stories.
3. Type II-N buildings with three or less stories.

REASON: To provide a sprinkler tradeoff to promote installation of automatic sprinkler systems.

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**\*\*Section 505.3; items #1 through #4 are changed to read as follows:**

- ~~1. Section 506 for an increase in allowable number of stories. (delete)~~
- ~~2. Section 904.2.6 for Group H, Division 1 and 2 Occupancies.~~
- ~~3. Substitution for one hour fire resistive construction pursuant to Section 508. (delete)~~
- ~~4. Section 402, Atria. Section 505.2 for unlimited area.~~

REASON: To provide a sprinkler tradeoff to promote installation of automatic sprinkler systems.

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**\*\*Section 506; items #1 through #5 of the second paragraph are changed to read as follows:**

- ~~1. Section 904.2.6 for Group H, Division 1, 2, 3, 6 and 7 Occupancies.~~
- ~~2. Section 505 for an increase in allowable area. (delete)~~
- ~~3. Substitution for one hour fire resistive construction pursuant to Section 508. (delete)~~

4. ~~Section 402, Attria~~ Section 505.2 for unlimited area.

5. Section 904.2.7 for Group I, Divisions 1.1 and 1.2 Occupancies used as hospitals, nursing homes or health-care centers in Type II One-hour, Type III One-hour, Type IV or Type V One-hour construction.

REASON: To provide a sprinkler tradeoff to promote installation of automatic sprinkler systems.

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**\*\*Section 508 unchanged except item #6 is changed to read as follows:**

6. Corridors, except as specifically exempted in Sections 1004.3.4.3 (Sections 1004.3.4.3.1 and 1004.3.4.3.2).

REASON: To provide a sprinkler tradeoff to promote installation of automatic sprinkler systems.

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**\*\*Table 5-A; insert a footnote #8 to the heading “EXTERIOR WALLS <sup>8</sup>” and add the footnote to read as follows:**

<sup>8</sup> When the exterior wall of a non-high-rise building is more than 20 feet from the property line, the fire-resistive requirements for exterior bearing and exterior nonbearing walls may be reduced by one-hour when the building is provided with an approved automatic sprinkler system throughout as specified in Chapter 9. However, a wall that is required to be one-hour may not be reduced except as allowed under Section 508.

REASON: To provide a sprinkler tradeoff to promote installation of automatic sprinkler systems.

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**\*\*Table 6-A; insert a footnote #4 in building element #8, “8. Roofs and roof-ceilings <sup>4</sup>” and add a footnote #4 to read as follows:**

<sup>4</sup>The fire-resistive requirements for roofs of non-high-rise buildings may be reduced by one-hour when the building is provided with an approved automatic sprinkler system throughout as specified in Chapter 9.

REASON: To provide a sprinkler tradeoff to promote installation of automatic sprinkler systems.

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**\*\*Section 708.2.1; add a new sentence to item #4 to read as follows:**

For combustion air ducts within dwelling units, see also Section 709.1, Exception to item #1 of the Mechanical Code.

REASON: To provide additional clarity.

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**\*\*Section 708.3.1.2.1; change exception #2 to read as follows:**

2. Where approved sprinklers are installed within the attic space, draftstopping may be as specified in the exception to Section 708.3.1.2.2.

REASON: To provide additional clarity.

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**\*\*Section 708.3.1.2.2; change the exception to read as follows:**

**Exception:** Where approved automatic sprinklers are installed within the attic space, the area between draft stops may be 9,000 square feet (836 m<sup>2</sup>) and the greatest horizontal dimension may be 100 feet (30 480 mm).

REASON: To provide additional clarity.

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**\*\*Section 709.6.1; changed to read as follows:**

**709.6.1 General.** When protection of openings is required, Through through penetrations of the fire-resistive walls shall comply ... *{remainder of section unchanged}* .

REASON: Deemed an unreasonable requirement and continues current prevailing practice in the region.

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**\*\*Section 709.7; changed to read as follows:**

**709.7 Membrane Penetrations.** When protection of openings is required, Membrane membrane penetrations of the fire-resistive ... *{remainder of section unchanged}* .

REASON: Deemed an unreasonable requirement and continues current prevailing practice in the region.

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**\*\*Section 713.10; item #5 is changed to read as follows:**

5. Penetrations of elevator lobbies required by Sections ~~3002~~ 403.7 and 1004.3.4.5.

REASON: To provide a sprinkler tradeoff to promote installation of automatic sprinkler systems.

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**\*\*Section 713.10; add a fourth paragraph to read as follows:**

For dampers in combustion air openings, see also Section 710.2 of the Mechanical Code. For dampers in use with direct-fired air-heating equipment, see also Section 915.7 of the Mechanical Code.

REASON: To provide additional clarity and guidance.

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**\*\*Section 713.11; add a fourth paragraph to read as follows:**

For penetrations of ducts conveying hazardous exhausts, see also Section 510.6.4 of the Mechanical Code. For dampers in combustion air openings, see also Section 710.2 of the Mechanical Code. For dampers in use with direct-fired air-heating equipment, see also Section 915.7 of the Mechanical Code.

For penetrations of ducts in H-6 Occupancies, see also Section 1202.2.5 of this code.

REASON: To provide additional clarity and guidance.

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**\*\*Section 902; subitems 1.3, 1.4, 1.5 and 1.6 added to read as follows:**

1.3 U.B.C. Standard 9-4, Standard on Aircraft Hangars

1.4 U.B.C. Standard 9-5, Installation of Halon Fire Extinguishing System.

1.5 U.B.C. Standard 9-6, Standard for the Installation of Private Fire Service Mains and Their Appurtenances

1.6 U.B.C. Standard 9-7, Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes

REASON: To add additional UBC Standards that are used by jurisdictions in the region.

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**\*\*Section 904.1.2; changed to read as follows:**

**904.1.2 Standards.** Fire-extinguishing systems shall comply with U.B.C. Standards 9-1, ~~and~~ 9-2, 9-4, 9-5 and 9-6; along with the appropriate National Fire Protection Association Standards.

**EXCEPTIONS:** 1. Automatic fire-extinguishing systems not covered with U.B.C. Standard 9-1, ~~or~~ 9-2, 9-4, 9-5 or 9-6 shall be approved and installed in accordance with approved standards.

2. Automatic sprinkler systems may be connected to the domestic water-supply main when approved by the building official, provided the domestic water supply is of adequate pressure, capacity and sizing for the combined domestic and sprinkler requirements. In such case, the sprinkler system connection shall be made between the public water main or meter and the building shutoff valve, and there shall not be intervening valves or connections. The fire department connection may be omitted when approved by the fire department.

3. Automatic sprinkler systems in Group R Occupancies four stories or less may be in accordance with U.B.C. Standard 9-3.

4. Automatic sprinkler systems in One- and Two-Family Dwellings and Manufactured Homes may be in accordance with U.B.C. Standard 9-7.

5. Where sprinklers are installed in electrical rooms they shall be separated from the buildings main sprinkler system by a pre-action valve. This valve shall be connected to fire detection device(s) in the electrical room. Sprinkler piping shall remain dry until the fire detection device activates and opens the pre-action valve. Detection devices shall have a minimum temperature rating of 165 degrees Fahrenheit. Sprinkler head(s) shall be of a type to remain closed until sufficient heat is present to open them. The sprinkler(s) shall have a minimum temperature rating of 212 degrees Fahrenheit. Sprinkler heads in electrical rooms shall be protected with a listed guard over the head. Sprinkler heads may be installed in electrical rooms without the pre-action valve, fire detection device and guard if approved tamper proof sprinkler heads are installed in place of standard heads.

Water supply as required for such systems shall be provided in conformance with the supply

requirements of the respective standards; however, every fire protection system shall be designed with a 5 psi margin of safety.

REASON: Documents and standardizes current practices in the region.

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**\*\*Section 904.1.3; change to read as follows:**

**904.1.3 Modifications.** When residential sprinkler systems as set forth in UBC Standard 9-3 are provided, exceptions to, or reductions in, code requirements based on the installation of an automatic fire-extinguishing system are not allowed. Allowable tradeoffs for, or increases in, Building Code provisions based on the installation of an automatic fire-extinguishing system are not allowed.

**Exception:** Reductions are allowed for the following provisions:

1. Section 708.3.1.1.3, draft stops in floor-ceiling assemblies.
2. Section 708.3.1.2.1, draft stops in attics.
3. Section 708.3.1.2.2, draft stops in attics.

REASON: To provide a sprinkler tradeoff to promote installation of automatic sprinkler systems.

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## OPTION A

**\*\*Section 904.2.2; item #5 is changed and items #6 and #7 are added to read as follows:**

5. Throughout all buildings with a floor level, other than penthouses in compliance with Section 1511, with an occupant load of 30 or more that is located 55 feet (16 764 mm) or more above the lowest level of fire department vehicle access.

**Exception:** ~~1. Airport control towers. (delete)~~

2. Open parking structures in compliance with Section 311.9.

~~3. Group F, Division 2 Occupancies. (delete)~~

6. **High-Piled Combustible Storage.** For any building with a clear height exceeding 15', see Section 8101 of the Fire Code.

7. **Spray Booths and Rooms.** New and existing spray booths and spraying rooms shall be protected by an approved automatic fire-extinguishing system as specified in the Fire Code.

## OPTION B

**\*\*Section 904.2.2; item #5 is changed and items #6, #7 and #8 are added to read as follows:**

5. Throughout all buildings with a floor level, other than penthouses in compliance with Section 1511, with an occupant load of 30 or more that is located 55 ~~35~~ feet (16-764 ~~10 668~~ mm) or more above the lowest level of fire department vehicle access.

**Exception:** ~~1. Airport control towers. (delete)~~

2. Open parking structures in compliance with Section 311.9.

~~3. Group F, Division 2 Occupancies. (delete)~~

6. **High-Piled Combustible Storage.** For any building with a clear height exceeding 15', see Section 8101 of the Fire Code.

7. **Spray Booths and Rooms.** New and existing spray booths and spraying rooms shall be protected by an approved automatic fire-extinguishing system as specified in the Fire Code.

8. **Buildings Over 6,000 sq.ft.** An automatic sprinkler system shall be installed throughout all buildings over 6,000 sq.ft.



**Exception: Open parking garages.**

REASON: To increase when sprinklers are required which is a companion to sprinkler tradeoffs.

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**\*\*Section 904.2.6.4; added to read as follows:**

**904.2.6.4 Group H, Division 5 Occupancies.** Aircraft hangers shall be classified by Group and Type\*, and shall be provided with a fire-extinguishing system as specified by UBC Standard 9-4.

*(\*Note: Any classification of construction type under UBC Standard 9-4 shall be for use with that standard only and shall have no bearing on the construction type used in conjunction with any other provision of this code.)*

REASON: To provide better clarity.

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**OPTION A**

**\*\*Section 904.2.9 changed to read as follows:**

**904.2.9 Group R, Division 1 Occupancies.** An automatic sprinkler system shall be installed throughout every apartment house three or more stories in height or containing 16 or more dwelling units, every congregate residence three or more stories in height or having an occupant load of ~~20~~ or more than 10, and every hotel three or more stories in height or containing 20 or more guest rooms. Residential or quick-response standard sprinklers shall be used in the dwelling units and guest room portions of the building.

**OPTION B**

**\*\*Section 904.2.9 changed to read as follows:**

**904.2.9 Group R, Division 1 Occupancies.** An automatic sprinkler system shall be installed throughout every apartment house ~~three~~ two or more stories in height or containing 16 or more dwelling units, every congregate residence ~~three~~ two or more stories in height or having an occupant load of ~~20~~ or more than 10, and every hotel ~~three~~ two or more stories in height or containing 20 or more guest rooms. Residential or quick-response standard sprinklers shall be used in the dwelling units and guest room portions of the building.

REASON: To increase when sprinklers are required which is a companion to sprinkler tradeoffs.

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**\*\*Sections 904.2.10, 904.2.10.1 and 904.2.10.2; added to read as follows:**

**904.2.10 Group S Occupancies.**

**904.2.10.1 Self-service storage facility.** An automatic sprinkler system shall be installed throughout all self-service storage facilities.

**Exception: One story self-service storage facilities, that have no interior**

corridors, with a one-hour fire-rated occupancy separation wall installed between every storage compartment.

**904.2.10.2 Group S, Division 5 Occupancies.** Aircraft hangers shall be classified by Group and Type\*, and shall be provided with a fire-extinguishing system as specified by UBC Standard 9-4.

*(\*Note: Any classification of construction type under UBC Standard 9-4 shall be for use with that standard only and shall have no bearing on the construction type used in conjunction with any other provision of this code.)*

REASON: To provide a reference to the UBC Standard 9-4.

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**\*\*Section 904.4; subparagraph 4.4 of item #4 is changed to read as follows:**

4.4 Other approved fire-protection equipment ~~such as portable fire extinguishers or Class II standpipes~~ is installed in such areas.

REASON: To not limit the range of options of fire protection equipment.

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**\*\*Section 904.5.3; change the third paragraph to read as follows:**

There shall be a two-way outlet ~~at least one outlet~~ above the roof line on every standpipe when the roof has a slope of less than 4 units vertical in 12 units horizontal (33.3% slope).

**Exception:** Where the stairway extends to the roof, the two-way outlet may be located at the topmost floor landing.

REASON: To help ensure adequate fire department access to the outlets.

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**\*\*Section 904.5.3; add a new paragraph to read as follows:**

All Class I standpipes shall be:

1. Water filled at all times; or,
2. Supervised with a minimum of 10 psig and a maximum of 40 psig air pressure with a high/low alarm.

REASON: To provide provisions to help ensure the readiness and operation of Class I Standpipes.

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**\*\*Section 906.1; add an Exception #3 to item #1 to read as follows:**

3. Buildings protected throughout by an approved automatic sprinkler system.

REASON: To match current prevailing practice in the region.

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**\*\*Section 906.6.3; add an Exception to read as follows:**

**Exception:** In buildings protected throughout by an approved automatic sprinkler system, curtain boards need only to extend down from the ceiling for a minimum depth of four (4) feet.

REASON: To match current prevailing practice in the region.

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**\*\*Table 9-A; change Occupancy Item #5, Standpipe Class for sprinklered buildings from “No requirement” to Class “I”.**

REASON: To provide standpipe requirements for those occupancies.

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**\*\*Section 1004.2.4; change the exception to read as follows:**

**Exceptions:** 1. The separation distance determined in accordance with this section may be measured along a direct path of exit travel within a corridor serving exit enclosures. The walls of any such exit enclosure shall not be less than 30 feet (9144 mm), measured in a straight line, from the walls of another exit enclosure.

2. When the building is provided with an automatic sprinkler system throughout, at least two of the exits or exit-access doorways shall be placed a distance apart equal to not less than one third of the length of the maximum overall diagonal dimension of the area served, in lieu of one half, measured in a straight line between the center of such exits or exit-access doorways.

REASON: To provide a sprinkler tradeoff to promote installation of automatic sprinkler systems.

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**\*\*Section 1004.2.5.2.3; add a second paragraph to read as follows:**

When reduction of corridor construction is allowed under Section 1004.3.4.3, the reduction shall not apply to the corridors of this section for extra travel distance.

REASON: To provide limits on sprinkler tradeoffs.

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**\*\*Section 1004.2.5.2.5; changed to read as follows:**

**1004.2.5.2.5 Factory, hazardous and storage occupancies.** In a ~~one-story~~ building classified as a Group H, Division 5 aircraft repair hangar, or as a Group F or Group S Occupancy, the travel distance shall not exceed 300 feet (91 440 mm) and may be increased to 400 feet (121 920 mm) if the building is

equipped with an automatic sprinkler system throughout. ~~and is also provided with smoke and heat ventilation as specified in Section 906.~~

REASON: To match current prevailing practice in the region.

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**\*\*Section 1004.2.6; changed to read as follows:**

**1004.2.6 Dead ends.** Where more than one exit or exit-access doorway is required, the exit access shall be arranged such that there are no dead ends in hallways and corridors more than 20 feet (6096 mm) in length.

Exceptions: 1. In occupancies in Use Group B where the building is equipped throughout with an automatic sprinkler system, the length of dead-end corridors shall not exceed 50 feet (15 240 mm).

2. A dead-end corridor shall not be limited in length where the length of the dead-end corridor is less than 2.5 times the least width of the dead-end corridor.

REASON: To provide a sprinkler tradeoff to promote installation of automatic sprinkler systems.

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**\*\*Section 1004.3.4.3; Exceptions #4, 5 and 6 are changed to read as follows:**

4. ~~Corridor walls and ceilings of Group B Occupancies need not be of fire-resistive construction within office spaces having an occupant load of 100 or less when the entire story in which the space is located is equipped with an automatic sprinkler system throughout and an automatic smoke-detection system installed within the corridor. The actuation of any detector shall activate alarms audible in all areas served by the corridor.~~

Use of this exception will not permit the use of non-rated non-protected construction in the following:

-for the exit enclosure separation in exception #1 of Section 1004.2.4.

-to obtain the 100 foot travel distance increase of Section 1004.2.5.2.3.

-to convey air to or from rooms as stated in Section 601.2 of the Mechanical Code except that private corridors within a single tenant space may be used to convey air provided that smoke detectors are installed within the tenant corridor in accordance with their listing.

~~5. Corridor walls and ceilings need not be of fire resistive construction within office spaces having an occupant load of 100 or less when the building in which the space is located is equipped with an automatic sprinkler system throughout. Except for Groups H, I and R-1 Occupancies, corridors shall not be required to be protected when the building is protected by an approved automatic sprinkler system throughout.~~

Use of this exception will not permit the use of non-rated non-protected construction in the following:

-for the exit enclosure separation in exception #1 of Section 1004.2.4.

-to obtain the 100 foot travel distance increase of Section 1004.2.5.2.3.

-to convey air to or from rooms as stated in Section 601.2 of the Mechanical

Code.

6. In Group B office buildings of ~~Type I, Type II-FR and Type II one-hour construction~~, corridor walls and ceilings need not be of fire-resistive construction within office spaces of a single tenant when ~~the entire story in which the space is located is~~ equipped with an approved ~~automatic sprinkler system and an automatic smoke-detection system is installed~~ within the corridor. The smoke-detection system shall be connected to the building's fire alarm system where such a system is provided.

REASON: To provide a sprinkler tradeoff to promote installation of automatic sprinkler systems.

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**\*\*Section 1004.3.4.5; add Exception #4 to read as follows:**

4. When corridors are not required to be of fire-resistive construction under Section 1004.3.4.3, the elevator lobby is not required.

REASON: To provide a sprinkler tradeoff to promote installation of automatic sprinkler systems.

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**\*\*Section 1005.3.3.7; changed to read as follows:**

**1005.3.3.7 Pressurized enclosure.** In a building having a floor level used for human occupancy located more than ~~75~~ 55 feet (~~22 860~~ 16 764 mm) above the lowest level of fire department vehicle access, all required exit enclosures shall be pressurized in accordance with Section 905 and this section. Pressurization shall occur automatically upon activation of an approved fire alarm system.

**Exceptions:** 1. If the building is not equipped with a fire alarm system, pressurization shall be upon activation of a spot-type smoke detector listed for releasing service located within 5 feet (1524 mm) of each vestibule entry.

2. Open parking garages in compliance with Section 311.9.

A controlled relief vent capable of discharging a minimum of 2,500 cubic feet per minute (1180 L/s) of air at the design pressure difference shall be located in the upper portion of such pressurized exit enclosures.

REASON: To provide a sprinkler tradeoff to promote installation of automatic sprinkler systems.

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**\*\*Section 1005.3.3.7.1; changed to read as follows:**

**1005.3.3.7.1 Vestibules.** Pressurized exit enclosures shall be provided with a pressurized entrance vestibule that complies with the requirements of this section.

**Exception:** For buildings equipped with an automatic sprinkler system, vestibules may be omitted, provided all enclosed exit enclosures are equipped with a barometric dampered relief opening at the top and the stairway supplied mechanically with sufficient air to discharge a minimum of 2,500 cubic feet per minute (1180 L/s) through the relief opening while maintaining a minimum positive pressure of 0.15-inch water column in the shaft relative to atmospheric pressure with all doors closed.

Activation of the mechanical equipment shall be initiated by activation of an

approved fire alarm system. If the building is not equipped with a fire alarm system, pressurization shall be upon activation of a spot-type smoke detector listed for releasing service located within 5 feet (1524 mm) of each enclosure door. Such equipment shall also be activated by actuation of the automatic sprinkler system.

REASON: To provide a sprinkler tradeoff to promote installation of automatic sprinkler systems.

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**\*\*Section 1006.3.3.1; changed to read as follows:**

**1006.3.3.1 General.** Exterior exit stairways serving as a portion of the exit discharge in the means of egress system shall comply with the requirements of Section 1006.3.3. An exterior exit stairway serves as an exit discharge component in a means of egress system and is open on not less than two adjacent sides, except for required structural columns and open-type handrails and guardrails. The adjoining open ... {remainder of section unchanged}... for interior stairways.

REASON: Current provision is deemed too strict and unreasonable.

---

**\*\*Section 1101.2; add an item #2 to read as follows:**

## **2. Alternate Design**

Buildings regulated under State Law and built in accordance with State certified plans, including any variances or waivers granted by the State, shall be deemed to be in compliance with the requirements of this Chapter. State certification of final inspection must be provided before issuance of Certificate of Occupancy.

REASON: To provide for coordination with the State.

---

**\*\*Section 1202.2.1; add this exception after the second paragraph to read as follows:**

**Exception:** Bathroom exhaust ducts may terminate in a warehouse or shop area when infiltration of outside air is present and the duct does not penetrate an occupancy separation.

REASON: To provide for a more reasonable alternative.

---

**\*\*Section 1203.3; change the exception after the third paragraph to read as follows:**

**Exception:** Private laundry Laundry rooms in Group R, Division 3 and inside individual dwelling units of Group R, Division 1 Occupancies.

REASON: To provide for a more reasonable alternative.

---

**\*\*Section 1506.3; change to read as follows:**

**1506.3 Overflow Drains and Scuppers.** Where roof drains are required, overflow drains ~~having the same size as the roof drains shall be installed with the inlet flow line located 2 inches (51 mm) above the low point of the roof, or overflow scuppers having three times the size of the roof drains and having a minimum opening height of 4 inches (102 mm) may be installed in the adjacent parapet walls with the~~

inlet flow line located 2 inches (51 mm) above the low point of the adjacent roof shall be sized and installed in accordance with Section 1107 of the Plumbing Code.

Overflow drains shall discharge to an approved location and shall not be connected to roof drain lines.

REASON: To coordinate with the sizing requirements found in the plumbing code.

---

**\*\*Table No. 15-A and footnotes changed to read as follows:**

***\*Insert a footnote #5 in the heading "TABLE 15-A - MINIMUM ROOF CLASSES <sup>5</sup>"***

***\*Change the roof classes for R-3, Types III-one-hour, III-N, IV, V-one-hour and V-N from "NR" to "C".***

***\*Delete footnotes 1 and 3.***

***\*Change footnote #4 to read as follows:***

<sup>4</sup> Unless otherwise required because of location, Group U, Division 1 roof coverings shall consist of not less than one layer of cap sheet, or built up roofing consisting of two layers of felt and a surfacing material of 300 pounds per roofing square (14.6 kg/m<sup>2</sup>) of gravel or other approved surfacing material, or 250 pounds (12.2 kg/m<sup>2</sup>) of crushed slag. When exceeding 120 sq.ft. of projected roof area, the roof class shall be a minimum of Class C or shall be non-combustible.

***\*Add a footnote #5 to read as follows:***

<sup>5</sup> All individual replacement shingles or shakes shall be in compliance with the rating required by this table.

REASON: To match current prevailing practice in the region.

---

**\*\*Section 2501.2; delete.**

REASON: Allow inspections at the discretion of each jurisdiction.

---

**\*\*Section 2903; changed to read as follows:**

### **SECTION 2903 -- ALTERNATE NUMBER OF FIXTURES**

As ~~an~~ a recommended but not required alternate to the minimum number of plumbing fixtures required by this chapter, see Appendix Chapter 29 of this code or Table 403.1 of the Plumbing Code. ~~When adopted, as set forth in section 101.3, it will take precedence over the requirements of this chapter.~~

REASON: To provide recommended, but not required, guidance on the number of fixtures.

---

**\*\*Section 3504, Part II, Chapter 9; changed to read as follows:**

9-1; 307.11.3, 321.1, 403.2, 404.3.1, 405.1.1, 804.1, 902, 904.1.2, 904.1.3, 904.2.6.3, 904.2.7, 904.3.2, 2603.7.1, 2603.8.1

Installation of Sprinkler Systems. Standard for the Installation of Sprinkler Systems, NFPA 13-~~1996~~ 1994, National Fire Protection Association.

9-2; 902, 904.1.2, 904.5.1

Standpipe Systems. Standard for Installation of Standpipe Systems and Hose Systems, NFPA 14-~~1996~~ 1993, National Fire Protection Association.

9-3; 804.1, 805, 902, 904.1.2, 904.1.3, 2603.7.1, 2603.8.1

Installation of Sprinkler Systems in Group R Occupancies Four Stories or Less. Standard for the Installation of Sprinkler Systems in Residential Occupancies up to Four Stories in Height, NFPA 13R-~~1996~~ 1989, National Fire Protection Association.

9-4; 902, 904.2.6.4, 904.2.10.2

Aircraft Hangars. Standard on Aircraft Hangars, NFPA 409-1995, National Fire Protection Association.

9-5; 902, 904.1.2

Halon Fire Extinguishing System. Standard on Halon 1301 Fire Extinguishing Systems, NFPA 12A-1992, National Fire Protection Association.

9-6; 902, 904.1.2

Standard for the Installation of Private Fire Service Mains and Their Appurtenances, NFPA 24-1995, National Fire Protection Association.

9-7; 902, 904.1.2

Installation of Sprinkler Systems in One- Two-Family Dwellings and Manufactured Homes, NFPA 13D-1996, National Fire Protection Association.

REASON: To update the UBC Standards to the most current edition of NFPA Standards.

---

**\*\*Appendix Section 421.1; add an exception to paragraph #1 to read as follows:**

**Exception:** When horizontal members are part of a fence that is at least 6 feet (1830 mm) in height, the horizontal members need not be on the pool side of the barrier.

REASON: To provide for a more reasonable alternative.

---

**\*\*Appendix Section 1107.4; added to read as follows:**

#### **1107.4 Alternate Design**

Buildings regulated under State Law and built in accordance with State certified plans, including any variances or waivers granted by the State, shall be deemed to be in compliance with the requirements of this Chapter. State certification of final inspection must be provided before issuance of Certificate of Occupancy.

REASON: To provide for coordination with the State.

---



**\*\*Appendix Section 1516.3, subparagraph #1; changed to read as follows:**

1. **Asphalt shingles.** Not more than one ~~two~~ overlays of asphalt shingles shall be applied over an existing asphalt or wood shingle roof. ~~Asphalt shingles applied over wood shingles shall not have less than Type 30 nonperforated felt underlayment installed prior to reroofing.~~

REASON: Reflects local insurance company practices.

---

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**\*\*U.B.C. Standard No. 9-1 is changed to read as follows:**

**UNIFORM BUILDING CODE STANDARD 9-1  
INSTALLATION OF SPRINKLER SYSTEMS**

See Sections 307.11.3; 404.3.1; 405.1.1; 405.3.4; 804.1; 902; 904.1.2; 904.1.3; 904.2.6.3;  
904.2.8; 904.2.9; 2603.7.1; 2603.8.1, Item 4; Appendix 327.2, *Uniform Building Code*

This standard, with certain exceptions, is based on the National Fire Protection Association Standard for the Installation of Sprinkler Systems, NFPA 13-1996-1991.

Part I of this standard contains the exceptions to NFPA 13-1996.

**\*\*Delete all of Part I and Part II and replace with a new Part I to read as follows:**

**Part I**

**SECTION 9.101 -- AMENDMENTS**

The National Fire Protection Association standard adopted by this standard applies to the selection, installation, acceptance inspection and acceptance testing of sprinkler systems, except as follows:

**1. Any standard referenced in this document that has not specifically been adopted may be replaced with other nationally recognized standards, or with adopted provisions from Volume I of this code or from the Fire Code, by the authority having jurisdiction.**

**2. All references to NFPA 24, *Standard for the Installation of Private Fire Service Mains and Their Appurtenances*, shall be taken to mean U.B.C. Standard 9-6 of this code.**

**3. All references to NFPA 409, *Standard on Aircraft Hangars*, shall be taken to mean U.B.C. Standard 9-4 of this code.**

**4. All references to NFPA 70, *National Electrical Code*, shall be taken to mean the Electrical Code, as adopted by this jurisdiction.**

**5. All references to NFPA 13D, *Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes*, shall be taken to mean U.B.C. Standard 9-7 of this code.**

**6. All references to NFPA 13-R, *Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height*, shall be taken to mean U.B.C. Standard 9-3 of this code.**

**7. All references to NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*, shall be taken to mean U.B.C. Standard 9-2.**

**8. Sec. 1-1 is amended by changing the note to read as follows:**

Consult other recognized and accepted standards for additional requirements relating to water supplies.

**9. Sec. 1-4 is amended by changing the definition of “approved” and “listed” as follows:**

The definitions of “approved and “listed” shall be as set forth in Volume I of this code.

**10. Sec. 1-4.1 is amended by deleting the definitions of the terms “limited combustile material,” “noncombustible material,” “should” and “standard;” by deleting the note following the definition of “sprinkler system;” and by adding a definition for “thermal barrier” to read as follows:**

**Thermal Barrier** is a material that will limit the average temperature rise of the unexposed surface to not more than 250° F. (121° C.) After 15 minutes of fire exposure complying with nationally recognized standards.

**11. Sec. 1-4.7 is amended to read as follows:**

**1.4.7** For the purpose of determining the level of protection to be provided by required sprinkler system installations, Table 1.4.7 shall be used.

For hazard classifications other than those indicated, see appropriate nationally recognized standards for design criteria.

When fire sprinkler systems are required in buildings of undetermined use, they shall be designed and installed to have a sprinkler density of not less than that required for an Ordinary Hazard Group 2 use with a minimum design area of 3,000 square feet (279 m<sup>2</sup>).

Use is considered undetermined if not specified at time permit is issued.

Where a subsequent occupancy requires a system with greater capability, it shall be the responsibility of the occupant to upgrade the system to the required density for the new occupancy.

Other Uniform Codes or standards contain sprinkler system design criteria for Fire control or suppression of specific hazards.

**Table 1.4.7 -- Hazard Classification**

Occupancy of Building or Portion Thereof	Hazard Classification
Group A Occupancies used as meeting rooms, library reading rooms, restaurant seating areas, clubs, theaters, museums, health clubs, educational classrooms and churches. Group B Occupancies used as offices, data processing areas, colleges and universities. Group E Occupancies other than shops and laboratories. Group I Occupancy living and sleeping areas. Group R, Division 1 Occupancies. <sup>1</sup> Typically these uses are such that the quantity and combustibility of contents is such that relatively low-rate-of-heat-release fires would be expected.	Light
Groups B, F and S Occupancies used for light manufacturing, commercial kitchens, laundries, automobile parking garages, bakeries, canneries, electronic plants, beverage manufacturing and glass products manufacturing plants not producing dust or fibers. Typically these uses are such that the quantity of combustibles is relatively low, the combustibility of contents is moderate, storage does not exceed 8 feet (2438 mm) in height, and moderate-rate-of-heat-release fires would be expected.	Ordinary Group 1
Groups B, F, M and S Occupancies used for chemical plant laboratories, mercantile, machine shops, printing, plants, library stack areas, metal working, wood product assembly, textile manufacturing, confectionery products, cold storage warehouses, <sup>2</sup> cereal mills, service stations and repair garages. Typically these uses are such that the quantity of	Ordinary Group 2

<p>combustibles is moderate. The combustibility of contents is moderate, storage does not exceed 12 feet (3658 mm) in height<sup>2</sup> and moderate-rate-of-heat-release fires would be expected.</p> <p><b>Also:</b> Group A Occupancies such as exhibition halls. Group B, F and S Occupancies used as to tobacco products manufacturing, paper and pulp mills, piers and wharfs, and warehousing<sup>2</sup> of higher combustible contents (including packaging). Group H Occupancies used as fee mills, tire manufacturing, chemical plants, repair garages and woodworking. Group H, Division 6 Occupancies (except extra-hazard areas). Typically these uses are such that high-rate-of-heat-release fires would be expected and the spread of fire would be rapid.</p>	
<p>Group H Occupancies used for printing [using inks with flash points below 100° F. (38° C)], combustible hydraulic fluid-use areas such as die casting and metal extruding, upholstering with plastic foam, rubber reclaiming, compounding, drying, milling, vulcanizing, plywood and particle board manufacturing, saw mills, textile picking, opening, blending, garnetting, carding and combining of cotton, synthetics, wool shoddy or burlap. Typically these uses are such that a significant fire hazard exists.</p>	<p>Extra Hazard Group 1</p>
<p>Group H Occupancies used as asphalt saturating, flammable liquids spraying, flow coating, open oil quenching, varnish and paint dipping, solvent cleaning, and manufactured home or modular building manufacturing (where the finished building enclosure is present and has combustible interiors). These uses are such that a severe fire hazard exists.</p>	<p>Extra Hazard Group 2<sup>3</sup></p>

<sup>1</sup> See also Section 5-3.2

<sup>2</sup> For high-piled storage, see Article 81 of the Fire Code.

<sup>3</sup> For additional or more stringent criteria, see Article 79 or 80 of the Fire Code.

**12. Sec. 2-1.1 is revised to read as follows:**

**2-1.1** All materials and devices shall be listed and approved.

**13. Sec. 2-3.5 is revised to read as follows:**

**2-3.5** Other types of pipe or tube, such as plastic, may be used if it is investigated and found to be listed for this service.

**14. Sec. 2-8.1 is revised to read as follows:**

**2-8.1** The fire department connection(s) shall be internal swivel fittings having national standard hose thread or as approved by the chief.

**15. Sec. 2-9.1 is revised by changing the last line as follows: “on the premises within two minutes after such flow begins.”**

**16. Sec. 2-9.5.1 is revised to read as follows:**

Electrically operated alarm attachments forming part of an auxiliary, proprietary, remote station or local signaling system shall be installed in accordance with Fire Code Standard No. 14-1.

**17. Sec. 3-9.1 is revised by deleting the last sentence.**

**18. Sec. 4-2 is revised by changing the last item to read as follows:**

Storage - High-piled storage (as defined in the Fire Code) -- 40,000 square feet (3716 m<sup>2</sup>).  
**(Exception to remain unchanged.)**

**19. Sec. 4-6.4.1.2 is revised by changing Exception 3 to read as follows:**

*Exception No. 3: Where sprinklers are installed under composite wood joists less than 16 inches (406 mm) in depth, sprinkler deflectors shall be a minimum of 1 inch (25 mm) and a maximum of 6 inches (152 mm) below the bottom of the composite wood joist and the joist channels shall be fire-stopped the full depth of the joist with a material equivalent to the web construction so that individual channel areas do not exceed 300 square feet (27.9 m<sup>2</sup>). Where the depth of the composite wood joist is 16 inches (406 mm) or greater, protection shall be provided by using one or more of the following methods:*

*(a) Provide a sprinkler in each joist channel. The distance between sprinklers within the joist channel shall not exceed 15 feet (4572 mm).*

*(b) Protect the composite wood joist with 5/8-inch (16 mm) Type X gypsum wallboard attached directly to the bottom of the composite wood joist. Joist channels shall be fire-stopped the full depth of the joist with a material equivalent to the web construction so that the volume of individual channels do not exceed 160 cubic feet (4.53 m<sup>3</sup>).*

*(c) Completely fill the channel with noncombustible insulation. The insulation shall be secured to prevent the insulation from falling. Joist channels shall be fire-stopped the full depth of the joist with a material equivalent to the web construction so that the volume of individual channels does not exceed 160 cubic feet (4.53 m<sup>3</sup>).*

**20. Sec. 4-14.2.1.2 is revised to read as follows:**

When sprinkler piping is installed in storage racks as defined in Fire Code Standard 81-2, piping shall be substantially supported from the storage rack structure or building in accordance with all applicable provisions of Sections 4-14.2 and 4-14.4.3.

**21. Sec. 4-15.1.1.1 is revised to read as follows:**

Local water-flow alarms shall be provided on each sprinkler system having more than five sprinklers and shall be located in an area approved by the Chief.

**22. Sec 5-2.3.1.1 is revised by substituting “nationally recognized” for “NFPA” in the first line of Exception 1.**

**23. Sec. 5-3.4.1 is revised by substituting “nationally recognized” for “NFPA” in the second line of the text.**

**24. Sec. 6-1.1.1(I) is revised to read as follows:**

**6-1.1.1(I)** Manufacturing data sheets for sprinkler head which contain at least the following information:

- Make
- Type
- K-factor
- Nominal orifice size
- Temperature rating
- Minimum operating pressures and discharge rates for proposed area of coverage.

**25. Sec. 8-4.1 is revised to read as follows:**

**8-4.1** The installer of the system shall provide the owner with written instructions and information relating to the care and maintenance of the sprinkler system, with special attention given to the sprinkler

system devices.

**Subsections (a) and (b) are deleted.**

**26. Chapter 9 is deleted.**

**27. Sec. 10-1.1 is revised to read as follows:**

**10-1.1** A sprinkler system installed under this standard shall be maintained in accordance with Article 10 of the Fire Code.

**28. Chapter 11 is deleted.**

REASON: To make the most current NFPA Standard compatible with the 1997 UBC and prevailing practice in this region.

---

**\*\*U.B.C. Standard No. 9-2 is changed to read as follows:**

**UNIFORM BUILDING CODE STANDARD 9-2  
STANDPIPE SYSTEMS**

See Sections 902, 904.1.2 and 904.5.1, *Uniform Building Code*

**This standard, with certain exceptions, is based on the National Fire Protection Association Standard for the Installation of Standpipe and Hose Systems, NFPA 14-1996 1993.**

Part I of this standard contains exceptions to NFPA 14-1996 1993. ~~Part II of this standard contains NFPA 14-1993 reproduced in its entirety with permission of the publisher.~~

~~www vertically in the margin of Part II indicates there is a revision to the provisions within Part I.~~

Unless specifically adopted elsewhere, supplemental standards referenced in this primary standard shall only be considered to be guidance material subject to the approval of the authority having jurisdiction ~~building official~~.

**\*\*Delete all of Part I and Part II and replace with a new Part I to read as follows:**

**Part I**

**SECTION 9.201 -- AMENDMENTS**

**1. Any standard referenced in this document that has not specifically been adopted may be replaced with other nationally recognized standards, or with adopted provisions from Volume I of this code or from the Fire Code, by the authority having jurisdiction.**

**2. All references to NFPA 13, *Standard for the Installation of Sprinkler Systems*, shall be taken to mean U.B.C. Standard 9-1 of this code.**

**3. All references to NFPA 24, *Standard for the Installation of Private Fire Service Mains and Their Appurtenances*, shall be taken to mean U.B.C. Standard 9-6 of this code.**

**4. Sec. 3-2.4 is revised to read as follows:**

**3-2.4 Manual - Dry.** A manual-dry standpipe system shall be a dry standpipe system that does not have a permanent water supply attached to the system. Manual-dry systems need water from a fire department pumper (or the like) to be pumped into the system through the fire department connection in order to supply the system demand. Manual-Dry standpipe systems may not be installed except in areas subject to freezing and with the approval of the Authority Having Jurisdiction.

**5. Sec. 3-3.1 is revised to read as follows:**

**3-3.1 Class I Systems.** A Class I standpipe system shall provide 2-1/2 in. (63.5-mm) hose connections to supply water for use by fire departments and those trained in handling heavy fire streams.

All Class I standpipes systems shall be:

1. Water filled at all times; or,
2. Supervised with a minimum of 10 psig and a maximum of 40 psig air pressure with a high/low alarm.

**6. Sec. 5-3.2(f) is revised to read as follows:**

(f) Where the most remote portion of a nonsprinklered floor or story is located in excess of 150 ft (45.7 m) of travel distance from a required exit or closest point of approved fire department access, or the most remote portion of a sprinklered floor or story is located in excess of 200 ft (62 m) of travel distance from a required exit, or closest point of approved fire department access, additional hose connections shall be provided, in approved locations, where required by the local fire department.

**7. Sec. 5-7(a) is revised by adding a second exception to read as follows:**

*Exception No. 2: Standpipe systems that are a portion of an approved sprinkler system may utilize a Fire Department pumper in operation at the Fire Department connection to meet the 100 psi hydraulic calculation requirements, subject to the approval of the Authority Having Jurisdiction.*

**8. Sec. 5-9.1.1 is revised by adding a second exception to read as follows:**

*Exception No. 2: In all fully sprinklered buildings, except high rises, the flow rate requirement of 500 GPM for the most remote standpipe, and 250 GPM for additional standpipes may be calculated utilizing a Fire Department pumper in operation at the systems Fire Department connection, subject to the approval of the Authority Having Jurisdiction.*

**9. Chapter 10 is deleted.**

REASON: To make the most current NFPA Standard compatible with the 1997 UBC and prevailing practice in this region.





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**\*\*U.B.C. Standard No. 9-3 is changed to read as follows:**

**UNIFORM BUILDING CODE STANDARD 9-3  
INSTALLATION OF SPRINKLER SYSTEMS IN  
GROUP R OCCUPANCIES FOUR STORIES OR LESS**

See Sections 804.1, 805, 902, 904.1.2, 2603.7.1 and 2603.8.1,  
*Uniform Building Code*

**\*\*Delete all of Part I and Part II and replace with a new Part I to read as follows:**

**Part I**

**SECTION 9.301 -- ADOPTION OF NFPA STANDARD**

Except for the limitations, deletions, modifications and amendments set forth in Section 9.302 of this standard, the installation of sprinkler systems in Group R Occupancies required by this code shall be in accordance with the Standard for the Installation of Sprinkler Systems in Residential Occupancies, NFPA 13R-1996, or U.B.C. Standard 9-1.

**SECTION 9.302 -- AMENDMENTS**

The National Fire Protection Association standard adopted by Section 9.301 applies to the selection, installation, acceptance inspection and acceptance testing of sprinkler systems in residential occupancies four stories or less, except as follows:

**1. Any standard referenced in this document that has not specifically been adopted may be replaced with other nationally recognized standards, or with adopted provisions from Volume I of this code or from the Fire Code, by the authority having jurisdiction.**

**2. All references to NFPA 13, *Standard for the Installation of Sprinkler System*, shall be taken to mean U.B.C. Standard 9-1 of this code.**

**3. Sec. 1-3 is amended as follows:**

**The definitions of “approved” and “listed” shall be as set forth in Volume 1 of this code.**

**The definitions of “should” and “standard” are deleted.**

**The definition of “residential occupancies” is revised as follows:**

**RESIDENTIAL OCCUPANCIES** are Group R Occupancies.

**4. Sec. 2-3.2 is revised by changing the reference to “NFPA 20 and 22” to “nationally recognized standards”.**

**5. Secs. 2-7.1 and 2-7.2 are added as follows:**

**2-7.1** A sprinkler system installed under this standard shall be maintained in accordance with the Fire Code.

**2-7.2** The installer of the system shall provide the owner with written instructions and information relating to the care and maintenance of the sprinkler system, with special attention given to the sprinkler system devices.

**6. Chapter 3 is deleted.**

REASON: To make the most current NFPA Standard compatible with the 1997 UBC and prevailing practice in this region.

---

**\*\*U.B.C. Standard No. 9-4 added to read as follows:**

**UNIFORM BUILDING CODE STANDARD 9-4**  
**STANDARD ON AIRCRAFT HANGARS**

**See Section 902.1.3, 904.1.2, 904.2.6.4 and 904.2.10.2**  
**Uniform Building Code**

**SECTION 9.401 -- ADOPTION OF NFPA STANDARD**

Except for the limitations, deletions, modifications and amendments set forth in Section 9.402 of this standard, the installation of fire-extinguishing systems in aircraft hangars of Group H, Division 5 and Group S, Division 5 Occupancies required by this code shall be in accordance with the Standard on Aircraft Hangars, NFPA 409-1995.

**SECTION 9.402 -- AMENDMENTS**

The National Fire Protection Association standard adopted by Section 9.401 applies to the selection, installation, acceptance inspection and acceptance testing of fire-extinguishing systems in aircraft hangars of Group H, Division 5 and Group S, Division 5 Occupancies, except as follows:

**1. Any standard referenced in this document that has not specifically been adopted may be replaced with other nationally recognized standards, or with adopted provisions from Volume I of this code or from the Fire Code, by the authority having jurisdiction.**

**2. All references to NFPA 13, *Standard for the Installation of Sprinkler System*, shall be taken to mean U.B.C. Standard 9-1 of this code.**

**3. All references to NFPA 70, *National Electrical Code*, shall be taken to mean the Electrical Code, as adopted by this jurisdiction.**

**4. Sec. 1-3 is amended as follows:**

**The definition of “Fire Wall” is revised as follows:**

**Fire Wall.** A wall separating buildings or subdividing a building to prevent the spread of fire and having a fire resistance rating as required for an area separation wall as listed in Volume I of this code and structural stability.

**The definition of “Hangar Building Cluster” is revised as follows:**

**Hangar Building Cluster.** A group of buildings with more than one area for the storage and servicing of aircraft and all attached or contiguous structures, or structures not separated as specified in Volume I of this code 2-3.2 or 5-2.1 of this standard, as appropriate.

**The definition of “Single Hangar Building” is revised as follows:**

**Single Hangar Building.** A building with one area for the storage and servicing of aircraft and any attached, adjoining, or contiguous structure, such as a lean-to, shop area, or parts storage area not separated as specified in Volume I of this code 2-3.2 or 5-2.1 of this standard, as appropriate.

**5. Sec. 2-1.1 is amended as follows:**

**2-1.1\*** Group I and II hangars shall be assigned a construction type, and constructed, in accordance with the provisions of Volume I of this code. However, for the purpose of using this standard, Group I hangars shall be either Type I or Type II construction in accordance with NFPA 220, *Standard on Types of Building Construction*. For the purpose of using this standard, Group II hangars shall be constructed of any of the types of construction specified in NFPA 220, *Standard on Types of Building Construction*, or any combination thereof.

**6. Sec. 2-1.2 is amended as follows:**

**2-1.2\*** Mezzanines, tool rooms, and other enclosures within aircraft storage and servicing areas shall be constructed of ~~noncombustible~~ material as specified in Volume I of this code ~~or limited combustible material as defined in NFPA 220, *Standard on Types of Building Construction*, in all hangars except those of Type V (111) and (000) construction.~~

**7. Sec. 2-2.1 is amended as follows:**

**2-2.1\*** Where aircraft storage and servicing areas are subdivided into separate fire areas, the separation shall be by an area separation wall with opening protection as defined in Volume I of this code ~~a fire wall having not less than a 3-hour fire resistance rating. Any openings in such fire walls communicating directly between two aircraft storage and servicing areas shall be provided with a listed 3-hour fire door or 3-hour shutter actuated from both sides of the wall. Where areas are of different heights, the tallest wall shall have a fire resistance rating of not less than 3 hours.~~

**8. Sec. 2-2.3 is amended as follows:**

**2-2.3\*** Partitions and ceilings separating aircraft storage and servicing areas from all other areas, shops, offices, and parts storage areas shall be fire-rated when and as required in Volume I of this code ~~have at least a 1-hour fire resistance rating with openings protected by listed fire doors or shutters having a minimum fire resistance rating of 45 minutes.~~

**9. Sec. 2-2.4 is amended as follows:**

**2-2.4** Where a storage and servicing area has an attached, adjoining, or continuous structure, such as a lean-to, shop, office, or parts storage area, the wall common to both areas shall be fire-rated when and as required in Volume I of this code ~~have at least a 1-hour fire resistance rating, with openings protected by listed fire doors having a minimum fire resistance rating of 45 minutes and actuated from both sides of the wall.~~

**10. Sec. 2-3.1 is amended as follows:**

**2-3.1** Precautions shall be taken to ensure ready access to hangars from all sides. Adequate separation and fire-rating of exterior walls, as required by Volume I of this code for buildings on the same property, shall be provided to reduce fire exposure between buildings. The clear yards between buildings ~~spaces specified in Tables 2-3.2 and 2-3.3~~ shall not be used for the storage or parking of aircraft or concentrations of combustible materials, nor shall buildings of any type be erected therein.

**11. Sec. 2-3.2 is deleted.**

**12. Table 2-3.2 is deleted.**

**13. Sec. 2-3.2.1 is deleted.**

**14. Sec. 2-3.2.2 is deleted.**

**15. Sec. 2-3.2.3 is deleted.**

**16. Sec. 2-3.3 is deleted.**

**17. Table 2-3.3 is deleted.**

**18. Sec. 2-3.3.1 is deleted.**

**19. Sec. 2-3.3.2 is deleted.**

**20. Sec. 2-4.3 is amended as follows:**

**2-4.3** Floor openings in multistoried sections of hangars shall be enclosed with partitions or protected with construction when and as required by Volume I of this code ~~having a fire resistance rating not less than that required for the floor construction where the opening is made.~~

**21. Sec. 2-5.1 is amended as follows:**

**2-5.1** Roof coverings shall be of an approved material and design as required by Volume I of this code ~~type of tile, slate, metal, or asphalt shingle, or of built-up roofing finished with asphalt, slate, gravel, or other approved material. Roof coverings shall be listed as Class A or Class B when tested in accordance with NFPA 256, *Standard Methods of Fire Tests of Roof Coverings*.~~

**22. Sec. 2-5.2 is deleted.**

**23. Sec. 2-5.3 is deleted.**

**24. Sec. 2-5.4 is deleted.**

**25. Sec. 2-6.1 is amended as follows:**

~~2-6.1~~ In aircraft storage and servicing areas of hangars housing other than unfueled aircraft, column protection shall be required when and as required by Volume I of this code ~~in accordance with 2-6.2 through 2-6.4.~~

**26. Sec. 2-6.2 is deleted.**

**27. Sec. 2-10.1 is amended as follows:**

~~2-10.1~~ Exposed interior insulation attached to walls and roofs in an aircraft storage and servicing area of a hangar ~~not provided with a sprinkler system designed in accordance with Chapter 3 or Chapter 4 of this standard, as applicable,~~ shall be as specified in Volume I of this code ~~nonecombustible as defined in Chapter 2 of NFPA 220, *Standard on Types of Building Construction*.~~

**28. Sec. 2-10.2 is deleted.**

**29. Sec. 2-12.1 is amended as follows:**

~~2-12.1\*~~ Heating, ventilating, and air conditioning equipment shall be installed, as applicable, in accordance with the Mechanical Code and Volume I of this code ~~NFPA 90A, *Standard for the Installation of Air Conditioning and Ventilating Systems*; NFPA 31, *Standard for the Installation of Oil Burning Equipment*; NFPA 54, *National Fuel Gas Code*; NFPA 90B, *Standard for the Installation of Warm Air Heating and Air Conditioning Systems*; and NFPA 58, *Standard for the Storage and Handling of Liquefied Petroleum Gases*.~~

**30. Sec. 2-12.3 is amended as follows:**

~~2-12.3~~ In aircraft storage and servicing areas of hangars housing other than unfueled aircraft, hangar heating plants that are fired with gas, liquid, or solid fuels not covered under 2-12.5 of this section and that are not located in a detached building shall be located in a room constructed as required in the Mechanical Code and Volume I of this code ~~separated from other parts of the hangar by construction having at least a 1-hour fire resistance rating.~~ This separated room shall not be used for any other hazardous purpose of combustible storage, ~~and shall have no direct access from the aircraft storage or servicing area.~~ Openings in the walls of such rooms communicating with other portions of the hangar shall be restricted to those necessary for ducts or pipes. Penetrations of the 1-hour fire resistance rated enclosure shall be firestopped with an approved material properly installed and capable of maintaining the required fire resistance rating for the enclosure. ~~Each such duct shall be protected with a listed automatic fire damper or door. All air for combustion purposes entering such separated rooms shall be drawn from outside the building.~~

**31. Sec. 2-12.6 is amended as follows:**

~~2-12.6~~ Where a mechanical ventilating system is employed in hangars or shops, the ventilating system shall be installed in accordance with the Mechanical Code ~~NFPA 90A, *Standard for the Installation of Air Conditioning and Ventilating Systems*.~~

**32. Sec. 2-12.7 is amended as follows:**

**2-12.7** Where blower and exhaust systems are installed for vapor removal, the systems shall be installed in accordance with the Mechanical Code NFPA 91, *Standard for Exhaust Systems for Air Conveying of Materials*.

**33. Sec. 2-13.3 is amended as follows:**

**2-13.3** In aircraft storage and servicing areas of hangars ~~housing other than unfueled aircraft~~, main distribution panels, metering equipment, and similar electrical equipment shall be located in a room separated from the aircraft storage and servicing areas when and as required by the Electrical Code and Volume I of this code ~~by a partition having at least a 1-hour fire resistance rating. The partition shall not be penetrated except by electrical raceways, which shall be protected by approved sealing methods maintaining the same fire resistance rating as the partition.~~

**34. Sec. 2-16.1 is amended as follows:**

**2-16.1** Means of egress from the aircraft hangar shall comply with the provisions of Volume I of this code NFPA 101, *Life Safety Code*.

**35. Sec. 2-17 is amended as follows:**

**2-17\* Materials for Draft Curtains.** Where provided, draft curtains shall be constructed as required in Volume I of this code ~~of noncombustible materials not subject to disintegration or fusion during the early stages of a fire and shall be tightly fitted to the underside of the roof or ceiling. Any opening in draft stops shall be provided with self-closing doors constructed of materials equivalent in fire resistance to the draft stop itself.~~

**36. Sec. 5-1.1 is amended as follows:**

**5-1.1\* Group III hangars shall be assigned a construction type, and constructed, in accordance with the provisions of Volume I of this code. However, for the purpose of using this standard, Group III hangars shall be constructed of any of the types of construction specified in NFPA 220, *Standard on Types of Building Construction*.**

**37. Sec. 5-1.6 is amended as follows:**

**5-1.6** Roof coverings shall be as required in Volume I of this code ~~listed as Class C, or better, where tested in accordance with NFPA 256, *Standard Methods of Fire Tests of Roof Coverings*.~~

**38. Sec. 5-1.7 is amended as follows:**

**5-1.7** Exposed interior insulation attached to walls and roofs in aircraft storage and servicing areas shall be as specified in Volume I of this code ~~noncombustible as defined in NFPA 220, *Standard on Types of Building Construction*.~~

~~In an aircraft storage and servicing area of a hangar equipped with an approved sprinkler system designed in accordance with Chapter 4 of this standard, exposed interior insulation attached to walls and roofs shall be permitted to be limited noncombustible as defined in NFPA 220, *Standard Types of Building Construction*.~~

- 39. Sec. 5-2.1 is deleted.
- 40. Table 5-2.1 is deleted.
- 41. Sec. 5-2.2 is deleted.

**42. Sec. 5-2.3 is amended as follows:**

**5-2.3** Partitions and ceilings separating aircraft storage and servicing areas from other areas, such as shops, offices, and parts storage areas, shall be fire-rated when, and installed as, required by Volume I of this code ~~have at least a 1-hour fire resistance rating with openings protected by listed fire doors having a fire resistance rating of at least 3/4 hour.~~

**43. Sec. 5-3.3 is deleted.**

**44. Table 5-3.3 is deleted.**

**45. Sec. 5-4.1 is amended as follows:**

**5-4.1** Heating, ventilation, and air conditioning equipment shall be installed, as applicable, in accordance with the Mechanical Code and Volume I of this code ~~NFPA 90A, *Standard for the Installation of Air Conditioning and Ventilating Systems*; NFPA 31, *Standard for the Installation of Oil-Burning Equipment*; and NFPA 54, *National Fuel Gas Code*, except as hereinafter specifically provided.~~

**46. Sec. 5-4.3 is amended as follows:**

**5-4.3** Hangar heating plants that are fired with gas, liquid, or solid fuels not covered under 5-4.5 of this section, and that are not located in a detached building, shall be located in a room constructed as required by the Mechanical Code and Volume I of this code ~~separated from other parts of the hangar by construction having at least a 1-hour fire resistance rating.~~ This separated room shall not be used for any other hazardous purpose or combustible storage and shall have no direct access from the aircraft storage or servicing area. ~~Openings in the walls of such rooms communicating with other portions of the hangar shall be restricted to those necessary for ducts or pipes. Penetrations of the 1-hour fire resistance rated enclosure shall be firestopped with an approved material properly installed and capable of maintaining the required fire resistance rating for the enclosure. Each such duct shall be protected with a listed automatic fire damper or door. All air for combustion purposes entering such separated rooms shall be drawn from outside the building.~~

**47. Sec. 5-4.6 is amended as follows:**

**5-4.6** Where a mechanical ventilating system is employed in hangars or shops, the ventilating system shall be installed in accordance with the Mechanical Code ~~NFPA 90A, *Standard for the Installation of Air Conditioning and Ventilating Systems*~~, and in accordance with the applicable provisions of Section 5-4 of this chapter.

**48. Sec. 5-4.7 is amended as follows:**

**5-4.7** Where blower and exhaust systems are installed for vapor removal, the systems shall be installed in accordance with the Mechanical Code ~~NFPA 91, *Standard for Exhaust Systems for Air Conveying of Materials*.~~

**49. Sec. 5-8.1 is amended as follows:**

**5-8.1** Means of egress from the aircraft hangar shall comply with the provisions of Volume I of this code ~~NFPA 101, Life Safety Code.~~

**50. Chapter 7 is deleted.**

REASON: To make the most current NFPA Standard compatible with the 1997 UBC and prevailing practice in this region.

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**\*\*U.B.C. Standard 9-5 added to read as follows:**

**UNIFORM BUILDING CODE STANDARD 9-5**  
**INSTALLATION OF HALON 1301 FIRE EXTINGUISHING SYSTEMS**

**See Section 902.1.4, Uniform Building Code**

**SECTION 9.501 - ADOPTION OF NFPA STANDARD**

Except for the limitations, deletions, modifications or amendments set forth in Section 9.502 of this standard, the installation of Halon 1301 Fire Extinguishing Systems required by this code shall be in accordance with the “Standard on Halon 1301 Fire Extinguishing Systems, NFPA 12A- 1992.

**SECTION 9.502 - AMENDMENTS**

The National Fire Protection Association standard adopted by Section 9.501 applies to the selection, installation, acceptance inspection and acceptance testing of Halon 1301 Fire Extinguishing Systems, except as follows:

- 1. Any standard referenced in this document that has not specifically been adopted may be replaced with other nationally recognized standards, or with adopted provisions from Volume I of this code or from the Fire Code, by the authority having jurisdiction.**
- 2. All references to NFPA 70, *National Electrical Code*, shall be taken to mean the Electrical Code, as adopted by this jurisdiction.**
- 3. Chapter 5 is deleted.**

REASON: To make the most current NFPA Standard compatible with the 1997 UBC and prevailing practice in this region.

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**\*\*U.B.C. Standard No. 9-6; added to read as follows:**

**UNIFORM BUILDING CODE STANDARD 9-6**  
**INSTALLATION OF PRIVATE FIRE SERVICE MAINS**  
**AND THEIR APPURTENANCES**

**See Section 902.1.5, Uniform Building Code**

**SECTION 9.601 - ADOPTION OF NFPA STANDARD**



Except for the limitations, deletions, modifications or amendments set forth in Section 9.602 of this standard, the installation of private fire service mains and their appurtenances required by this code shall be in accordance with the “Standard for the Installation of Private Fire Service Mains and Their Appurtenances, NFPA 24-1995.

### **SECTION 9.602 - AMENDMENTS**

The National Fire Protection Association standard adopted by Section 9.601 applies to the selection, installation, inspection, maintenance and testing of private fire service mains and their appurtenances, except as follows:

**1. Any standard referenced in this document that has not specifically been adopted may be replaced with other nationally recognized standards, or with adopted provisions from Volume I of this code or from the Fire Code, by the authority having jurisdiction.**

**2. All references to NFPA 13, *Standard for the Installation of Sprinkler System*, shall be taken to mean U.B.C. Standard 9-1 of this code.**

**3. Sec. 1-1.1 is added as follows:**

**1-1.1 Other codes.** When connecting to a potable water supply, other codes and provisions, such as those for the prevention of backflow, may also apply. When the fire service main is also used for potable water supply, other codes and provisions, which may include additional permits, installation requirements and separate inspections from other AHJ departments, may also apply.

**4. Chapter 10 is deleted.**

REASON: To make the most current NFPA Standard compatible with the 1997 UBC and prevailing practice in this region.

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**\*\*U.B.C. Standard No. 9-7; added to read as follows:**

**UNIFORM BUILDING CODE STANDARD 9-7**  
**SPRINKLER SYSTEMS IN ONE- AND TWO-FAMILY**  
**DWELLINGS AND MANUFACTURED HOMES**

**See Section 902.1.6, *Uniform Building Code***

### **SECTION 9.701 - ADOPTION OF NFPA STANDARD**

Except for the limitations, deletions, modifications or amendments set forth in Section 9.702 of this standard, the installation of sprinkler systems in one- and two-family dwellings and manufactured homes required by this code shall be in accordance with the “Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes, NFPA 13D-1996.

### **SECTION 9.702 - AMENDMENTS**

The National Fire Protection Association standard adopted by Section 9.701 applies to the selection, installation, inspection, maintenance and testing of sprinkler systems in one- and two-family dwellings and manufactured homes, except as follows:

**1. Any standard referenced in this document that has not specifically been adopted may be replaced with other nationally recognized standards, or with adopted provisions from Volume I of this code or from the Fire Code, by the authority having jurisdiction.**

**2. All references to NFPA 13, *Standard for the Installation of Sprinkler System*, shall be**

**taken to mean U.B.C. Standard 9-1 of this code.**

**3. All references to NFPA 13-R, *Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height*, shall be taken to mean U.B.C. Standard 9-3 of this code.**

**4. Chapter 6 is deleted.**

REASON: To make the most current NFPA Standard compatible with the 1997 UBC and prevailing practice in this region.

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**END**