

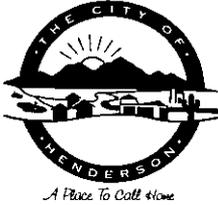
UB-072 MINUTES

BILL NO. 2343 AMEND HMC CHAPTER 15.32 CITY OF HENDERSON FIRE CODE

AN ORDINANCE OF THE CITY OF HENDERSON AMENDING CHAPTER 15.32, THE CITY OF HENDERSON FIRE CODE, BY ADOPTING THE 2006 INTERNATIONAL FIRE CODE, WITH AMENDMENTS, AND OTHER MATTERS PROPERLY RELATED THERETO.

Mayor Pro Tem Hafen introduced Bill No. 2343 and City Manager Speight read the Bill by title.

(Motion)
Councilmember Schroder moved to adopt Ordinance No. 2649, introduced as Bill No. 2343. The roll call vote favoring passage was: Those voting Aye: Hafen, Kirk, and Schroder. Those voting Nay: None. Those Abstaining: None. Those Absent: Clark and Gibson. Mayor Pro Tem Hafen declared the motion carried.



HENDERSON CITY COUNCIL AGENDA ITEM

REGULAR MEETING

Date: September 18, 2007

UB-072

SUBJECT	Bill No. 2343 - Amend HMC Chapter 15.32 - City of Henderson Fire Code
PETITIONER	Monica M. Simmons, City Clerk
RECOMMENDATION	That Bill No. 2343 be adopted as an Ordinance.

FISCAL IMPACT:

No Impact Budget funds available Augmentation required

Funding Source, Amount, and Account Number(s) to be charged:

BACKGROUND / DISCUSSION / ALTERNATIVES:

The City adopts various national model codes to regulate construction, including the International Building Code, International Residential Code, Uniform Plumbing Code, Uniform Mechanical Code, and the National Electrical Code. These codes are updated nationally every three years and the City has already adopted all of the updated versions except for the fire code. The fire code is the last code to be updated and it has been correlated with the other adopted codes to complete a set of a family of codes for fire and life safety.

Fire officials from the cities of Henderson, Las Vegas, North Las Vegas and Mesquite, and Clark County have jointly reviewed the 2006 Edition of the International Fire Code and developed the 2006 Southern Nevada Fire Code Consensus Amendments. The Fire officials' amendments to the 2006 International Fire Code were made to correlate with the 2006 International Building Code (as amended) The Building Code for the COH became effective May 01, 2007. Also, revisions were made to the fire code to address local conditions and to correlate with the State Fire Marshal Regulations.

Several local revisions were made to deal with the Fire Prevention Division being merged into the Building and Fire Safety Department and to correlate with the Henderson Development Code which requires conditional use permits for Explosive Materials; for Aboveground Flammable Liquid Tanks; and for large quantities of Hazardous Materials.

RECOMMENDED MOTION:

I move that Bill No. 2343 be adopted as Ordinance No.

for Monica M. Simmons, CMC
City Clerk

Philip D. Speight
City Manager

Steve Hanson
Finance Director

**AGENDA ITEM SUPPLEMENT
INCLUDE WITH EACH AGENDA ITEM**

SUBJECT

Bill No. 2343 - Amend HMC Chapter 15.32 - City of Henderson
Fire Code

Supporting Documentation: List all materials to be included as backup with this agenda item (e.g., contracts, agreements, correspondence, exhibits, applications, etc.).

Ordinance, Business Impact Statement, The City of Henderson Fire Code Amendments to the 2006 International Fire Code and the 2006 Southern Nevada Fire Code Consensus Amendments

DOCUMENT SIGNATURES

If backup includes documents requiring original signatures, indicate who will be responsible for routing the documents for signature after Council approval.

Contact:

City Clerk

Note: If the City Clerk's office is requested to route the document, the original document must accompany the agenda item.

PRESENTATION ITEMS

Presentation scripts must be included prior to the council meeting. Copies of photos taken during the presentation are requested for historical purposes.

Resource Requirements at Council Meeting:

TV/VCR

Slide Projector

Software Presentation

Overhead Projector/Screen

Other:

Note: It is recommended that presentation resources be tested prior to the Council meeting by the presenter.

SUGGESTED KEYWORDS FOR DOCUMENT IMAGE SEARCHES

ORDINANCE NO.

(Amends HMC Chapter 15.32 – The City of Henderson Fire Code)

AN ORDINANCE OF THE CITY OF HENDERSON AMENDING CHAPTER 15.32, THE CITY OF HENDERSON FIRE CODE, BY ADOPTING THE 2006 INTERNATIONAL FIRE CODE, WITH AMENDMENTS, AND OTHER MATTERS PROPERLY RELATED THERETO.

NOW, THEREFORE, the City Council does ordain as follows:

SECTION 1. Pursuant to the provisions of the Henderson City Charter Section 2.160(3), the [Uniform Fire Code 2000 Edition] International Fire Code 2006 Edition as amended herein, and with certain appendixes, is hereby adopted with such amendments by reference, together with other matters related thereto, as follows:

15.32.010 SHORT TITLE.

This Chapter shall be known as "The City of Henderson ["]Fire Code" and may be cited as such.

Where the designation "[Uniform] International Fire Code" or the abbreviation ["UFC"] "IFC" appears in this ordinance, it shall be construed as referring to the [2000 Uniform Fire Code] 2006 International Fire Code with amendments as adopted by the ordinance codified in this chapter.

15.32.020 ADOPTION.

The City of Henderson adopts as its Fire Code the "[Uniform] International Fire Code, [2000] 2006 Edition", as published by the [Western Fire Chiefs Association, 727 Center St. NE, #300, Salem, Oregon 97301, including the following Appendices: I-C Stairway Identification; II-A, Suppression and Control of Hazardous Fire Areas; II-C, Marinas as amended; II-E, Hazardous Materials Management Plans and Hazardous Materials Inventory Statements; II-H, Site Assessments for Determining Potential Fire and Explosion Risks from Underground Flammable or Combustible Liquid Tank Leaks; II-I, Ozone Gas-generating Equipment; II-M, Mobile Fleet Fueling at Commercial, Industrial and Governmental Sites as amended; III-A, Fire-flow Requirements for Buildings as amended; III-B, Fire Hydrant Locations and Distribution as amended; IV-B Christmas Trees, and VI-J, Refrigerant Groups and Properties] International Code Council, Inc., Publications, 4051 West Flossmoor Road, Country Club Hills, IL.60478-5795, including the following Appendices: B, Fire-flow Requirements for Buildings as amended; F, Hazard Ranking; and a new Appendix H, Emergency Access Gates and Barriers as specified in 2006 Southern Nevada Fire Code Consensus Amendments; and the same is hereby designated as the City of Henderson Fire Code and by this designation and reference is hereby adopted and made a part of this chapter, the same as if it were fully set forth herein. One copy of this Fire Code is on file in the Office of the City Clerk.

15.32.030 CODE AMENDED.

The City of Henderson adopts as an amendment to the [Uniform] International Fire Code, Attachment A, a booklet entitled The City of Henderson Fire Code Amendments to the [2000 Uniform] 2006 International Fire Code and the [2000] 2006 Southern Nevada Fire Code Consensus Amendments. This booklet is adopted in its entirety, including all of the amendments and changes as stated in Appendix A. One copy of this Amendment Booklet is on file in the Office of the City Clerk.

15.32.050 AMENDMENTS TO THE [2000 UNIFORM] 2006 INTERNATIONAL FIRE CODE AND TO THE 2006 SOUTHERN NEVADA FIRE CODE CONSENSUS AMENDMENTS.

Certain parts, articles, divisions, sections and/or subsections of the [2000] 2006 Edition of the [Uniform] International Fire Code are hereby supplemented, modified, amended and deleted as specified in Attachment A, "The City of Henderson Fire Code Amendments to the [2000 Uniform] 2006 International Fire Code and the [2000] 2006 Southern Nevada Fire Code Consensus Amendments".

SECTION 2. REPEAL OF CONFLICTING ORDINANCES

All ordinances, or parts of ordinances, sections, subsection, phrases, sentences, clauses or paragraphs contained in the Municipal Code of the City of Henderson, Nevada, in conflict herewith are repealed.

SECTION 3. VALIDITY

The City Council of the City of Henderson, Nevada, hereby declares that should any section, subsection, paragraph, clause, or provision of this Ordinance or of the Code or Standards hereby adopted be declared for any reason to be invalid or unenforceable, it is the intent of the City Council of the City of Henderson, Nevada, that it would have passed all other portions of this ordinance independent of the elimination therefrom of any such portion as may be declared invalid or unenforceable.

SECTION 4. DATE OF EFFECT: [January 9, 2004] October 1, 2007

A copy of this Ordinance shall be filed with the Office of the City Clerk, and notice of such filing shall be published once by title in the Henderson Home News, a newspaper having general circulation in the City of Henderson, at least one (1) week prior to the adoption of said Ordinance, and following approval shall be published by title (or in full if the Council by majority vote so orders) together with the names of the Councilmen voting for or against passage for at least one (1) publication before the Ordinance shall become effective.

END OF ORDINANCE

BUSINESS IMPACT STATEMENT

Bill No. _____

(Adopts IFC 2006)

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF HENDERSON, NEVADA, REPEALING HMC CHAPTER 15.32 "FIRE CODE" IN ITS ENTIRETY, EXCEPT FOR SECTION 15.32.110 PERMIT AND SERVICE FEE SCHEDULE, WHICH IS AMENDED, AND ADOPTING A NEW CHAPTER 15.32 ENTITLED "2006 INTERNATIONAL FIRE CODE"; AND PROVIDING FOR OTHER MATTERS PROPERLY RELATING THERETO.

Anticipated Council Meeting Date: _____, 2007

Initiating Department: Department of Building and Fire Safety

Date of Preparation: _____, 2007

- 1) Will this ordinance have a significant economic impact on businesses?
Check one: ___ Yes X No. If yes, proceed to #2. If no, explain:

The proposed ordinance updates the 2000 Uniform Fire Code ["UFC"] currently in use by adoption of the 2006 version of the International Fire Code ["IFC"]. Many of the changes integrate terminology and references to the 2006 International Building Code ["IBC"] previously adopted by the City of Henderson in January 2007 with an effective date of May 01, 2007. The IBC was open to public comment from various interests in the private sector building and construction trades, and the public in general. Discussion of proposed changes anticipated to be adopted in the 2006 IFC were held during the comment period regarding the IBC. In addition, the Southern Nevada Fire Code Committee, consisting of the standing committee of the Southern Nevada Fire Chiefs Association, held meetings concerning the 2006 IFC at the Henderson Fire Training Center and invited industry participation. Many changes are minor in nature; none of the changes should significantly impact businesses economically.

Pursuant to NRS Chapter 237, the following information has been compiled and filed with the City Clerk's office located at 240 Water Street, Room 102, Henderson, NV, 89015.

- 2) Description of the subjects and issues involved:

- 3) Notification was sent to the following entities:

- Henderson Chamber of Commerce
 Las Vegas Chamber of Commerce
 Trade organizations/associations: (Please list)

- X Other: (Please list)

Hosted a Fire Industry Meeting March 22nd at the
COH Fire Training Center (See the attached distribution list)

- 4) Summary of the comments gathered regarding the proposed ordinance (A more detailed summary of comments is available and on file in the City Clerk's office):
- 5) Estimated economic effect on businesses by the proposed ordinance:
- A) Explain the adverse and beneficial effects:

B) Explain the direct and indirect effects:

- 6) Describe the methods considered and/or used to reduce the impact of the ordinance:
- 7) Estimated cost of enforcement of the proposed rule:
- 8) Estimated revenues expected to be generated by the proposed ordinance and the manner in which the money is to be used:
- 9) Are the provisions of the proposed ordinance duplicative or more stringent than existing local, state, or federal standards?
Check One: Yes No

If yes, explain:

There are some duplicative requirements contained in the Fire Code from the Building Code and the State Fire Marshal Regulations. The Building Code contains new construction requirements for fire and life safety and some of these fire and life safety requirements are duplicated in the Fire Code for maintenance purposes. Since the State Fire Marshal Regulations are the minimum codes for the State (NRS 477.030), most of these regulations are duplicated in the Fire Code.

Lynn Nielson

Distribution List Name: BULLETIN - Fire Sprinkler

Categories: BULLETINS

Members:

Ace Fire Systems	acefire1@gmail.com
Advanced Fire Protection	advancedfirelasvegas@yahoo.com
American Fire & Electric	netlaura@excite.com
Automatic Fire Sprinklers - Neely	afsvan@afsfire.com
Bobby Tavakoli	bobby@rfprotection.com
Continental Fire - Tim Reich	Tim.Reich@continental-fire.com
Dale Southern	dale@rfprotection.com
David Cross	khandu23@hotmail.com
Desert Fire - Mark Salehian	marks@desertfire.com
Desert Fire - Mitzi	mitzi@desertfire.com
Durango Fire Protection	dfpi@mgci.com
E & E Fire Protection - Jeremy	jeremy@eefire.com
E & E Fire Protection - Lance	lg@eefire.com
E & E Fire Protection - Mike	mike@eefire.com
Elite Fire Protection	kmelitefire@aol.com
Elite Fire Protection - Chris Ramsey	greatgoat5@hotmail.com
Evan Patoir - Southland Ind	epatoir@southlandind.com
Fire Sprinkler Cad - Craig	design@firesprinklercad.com
Gary Wooldridge - CFP	design@cfp.lvcoxmail.com
Harmony Fire Protection -Tom	hfpinc@aol.com
Jamie Brandt - Rapid Fire Sprinkler	sales@rapidfiresprinkler.com
Lee Marx	amfe2@yahoo.com
Mike DesForges	mdesforges@telgian.com
Mojave Fire Protection	mojavefire@yahoo.com
NDS Design - Allan	allannnds@comcast.net
Nevada Fire Protection	nfpbiunt@aol.com
NS Fire - D Cross	dcross@nsfire.com
Pacific Fire Protection	tfrmvl@aol.com
Prestige Fire Design	pfpd@cox.net
R K Fire Protection	rkfireprotection@hotmail.com
Reliance FP - Tony	tony@reliancefp.com
Rich Oldenburg - Maverick Fire	rich@maverickfire.com
Rich Strong	RKSTRONG@COX.NET
Robert Lightfoot	robert@maverickfire.com
Ron Drusky - NS Fire	rdusky@nsfire.com
Statewide Fire Protection	marinus.both@wsfp.us
Sunrise Fire - G Brown	gbrown@sunrisefire.com
T. Fleury, Tyco Int	tfleury@tycoint.com
Tom Barnum	barnumt1@yahoo.com
Tri-Signal - Greg Marr	GregM@tri-signal.com
Tyco Int - George Wright	geowright@tycoint.com
Tyco Int - Rick Gentry	rgentry@tycoint.com
V V Fire - Eric Potter	eric@vvfire.com
V V Fire - Jason	jason@vvfire.com
Vegas Valley Fire - Shane	shane@vvfire.com
Wayne Murphy Design	design2216@cox.net
Westar FP - Geoff Lippold	glippold@westarfire.com
Westar FP - Nalini	nalini@westarfire.com
Westar FP - Troy	troy@westarfire.com
WS FP - Jolene Hawkes	jolene.hawkes@wsfp.us
WS FP - Troy Robinson	troy.robinson@wsfp.us
XL Fire Protection - Jim	jiml@xlfireprotection.com

Lynn Nielson

Distribution List Name: BULLETIN - Fire Alarm

Categories: BULLETINS, BULLETINS - FIRE ALARM

jhas@harborco.com - removed 12/06

lousr1@aol.com - removed 12/06

Members:

1sourcelv	1sourcelv@gmail.com
Ace Fire Systems	acefire1@gmail.com
acesup@cox.net	acesup@cox.net
ADT Security Services, Inc.	Gflick@adt.com
Al Ackley	al.ackley@siemens.com
Al Wolf	awolf@cesvegas.com
American Video Surveillance	JLW9858@aol.com
Bruddahbobby@hotmail.com	Bruddahbobby@hotmail.com
Cancers7@juno.com	Cancers7@juno.com
Chris Perkins, Baker Sys	chris.bakersystems@earthlink.net
D. Miller, AM FES	dmiller@amfes.com
dboss	dboss@sunrisefire.com
EDS Electronics	email@edselectronicsinc.com
G & G Systems	Steve@ggsystems.net
George Bennett	gtb459@aol.com
Glenn Brown	gbrown@sunrisefire.com
Kim Wilson	wilsokx@gw.ccsd.net
Lolli Gore, Honeywell	Lolli.Gore@Honeywell.com
Louie Mamuad	LMamuad@yahoo.com
LV Technologies, Dana	dana@lvtechllc.com
LV Technologies, Gary	gary@lvtechllc.com
LV Technologies, Mike Smith	mike@lvtechllc.com
Mark Barron	mbarron@bergelectric.com
Maureen	admin@sonitrolnv.com
Ms. Spencer, DPSI	hspencer@dpsi.biz
Pueblo Electric, Ed Lumbrich	Ed@PuebloESI.com
Randy Purney	rpurney@a-1security.com
Rex Verley, NextGen	rex@nextgensolution.com
Siemens - Glenn Hardin	glenn.hardin@siemens.com
Siemens, Gus Brunswick, Jf.	gus.brunswick@siemens.com
Siemens, Jim Avanzino	jim.avanzino@siemens.com
Siemens, Jon Brickey	jon.brickey@siemens.com
Siemens, Robert Turner	robertturner@siemens.com
Siemens, Ryan Callihan	Ryan.callihan@siemens.com
Simplex Grinnell, Thomas Noble	Thnoble@tycoint.com
SimplexGrinnell, Jahan Kordestani	jkordestani@tycoint.com
SimplexGrinnell, Paul Moore	Paul-moore@tycoint.com
Tnaus@msn.com	Tnaus@msn.com
Todd Wright	ToddWright1@gmail.com
tono357 - lucase@m3t.net	lucase@m3t.net
tono357@aol.com	tono357@aol.com

Lynn Nielson

Distribution List Name: BULLETIN - Kitchen Hood Fire Suppression

Categories: BULLETINS

Members:

fireprvntguy@aol.com
Joe Olson
Rick Olson

fireprvntguy@aol.com
renojoe@cox.net
EAGLE1631@aol.com

Lynn Nielson

Distribution List Name: BULLETIN - Fire Protection Consultants

Categories: BULLETINS

Members:

Darrell Duty	fireduty@hotmail.com
FSE Inc, Brian Woodward	bwoodward@firesafetyeng.com
FSE Inc, Stephen Saulter	ssaulter@firesafetyeng.com
Gus Olson - GoCad, LLC	gus.olson@earthlink.net
Jim Begley	JBegley@jbace.com
Mesa Fire Services	fireout99@cox.net
Mike Sellers	nfpm sellers@aol.com
Nevada Fire Protection, Dan Gauvain	nfpdgauvain@yahoo.com
Nevada Fire Protection, Dennis Mendoza	dennismendoza@comcast.net
Pacific Design Concepts, Ray Finkel	rayf@pacdesignconcepts.com
Peter J Mulvihill, N Lake Tahoe FP District	pmulvihill@ntfcpd.net
Protection Design, Stephen M. Leyton	steve@protectiondesign.com
Protection Design, Terri Leyton	terri@protectiondesign.com
RF Protection, B Tavakoli	bobby@rfprotection.com
RF Protection, Dale Southern	dale@rfprotection.com
Rolf Jensen & Assoc, A. Vaughn	avaughn@rjagroup.com
TestMarcx	mleafstedt@testmarc.com

Lynn Nielson

Distribution List Name: BULLETIN - Fire Med Gas

Categories: BULLETINS

Members:

Michael Knauff

mike@borlaseplumbing.lvcoxmail.com

ATTACHMENT A
THE CITY OF HENDERSON FIRE CODE AMENDMENTS
TO THE 2006 INTERNATIONAL FIRE CODE AND THE
2006 SOUTHERN NEVADA FIRE CODE CONSENSUS
AMENDMENTS

Text in the black format is text that **has not been modified** by the City of Henderson to the 2006 Southern Nevada Fire Code Consensus Amendments.

Text in the red format is text that **has been modified or deleted** by the City of Henderson to the Southern Nevada Fire Code Consensus Amendments. Sections of the code that have been deleted with no replacement, will be shown as a section number with the note "deleted".

Text in the blue format is text inserted from the International Building Code (IBC) and/or as amended by the Southern Nevada Building Code Amendments. This text is either inserted as an addition to the Fire Code, or is replacing a section of the Fire Code where a conflict in terms, definitions, or requirements, existed between the two codes. When present at the end of a code section, an IBC code number in brackets [IBC § 1111.1.1] indicates the IBC code section that was inserted.

SOUTHERN NEVADA AMENDMENTS TO THE 2006 INTERNATIONAL FIRE CODE

April 05, 2007

**Clark County
575 E Flamingo Rd
Las Vegas, NV 89119
(702) 455-7311**

**City of Las Vegas
500 N Casino Center Dr
Las Vegas, NV 89101
(702) 383-2888**

**City of North Las Vegas
2626 E Carey Ave
North Las Vegas, NV 89030
(702) 633-1102**

**City of Henderson
240 Water Street
Henderson, NV
89015
(702) 267-2222**

**Boulder City
401 California Ave
Boulder City, NV
89005
(702) 293-9283**

**City of Mesquite
10 Mesquite Blvd
Mesquite, NV 89027
(702) 346-5244**

Table of Contents

Table of Contents 1

Amendment 1A, Section 102.9: Conflicting Provisions. 5

Amendment 1B, Section 103: DEPARTMENT OF FIRE PREVENTION. 5

Amendment 1C, Section 103.1: General. 5

Amendment 1D, Section 103.1,1: Fire Marshal..... 5

Amendment 1E, Section 103.3.1: Fire Safety Division Personnel, Fire Department, and Police. ... 6

Amendment 1F, Section 104.3.2: Authority to Inspect. 6

Amendment 2, Section 105.1.1.1: Stop Work Order. 6

Amendment 2A, Section 105.1.1.2: Permit and Service Fee Schedule. 6

Amendment 3, Section 105.1.4, 105.1.4.1, 105.1.4.2: Certificate of Insurance. 6

Amendment 3a, Section 105.3.1: Expiration 7

Amendment 3b, Section 105.3.2: Extensions 7

Amendment 4, Section 105.6.34: Places of assembly. 7

Amendment 4A, Section 105.6.35: Private Fire Hydrants 7

Amendment 5, Section 105.6.40: Rooftop, heliports..... 7

Amendment 6, Section 105.6.41: Monitoring facilities..... 7

Amendment 6A, Section 105.6.47: Automatic Access Gates 8

Amendment 6B, Section 105.6.48: Fire Pumps..... 8

Amendment 6C, Section 105.6.49: Holiday Activity Permit..... 8

Amendment 6D, Section 105.6.50: Smoke Control 8

Amendment 7, Section 105.7.3, Compressed gases..... 8

Amendment 8, Section 105.7.4: Fire alarm and detection systems. 9

Amendment 9, Section 105.7.14: Gates..... 9

Amendment 10, Section 105.7.15: Smoke Control System(s) and Equipment..... 9

Amendment 11, Section 108.1: Board of Appeals Established. 9

Amendment 12, Section 108.2: Limitations on Authority..... 9

Amendment 13, Section 108.3: Qualifications. 9

Amendment 14, Section 109.3: Violation penalties. 9

Amendment 15, Section 111.4: Failure to comply. 9

Amendment 16, Section 201.3: Terms defined in other codes..... 10

Amendment 17, Section 202: False Alarm..... 10

Amendment 18, Section 308.3.1: Open-flame cooking devices..... 10

Amendment 19, Section 308.3.1.1: Liquefied-petroleum-gas fueled cooking. 11

Amendment 20, Section 311.2.2: Fire Protection..... 11

Amendment 21, Section 314.3: Highly combustible goods. 11

Amendment 22, Section 401.3.4: Nuisance Alarms..... 11

Amendment 23, Section 502.1: Cluster home development. 11

Amendment 24, Section 503.1.1: Buildings and facilities. 11

Amendment 25, Section 503.1.2: Additional Access..... 12

Amendment 26, Section 503.2.1: Dimensions. 12

Amendment 27, Section 503.2.4: Turning radius..... 13

Amendment 28, Section 503.2.7: Grade. 13

Amendment 29, Section 503.3: Marking (Approved Signs). 13

Amendment 30, Section 503.3.1: Hydrant marking. 13

Amendment 31, Section 503.4.1: Speed Bumps and Speed Humps. 14

Amendment 32, Section 503.6: Access gates..... 14

Amendment 33, Section 505.1: Address Numbers. 15

Amendment 34, Section 505.3: Directory Required. 15

Amendment 35, Section 506.1: Where required. 15

Amendment 36, Section 507.4: Smoke Obscuration Systems. 16

Amendment 37, Section 508.1: Required water supply..... 16

Amendment 37A, Section 508.2.1.1: Post Indicator Valves.	16
Amendment 38, Section 508.3: Fire Flow.	16
Amendment 39, Section 508.3.1: Number of Hydrants.	16
Amendment 40, Section 508.4: Water supply test.	17
Amendment 41, Section 508.5.1: Where required.	17
Amendment 42, Section 508.5.7: Color of Hydrants.	18
Amendment 43, Section 508.5.8: Street Markings.	18
Amendment 44, Section 509.1: Features.	19
Amendment 45, Section 510.1.1: Fire sprinkler equipment.	20
Amendment 46, Section 510.1.2: Fire alarm equipment.	20
Amendment 47, Section 610: Firefighter Breathing Air Replenishment Systems.	20
Amendment 47, Section 610: Firefighter Breathing Air Replenishment Systems.	20
Amendment 48, Section 611: Radio Amplification Systems.	20
Amendment 49, Section 612: Firefighter Equipment Storage Rooms.	21
Amendment 50, Section 613: Emergency Medical Provisions.	21
Amendment 51, Section 804.1: Interior Trim.	22
Amendment 52, Section 804.2.3: Area Limitation.	22
Amendment 53, Section 806.1.1: Restricted occupancies.	22
Amendment 54, Section 807.1.2: Combustible Decorative Materials.	22
Amendment 55, Section 901.2.2: Plans for fire protections systems.	23
Amendment 56, Section 901.4.5: Additional installation requirements.	23
Amendment 57, Section 901.6: Inspection, testing and maintenance.	23
Amendment 58, Section 902.1: Fire Alarm System.	24
Amendment 59, Section 903.1.1.2: Fire Extinguishing Systems, Riser Room.	24
Amendment 60, Section 903.2: Where required.	24
Amendment 61, Section 903.2.1.1: Group A-1 – Automatic sprinkler system.	25
Amendment 62, Section 903.2.1.3: Group A-3 – automatic sprinkler system.	25
Amendment 63, Section 903.2.2: Group E – Automatic sprinkler system.	25
Amendment 64, Section 903.2.5: Group I – Automatic sprinkler system.	26
Amendment 65, Section 903.3.1.1.1: Exempt locations.	26
Amendment 66, Section 903.3.1.2: Sprinkler systems.	26
Amendment 67, Section 903.3.1.4: Mitigation Matrix.	26
Amendment 68, Section 903.3.5.2: Secondary water supply.	27
Amendment 68A, Section 903.4: Sprinkler System Monitoring and Alarms.	27
EXCEPTION 8: Underground key or hub valves in roadway boxes provided by the municipality need not be monitored;	27
Amendment 70, Section 903.4.2: Alarms.	28
Amendment 71, Section 903.4.3: Floor control valves.	28
Amendment 72, Section 903.7: Fire pump rooms.	28
Amendment 73, Section 905.3.1: Building height.	29
Amendment 74, Section 907.1.1: Construction documents.	29
Amendment 75, Section 907.1.3: Signage.	30
Amendment 75a, Section 907.2: Where required – new buildings and structures.	31
Amendment 76, Section 907.2.7: Occupant notification.	31
Amendment 77, Section 907.2.8.2: Automatic fire alarm system.	31
Amendment 78, Section 907.2.9: Group R-2 – Automatic & Manual Fire Alarm Systems.	32
Amendment 79, Section 907.2.10: Single- and multiple- station smoke alarms.	33
Amendment 80, Section 907.2.12: High-rise buildings.	33
Amendment 81, Section 907.2.12.3: Fire Department Communication System.	33
Amendment 82, Section 907.6: Wiring.	34
Amendment 83, Section 907.9: Control units, annunciator panels and access keys.	34
Amendment 84, Section 907.10.1: Visible alarm.	35
Amendment 85, Section 907.10.1.1: Public and common areas.	36

Amendment 86, Section 907.10.2: Audible alarms.	36
Amendment 87, Section 907.12: Duct smoke detectors.	37
Amendment 88, Section 907.15: Monitoring and General Requirements.	37
Amendment 89, Section 907.20: Inspection, testing and maintenance.	39
Amendment 90, Section 909.5.2: Opening Protection.	39
Amendment 91, Section 909.6.3: Enclosed parking garage.	39
Amendment 92, Section 909.16, Fire-Fighter's Smoke Control Panel.	39
Amendment 93, Section 909.17: System response time.	40
Amendment 94, Section 909.18.8.2: Qualifications.	40
Amendment 95, Section 909.18.8.3: Reports.	40
Amendment 96, Section 909.18.10: Alternative testing method.	40
Amendment 97, Section 909.20: Maintenance.	41
Amendment 98, Section 909.20.4: Dedicated smoke control systems.	41
Amendment 99, Section 909.20.5: Nondedicated smoke control systems.	41
Amendment 100, Section 910.3: Requirements for Draft Curtains & Smoke and Heat Vents.	42
Amendment 101, Section 910.3.2.2: Sprinklered buildings.	42
Amendment 102, Section 913.1.1 – 913.1.4: Power Source through Quantity required.	42
Amendment 103, Section 913.4: Valve Supervision.	43
Amendment 104, Section 1001.1: General – means of egress.	43
Amendment 105, Section 1007.3: Exit stairways.	43
Amendment 106, Section 1007.4: Elevators.	44
Amendment 107, Section 1008.1.4: Floor Elevation (Doors).	44
Amendment 108, Section 1008.1.8.6: Delayed Egress locks.	44
Amendment 109, Section 1008.1.8.7: Stairway doors.	45
Amendment 110, Section 1008.3: Turnstiles.	45
Amendment 111, Section 1011.6: Low-level exit signs.	46
Amendment 112, Section 1015.1: Exit or Exit Access Doors Required.	46
Amendment 113, Section 1015.2.2: Three or more exits or exit access doorways.	46
Amendment 114, Section 1016.4: Corridor Increases.	46
Amendment 115, Section 1020.1.7: Smokeproof Enclosures.	47
Amendment 116, Section 1020.1.7.2: Enclosure Access.	47
Amendment 117, Section 1023.2: Use in a Means of Egress.	47
Amendment 118, Section 1025.6.2.3: Automatic Sprinklers.	47
Amendment 119, Section 1026.4: Operational constraints.	48
Amendment 120, Section 1028.6.1: Existing security bars, grates, grilles.	48
Amendment 121, Section 1102: Helistop.	48
Amendment 122, Section 1107.9: Rooftop Heliport, Helistop Construction and Protection.	48
Amendment 123, Section 1409: Site Identification.	50
Amendment 124, Section 1412.1: When required Water Supply for Fire Protection.	51
Amendment 124A, Section 1501.2.1: Plans and specifications submittal.	51
Amendment 125, Section 1909.1.11: Exterior Storage of Finished Lumber Products.	51
Amendment 126, Section 1910.1-4: Pallet Storage and Rehabilitation.	52
Amendment 127, Section 2206.2.3: Above-ground tanks.	53
Amendment 128, Section 2703.1.4.1, Hazardous Materials Information Storage.	53
Amendment 128A, Section 3001.3: Medical Gas System.	54
Amendment 128B, Section 3006.5 Medical gas systems, testing.	54
Amendment 129, Section 3301.1.3: Fireworks.	55
Amendment 130, Section 3301.2.2: Sale and Retail Display.	55
Amendment 131, Section 3301.2.4: Financial Responsibility.	55
Amendment 132, Section 3301.2.4.2: Fireworks Display.	55
Amendment 133, Section 3301.5: Supervision.	55
Amendment 134, Section 3304.11: Development-Related Blasting Activities.	56
Amendment 135, Section 3305.1: Mfg, assembly and testing of explosives, et al.	57

Amendment 135A, Section 3307.1: General.....	57
Amendment 135B, Section 3307.2-15.....	57
Amendment 136, Section 3308.1: General – display of fireworks.	57
Amendment 136A, Section 3308.1.1: Additional Requirements for Outside Fireworks Displays. .	57
Amendment 137, Section 3404.2.9: Above-ground tanks.....	58
Amendment 137A, Section.3404.2.13.1.3 Out of Service for one year.	58
Amendment 137B, Section.3404.2.13.1.4 Tanks Abandoned in Place.	58
Amendment 138, Section 3404.5: Generator and Diesel Fire Pump Fuel Tanks.	58
Amendment 139, Section 3801.3: Construction documents.....	59
Amendment 140, Chapter 46 Adopted Standards.	59
Amendment 141, Section 4602 NFPA 13, 2007 Edition: Installation of Sprinkler	60
Amendment 142, Section 4603, NFPA 13D, 2007 Edition: Standard for the Installation	71
Amendment 143, Section 4604, NFPA 13R, 2007 Edition, Standard for the Installation.....	74
Amendment 145 Section 4606, NFPA 20, 2007 Edition, Standard for the Installation.....	80
Amendment 146, Section 4607, NFPA 72, 2007 Edition: National Fire Alarm Code.	82
Amendment 147, Chapter 47 Motion Picture and Television Production Studio.....	86
APPENDIX B – Fire-Flow Requirements for Buildings.	90
APPENDIX F – Hazard Ranking.	90
APPENDIX H – Emergency Access Gates and Barriers (See Section 503.6).....	90

Amendment 1, Section 102.6.1: Local Codes.

A new Section 102.6.1 Local code is added as follows:

102.6.1 Local codes. The revised locally adopted codes listed below shall replace the listed referenced documents. References contained herein shall refer to the locally adopted codes.

ICC EC-06 ICC Electrical Code is replaced with 2005 National Electrical Code

IBC-06 2006 International Building Code

IMC-06 International Mechanical Code is replaced with 2006 Uniform Mechanical Code

IPC-06 International Plumbing Code is replaced with 2006 Uniform Plumbing Code

IRC-06 2006 International Residential Code

Amendment 1A, Section 102.9: Conflicting Provisions.

Section 102.9 Conflicting Provision is revised as follows:

102.9 Conflicting Provisions. ~~Where there is a conflict between a general requirement and a specific requirements, the specific requirement shall be applicable.~~ If conflicts exist between any provision of this Ordinance and any provision of the International Fire Code 2006 Edition, or any other Code, Ordinance, or law adopted by the City of Henderson, the more stringent requirement providing the greatest safety from the fire and for life shall prevail, unless otherwise approved by the chief.

The trade-off provisions granted in the Hillside Ordinance for the fire department access roads and water supplies for fire protection are still applicable. The requirement that all buildings shall be provided with an approved fire sprinkler system is a more stringent requirement, thus the Hillside Ordinance would take precedence.

Amendment 1B, Section 103: DEPARTMENT OF FIRE PREVENTION.

Section 103 DEPARTMENT OF FIRE PREVENTION, is re-titled and revised as follows:

Section 103 FIRE SAFETY DIVISION

Amendment 1C, Section 103.1: General.

Section 103.1 General is revised as follows:

Section 103.1 General: ~~The department of fire prevention is established within the jurisdiction under the direction of the fire code official. The function of the department shall be the implementation, administration and enforcement of the provisions of this code.~~ A Fire Safety Division is established within the Building and Fire Safety Department under the direction of the Fire Marshal. The function of this Division shall include assisting the Fire Chief in the administration and enforcement of the provisions of the Fire Code. Management oversight of the Fire Safety Division is provided by the Director of the Building and Fire Safety Department. The Fire Chief has the final decision making authority on all technical fire code issues.

Amendment 1D, Section 103.1,1: Fire Marshal.

Section 103.1.1 Fire Marshal is added as follows:

103.1.1 Fire Marshal: The Fire Chief hereby designates the Fire Marshal as the fire code official to perform the duties as set forth in the Fire Code.

Amendment 1E, Section 103.3.1: Fire Safety Division Personnel, Fire Department, and Police.

A new section 103.3.1 Fire Safety Division Personnel, Fire Department, and Police is added as follows:

Section 103.3.1. Fire Safety Division Personnel, Fire Department, and Police.

The Chief, members of the Fire Department, and members of the Fire Safety Division shall have the powers of a police officer in performing their duties under this code.

Amendment 1F, Section 104.3.2: Authority to Inspect.

A new section 104.3.2 Authority to Inspect is added as follows:

Section 104.3.2. Authority to Inspect. The Fire Safety Division and/or the Fire Department shall inspect, as often as necessary, buildings and premises, including such other hazards or appliances designated by the chief for the purpose of ascertaining and causing to be corrected any conditions which would reasonably tend to cause fire or contribute to its spread, or any violation of the purpose or provisions of the Fire Code and of any other law or standard affecting fire safety.

Amendment 2, Section 105.1.1.1: Stop Work Order.

A new section 105.1.1.1 Stop Work Order is added as follows:

105.1.1.1 Stop Work order. A stop work order may be issued if it is determined that insufficient funds are available to cover any financial instrument used to pay permit fees. Such stop work order shall remain in effect until such time as the City or County has received full payment of all required fees.

Amendment 2A, Section 105.1.1.2: Permit and Service Fee Schedule.

A new section 105.1.1.2 Permit and Service Fee Schedule is added as follows:

105.1.1.2 Permit and Service Fee Schedule. Fees for permits, inspections, plan checks and other services shall be as set forth in the Development Services schedule of fees, as adopted and amended from time to time by the Henderson City Council (HMC 15.02).

Amendment 3, Section 105.1.4, 105.1.4.1, 105.1.4.2: Certificate of Insurance.

New sections 105.1.4, 105.1.4.1, and 105.1.4.2 are added as follows:

105.1.4 Certificate of Insurance. A valid Certificate of Insurance shall be submitted to, or be on file, with the fire code official when applying for a permit to conduct specific operations.

EXCEPTION: The requirement for an insurance certificate may be waived by the City or County's Risk Manager.

105.1.4.1 Certificate Information Required. The certificate shall be issued by an insurance company authorized to conduct business in the State of Nevada, or be named on the list of authorized insurers maintained by the Nevada Department of Business and Industry, Division of Insurance. The following information shall be provided on the certificate:

1. The contractor shall be named as the insured. If the insurance is provided by an individual, company or partnership other than the contractor, the contractor shall be named as an additional insured.

2. "The City of Henderson Municipal Corporation," its agents, employees and "volunteers" shall be named as both an additional insured and certificate holder.
3. General liability limits, including contractual liability, in the minimum amounts specified below of the specific operation being conducted:
 - a. To erect temporary membrane structures, tents, or canopies. See Chapter 24 \$2,000,000.
 - b. To use explosive materials or to conduct pyrotechnic displays. See Chapter 33 \$5,000,000

105.1.4.2 Additional Insurance. Greater liability insurance amounts may be required in certain cases as deemed necessary by the fire code official.

Amendment 3a, Section 105.3.1: Expiration

Section 105.3.1 Expiration is deleted as follows:

Delete Section 105.3.1 – is deleted in its entirety. See HMC Title 15

Amendment 3b, Section 105.3.2: Extensions

Section 105.3.2 Extensions is deleted as follows:

Delete Section 105.3.2 – is deleted in its entirety. See HMC Title 15

Amendment 4, Section 105.6.34: Places of assembly.

Section 105.6.34 Places of assembly is revised as follows:

105.6.34 Places of assembly. An operational permit is required to operate a place of assembly with an occupant load of 50 or more.

Amendment 4A, Section 105.6.35: Private Fire Hydrants

Section 105.6.35 Private Fire Hydrants is revised as follows:

105.6.35 Private Fire Hydrants. An operational permit is required for facilities that have private fire hydrants. A permit is also required for the removal from service, use or operation of private fire hydrants.

Amendment 5, Section 105.6.40: Rooftop, heliports.

Section 105.6.40 Rooftop helistop, heliport is revised as follows:

105.6.40 Rooftop Heliports, Heliports. An operational permit is required for the operation of a rooftop helistop or heliport.

Amendment 6, Section 105.6.41: Monitoring facilities.

A new Section 105.6.41 Monitoring facilities is added as follows:

105.6.41 Monitoring facilities. An operational permit is required for any facility that monitors electronic signals initiated by fire protection systems such as central, supervising or self-monitoring facilities.

Amendment 6A, Section 105.6.47: Automatic Access Gates

A new Section 105.6.47 Automatic Access Gates is added as follows:

105.6.47 Automatic Access Gates. An operational permit is required for any automatic access gate.

Amendment 6B, Section 105.6.48: Fire Pumps

A new Section 105.6.48 Fire Pumps is added as follows:

105.6.48 Fire Pumps. An operational permit is required for facilities that have fire pumps.

Amendment 6C, Section 105.6.49: Holiday Activity Permit

A new Section 105.6.49 Holiday Activity Permit is added as follows:

105.6.49 Holiday Activity Permit. An operational permit is required at locations that operate Christmas tree lots, pumpkin patch lots, and similar activities.

Amendment 6D, Section 105.6.50: Smoke Control

A new Section 105.6.50 Smoke Control is added as follows:

105.6.50 Smoke Control. An operational permit is required for facilities that have smoke control systems.

Amendment 7, Section 105.7.3, Compressed gases.

Section 105.7.3 Compressed gases is revised as follows:

105.7.3 Compressed gases. When the compressed gases in use or storage exceed the amounts listed in Table 105.6.8, a construction permit is required to install, repair damage to, abandon, remove, place temporarily out of service, or close or substantially revise ~~modify~~ a compressed gas system.

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.

A construction permit is required to install, extend, alter, or revise a medical gas system.

EXCEPTION: Level 3 compressed air and/or piped vacuum systems as defined by NFPA 99, Standard for Health Care Facilities.

The permit applicant shall apply for approval to close storage, use or handling facilities at least 30 days prior to the termination of the storage, use or handling or compressed or liquefied gases. Such application shall include any change or alteration of the facility closure plan filed pursuant to Section 2701.6.3. The 30-day period is not applicable when approved based on special circumstances requiring such waiver.

Amendment 8, Section 105.7.4: Fire alarm and detection systems.

Section 105.7.4 Fire alarm and detection systems and related equipment, is revised as follows:

105.7.4 Fire alarm and detection systems, and related equipment and dedicated function fire alarm systems (i.e., monitoring). A construction permit is required for installation of or modification ~~to fire alarm and detection systems and related equipment~~ (including but not limited to: extending; reprogramming; upgrading field programmable EPROM, or altering) ~~to fire alarm and detection systems, related equipment, and dedicated function fire alarm systems.~~ Maintenance performed in accordance with this code is not considered a modification and does not require a permit except control equipment replacement due to equipment failure, which does require a permit.

Amendment 9, Section 105.7.14: Gates.

A new Section 105.7.14 Gates is added as follows:

105.7.14 Gates A Fire Department permit is required to install or alter a gate(s) or gate operator(s), which obstructs a fire apparatus access road.

A separate permit is required for each gated entrance.

Amendment 10, Section 105.7.15: Smoke Control System(s) and Equipment.

A new Section 105.7.15 Smoke Control System(s) and Equipment, is added as follows:

105.7.15 Smoke Control System(s) and Equipment: A construction permit is required to install, extend, program or alter smoke control system(s) and equipment.

Amendment 11, Section 108.1: Board of Appeals Established.

Section 108 Board of Appeals shall be deleted in its entirety.

108.1 Board Of Appeals Established - Deleted in its entirety

Amendment 12, Section 108.2: Limitations on Authority.

Section 108.2 Limitations on Authority shall be deleted in its entirety.

108.2 Limitations on Authority - Deleted in its entirety

Amendment 13, Section 108.3: Qualifications.

Section 108.3 Qualifications shall be deleted in its entirety.

108.3 Qualifications - Deleted in its entirety

Amendment 14, Section 109.3: Violation penalties.

Section 109.3 Violation penalties shall be deleted in its entirety.

109.3 Violation penalties - Deleted in its entirety

Amendment 15, Section 111.4: Failure to comply.

Section 111.4 Failure to comply is revised as follows:

111.4 Failure to comply. Any person who shall continue any work after ~~having been~~ being served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to a fine as determined by the authority having jurisdiction. ~~of not less than () dollars or more than () dollars.~~

Amendment 16, Section 201.3: Terms defined in other codes.

Section 201.3 Terms defined in other codes is revised as follows:

201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in the ~~International Building Code, International Fuel Gas Code, International Mechanical Code or International Plumbing Code~~, or other codes adopted by this jurisdiction, such terms shall have the meanings ascribed to them as in those codes.

Amendment 17, Section 202: False Alarm.

Section 202 General Definitions is revised as follows:

*Section 202 False Alarm: The definition of **FALSE ALARM** is revised as follows:*

FALSE ALARM is the activation or reporting of an alarm for which no such alarm condition, fire or emergency actually exists. Additionally, False Alarm is the willful and knowing initiating or transmission of a signal, message or other notification of an event of fire when no such danger exists.

*The definition for **FIRE CHIEF** is revised as follows:*

FIRE CHIEF. Fire Chief means the Fire Chief for the City of Henderson. Also, for the purpose of enforcement for the Fire Code, Fire Chief means the Fire Marshal and members of the Fire Safety Division.

*The definition for **DEPARTMENT OF FIRE PREVENTION** is revised as follows:*

The DEPARTMENT OF FIRE PREVENTION. The Department of Fire Prevention means the Fire Safety Division as established within the Building & Fire Safety Department for the City of Henderson.

*A new definition for **OPERATIONAL PERMIT** is added as follows:*

OPERATIONAL PERMIT: Operational permits are issued for either a one-time activity or on an annual renewable basis.

*A new definition for **SMOKE CONTROL, DEDICATED SYSTEMS** is added as follows:*

SMOKE CONTROL, DEDICATED SYSTEMS: Dedicated smoke-control systems are intended for the purpose of smoke control only. They are separate systems of air moving and distribution equipment that do not function under normal building operating conditions. Upon activation, these systems operate specifically to perform the smoke-control function.

*A new definition for **SMOKE CONTROL, NON-DEDICATED SYSTEMS** is added as follows:*

SMOKE CONTROL, NON-DEDICATED SYSTEMS. Non-dedicated systems are those that share components with some other system(s) such as the building HVAC system. Activation causes the system to change its mode of operation to achieve the smoke-control objectives.

Amendment 18, Section 308.3.1: Open-flame cooking devices.

Section 308.3.1 Open Flame Cooking Devices is revised as follows:

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

EXCEPTIONS:

1. One- and two- family dwellings.
2. ~~Where buildings, balconies and decks are protected by an automatic sprinkler system.~~

Amendment 19, Section 308.3.1.1: Liquefied-petroleum-gas fueled cooking.

Section 308.3.1.1 Liquefied-petroleum-gas-fueled cooking is revised as follows:

308.3.1.1 Liquefied-petroleum-gas-fueled cooking devices.

LP-gas burners having an LP-gas container with a water capacity greater than 2.5 pounds [nominal 1 pound (0.454 kg) LP-gas capacity] shall not be located above the first story, on combustible balconies or within 10 feet (3048 mm) of combustible construction. The inside storage of a LP-gas container with a water capacity greater than 2.5 pounds [nominal 1 pound (0.454 kg) LP-gas capacity] shall not be located inside a structure is prohibited, unless the container is listed for interior storage.

EXCEPTION: One- and two- family dwellings.

Amendment 20, Section 311.2.2: Fire Protection.

Section 311.2.2 Fire Protection is revised as follows:

311.2.2 Fire Protection. Fire alarm, sprinkler, and standpipe systems shall be maintained in an operable condition at all times.

EXCEPTIONS:

1. Delete exception 1.
2. Delete exception 2.

Amendment 21, Section 314.3: Highly combustible goods.

Section 314.3 Highly combustible goods, is revised as follows:

314.3 Highly combustible goods. The display of highly combustible goods, including but not limited to fireworks, flammable or combustible liquids, liquefied flammable gases, oxidizing materials, pyroxylin plastics and agricultural goods, in main exit access aisles, corridors, covered malls, or within 5 feet (1524 mm) of entrances to exits and exterior exit doors is prohibited. ~~When a fire involving such goods would rapidly prevent or obstruct egress.~~

Amendment 22, Section 401.3.4: Nuisance Alarms.

New Section 401.3.4 Nuisance Alarms is added as follows:

401.3.4 Nuisance Alarms. Nuisance alarms shall not be given, signaled, transmitted or caused or permitted to be given, signaled, or transmitted in any manner.

Amendment 23, Section 502.1: Cluster home development.

Section 502.1 Cluster home development a new definition is added as follows:

502.1 Cluster home development. A subdivision technique in which detached dwelling units is grouped relatively close together or is located in close proximity, leaving open spaces as common areas, as defined by the City of Henderson Community Development Code.

Amendment 24, Section 503.1.1: Buildings and facilities.

Section 503.1.1 Buildings and facilities, is revised as follows:

503.1.1 Buildings and facilities. Approved fire apparatus access roads shall be provided for every facility, building or portion of a building hereafter constructed or moved into or within the jurisdiction. The fire apparatus access road shall comply with the requirements of this section and shall extend to within 150 feet (45,720 mm) of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility.

EXCEPTION: The fire code official is authorized to increase the dimension of 150 feet (45,720 mm) where:

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.
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.
3. Group R-3 Occupancies equipped throughout with an approved automatic sprinkler system installed in accordance with 903.3.1.4, as long as there are not more than two Group R-3 or Group U occupancies.

Amendment 25, Section 503.1.2: Additional Access.

New Section 503.1.2 Additional Access is added as follows:

503.1.2 Additional Access. Approved secondary access shall be provided for 20 or more dwelling units, road(s) with dead ends or with a single point of access in excess of 600 feet, and for all commercial and industrial developments.

EXCEPTION: Hillside Ordinance - HMC Title 19 (see section 102.9).

Amendment 26, Section 503.2.1: Dimensions.

Section 503.2.1 Dimensions, the 1st paragraph is revised as follows and Exceptions are added:

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than ~~20 feet (6096mm)~~ 24 feet provided no parking is allowed, not less than 32 feet if parallel parking is allowed on one side, and not less than 40 feet if parallel parking is allowed on both sides, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 13 feet 6 inches (4115 mm).

EXCEPTIONS:

1. When approved by the Chief, vertical clearance may be reduced, provided such reduction does not impair access by fire apparatus and approved signs are installed and maintained, indicating the established vertical clearance.
2. Vertical clearances or widths shall be increased when, in the opinion of the Chief, vertical clearances or widths are not adequate to provide fire apparatus access.
3. The minimum width of a gate(s) opening within a fire apparatus access road, including fire lanes shall be at least 20 feet for a maximum of 40 feet on either side of the gate opening.

Group R, Division 3 Residential Subdivisions. For Group R, Division 3 Residential Subdivisions, the minimum width of a fire apparatus access road is 36 feet, measured face of curb to face of curb (i.e., 20 feet driving lane with 8 feet of parking on each side).

EXCEPTION: For cluster home developments, the last 150 feet may be reduced to 24 feet in width (face of curb to face of curb) with no on-street parking provided the homes are provided with an approved automatic sprinkler system, installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.

Amendment 27, Section 503.2.4: Turning radius.

Section 503.2.4 turning radius, is revised as follows:

503.2.4 Turning radius. The required turning radius of a fire apparatus access road shall be determined by the fire code official no less than 52 feet outside and 28 feet inside.

Amendment 28, Section 503.2.7: Grade.

Section 503.2.7.1 and 503.2.7.2 Maximum Grade is added as follows.

503.2.7 Grade

503.2.7.1 Maximum Grade: The gradient for a fire apparatus access road shall not exceed 12 percent (.21 rad.) angles of approach and angles of departure shall not exceed 6 percent (.1 rad.) for 25 ft. & 7.62m) prior to or after the grade change.

EXCEPTION: Hillside Ordinance - HMC Title 19 (see section 102.9).

503.2.7.2 Maximum Grade Adjacent to Structures. The gradient for fire apparatus access roads adjacent to structures requiring fire department aerial apparatus access shall not exceed 6 percent (.1 rad.).

EXCEPTION: Hillside Ordinance - HMC Title 19 (see section 102.9).

Amendment 29, Section 503.3: Marking (Approved Signs).

Section 503.3 Marking is revised as follows:

503.3 Marking (Approved Signs). Where required by the fire code official, approved signs or other approved notices, or both, shall be provided and maintained for fire apparatus access roads to identify such roads and prohibit the obstruction thereof. Signs or notices shall be maintained in a clean and legible condition at all times and be replaced or repaired when necessary to provide adequate visibility.

Fire apparatus access roads shall be marked by placing approved signs at the start of the designated fire lane, one sign at the end of the fire lane and with signs at intervals of 100 feet along all designated fire lanes. Signs are to be placed on both sides of an access roadway, if needed to prevent parking on either side. Signs are to be installed no higher than 10 feet or less than 6 feet from the surface of the roadway. The curb along the roadway, or if a curb is not present, then the edge of the pavement or the roadway, shall be painted with a red weather resistant paint.

As an alternative, fire lanes may have curbs painted red with words on the curb at least every 50 linear feet, or portion thereof, stating "NO PARKING FIRE LANE", in lieu of the signs on a post. The words on the curbs shall be painted in white letters not less than 4 inches in height with a brush stroke of not less than 3/4 inch.

Amendment 30, Section 503.3.1: Hydrant marking.

A new Section 503.3.1 Hydrant marking is added as follows:

503.3.1 Hydrant marking. Painting of curbs and/or asphalt parking areas near hydrants shall be completed by the installer prior to final inspection. A suitable coat of industrial grade enamel (safety red) shall be applied to 30 feet of curb; 15 feet on each side of the hydrant.

Amendment 31, Section 503.4.1: Speed Bumps and Speed Humps.

A new Section 503.4.1 Speed Bumps and Speed Humps, is added as follows:

503.4.1 Speed Bumps and Speed Humps. Speed bumps and/or speed humps shall not be permitted within the required width of fire apparatus access roads.

EXCEPTION: Speed humps in commercial/industrial properties are allowed when approved by the fire code official. The location(s), the number permitted, and the design of the speed hump(s) shall meet the approval of the fire code official and the Public Works Department.

The fire code official is authorized to require the removal from any private property of any existing traffic management or calming device that does not meet the applicable criteria of the Public Works Department; and has been determined by the fire code official to unnecessarily hinder emergency apparatus response.

Amendment 32, Section 503.6: Access gates.

Section 503.6 Access Security Gates is revised as follows:

503.6 Access Security gates. The installation of security access gates across a fire apparatus access road shall be approved by the fire code official chief. Where security access security gates are installed, they shall have an approved means of emergency operation. The access gates and the emergency operation shall be maintained operational at all times.

503.6.1 Permit. A Fire Department installation and operational permit is required to install a gate(s) or gate operator(s), which obstructs a fire department access road.

A separate permit is required for each gated entrance.

503.6.2 General. Fire apparatus access roads that are secured by gates shall comply with the specifications of the Fire Department.

503.6.3 Electronically controlled gates. Electronically controlled gates shall be provided with an approved vehicle detector/receiver system in accordance with rules and regulations specified by the Fire Department. Access gate systems shall be maintained operational at all times. When electronically controlled gates are out of service, they shall be secured in the open position until repairs are complete. Repairs shall be in accordance with original specifications.

EXCEPTIONS:

1. When approved by the fire code official, electronically controlled gates that are manned on a 24-hour basis.
2. When required by the fire code official, the installing contractor or the owner of the property shall provide the Fire Department transmitter(s) or approved alternative, without cost to the Fire Department.
3. The fire code official may provide transmitter(s), at no cost to the Fire Department, to local law enforcement agencies and/or an ambulance service for use in emergencies.

503.6.4 Existing facilities. All existing facilities with gates installed across access roads shall comply with Fire Department guidelines. Non-complying gates shall be secured in the open position in a manner approved by the Fire Department.

503.6.5 Plans and Specifications. Three sets of plans and specifications for fire apparatus access road gates shall be submitted for review and approval prior to construction. Included in the submittal shall be the following information:

1. Site plan with north arrow, roadway and gate dimensions.
2. Location of underground roadway detector loop, and green marker, if applicable.
3. Manufacturers' specification sheets detailing the voltage, current, radio frequency, power cable and coding for the proposed system, if applicable.
4. Contractor's statement of compatibility with existing installations.
5. Detailed vicinity map.

503.6.6 Operational Testing. An operational test shall be requested by the installer and conducted prior to placing the system into operation to establish that the final installation complies with this code, the specified design, and is functioning properly.

~~**503.6.7 Point of Contact.** A point of contact shall be listed on every electronically control access gate. The information shall include a person or company name and a phone number for a person to correct any deficiencies related to the gate. This information shall be updated as necessary when a change occurs in the contact information.~~

Amendment 33, Section 505.1: Address Numbers.

Section 505.1 Address Numbers is revised as follows:

505.1 Address Numbers. New and existing buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Address numbers shall be Arabic numerals or alphabet letters. Numbers shall be a minimum of 4 inches (1002mm) high with a minimum stroke width of 0.5 inch (12.7mm) height and minimum stroke width as required by the fire code official the City of Henderson Development Code - HMC Title 19.

Amendment 34, Section 505.3: Directory Required.

A new section 505.3 Directory Required is added as follows:

505.3 Directory Required. When required by the fire code official, an approved permanent directory shall be provided.

Amendment 35, Section 506.1: Where required.

Section 506.1 Where Required is revised as follows:

506.1 Where Required-restricted access. Where access to or within a structure or area is restricted because of secured openings or where immediate access is necessary for life-saving or fire-fighting purposes, the Fire code official is authorized to require a key box to be installed in an approved location. Buildings with fire sprinkler or fire alarm systems, or buildings not equipped with an exterior means of electrical disconnect, shall be provided with a key box. The key box shall be of an approved type and shall contain keys to gain necessary access as required by the fire code official.

Key boxes shall be located as follows:

1. Adjacent to the Fire Command Center, if applicable.
2. Adjacent to the exterior entrance door to the Sprinkler Riser Room.
3. Adjacent to the main entry for buildings with fire alarm systems or sprinklered buildings without riser rooms.
4. Adjacent to the exterior entrance door to the fire pump room.

Key boxes shall be installed within 5 feet to 6 ½ feet to the top of the box above finished grade. Every exterior or interior door utilized to access a fire alarm panel; main sprinkler control valve(s) and fire pump(s) having a lock shall have its key placed into the key box.

Amendment 36, Section 507.4: Smoke Obscuration Systems.

Section 507.4 Smoke Obscuration Systems is added as follows:

507.4 Smoke Obscuration Systems. Smoke obscuration systems associated with security or burglar alarm systems are prohibited.

Amendment 37, Section 508.1: Required water supply.

Section 508.1 Required water supply is revised by adding a second paragraph as follows:

508.1 Required water supply. All hydrants used to calculate the required fire flow shall be within 750 feet of the structure being protected as measured along the approved fire apparatus access road.

Amendment 37A, Section 508.2.1.1: Post Indicator Valves.

New Section 508.2.1.1 Post Indicator Valves is added as follows:

508.2.1.1 Post Indicator Valves. Post indicator valve(s) shall be a minimum of 5 feet from the building footing.

Amendment 38, Section 508.3: Fire Flow.

Section 508.3 Fire Flow is revised as follows:

508.3 Fire Flow. Fire flow requirements for buildings or portions of buildings and facilities shall be determined in accordance with the requirements of Appendix B. ~~by an approved method.~~

Amendment 39, Section 508.3.1: Number of Hydrants.

New Section 508.3.1 Number of Hydrants is added as follows:

508.3.1 Number of Hydrants. The minimum number of fire hydrants required to meet the fire flow shall be based on a maximum flow of 1000 gpm per hydrant. All hydrants utilized in providing the fire flow shall be within 750 ft of the structure being protected as measured along the street or approved fire apparatus access road ~~fire lane.~~

Amendment 40, Section 508.4: Water supply test.

Section 508.4 Water Supply Test is revised as follows:

508.4 Water supply test. Permit applications for water supply information shall be submitted. The City will provide the applicant with the available flow at 20 psi within 7 days.

EXCEPTION: When approved, a manual water supply test may be permitted. Prior to performing the water supply test, the Utilities Services Department must be notified at 267-5908. The applicant will also be provided with water supply information determined by the City Utilities Department within 7 days. The Utilities Department flow analysis shall be used in all cases unless approved by the fire code official. ~~The fire code official shall be notified prior to the water supply test. Water supply tests shall be witnessed by the fire code official, or approved documentation of the test shall be provided to the fire code official prior to final approval of the water supply system.~~

Amendment 41, Section 508.5.1: Where required.

Section 508.5.1 Where Required is revised, and new subsections added as follows. (Some sections renumbered)

508.5.1 Where required - Fire hydrants. Fire hydrants shall be installed in accordance with sections 508.5.1.1 and 508.1.2

508.5.1.1 Distance from Buildings: Where any portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than 400 feet (122 m) from a hydrant on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains shall be provided where required by the fire code official.

EXCEPTIONS: The maximum distance from a fire hydrant to a fire department sprinkler connection and/or a standpipe connection shall be 100 ft. (30.48 m.), as measured by an approved route.

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

508.5.1.2 Streets and Roads: Where streets and roads are constructed or extended; or where water mains are extended, fire hydrants shall be spaced in accordance with sections 508.5.1.2.1 through 508.5.1.2.9

The spacing of fire hydrants shall normally start by placing fire hydrants at all intersections.

1. In all residential areas (R-3 Occupancies), hydrants will be spaced not to exceed 500 ft. (152.4 m.) or 600 ft. (182.88 m.) if protected by an approved automatic fire sprinkler system installed in accordance with section 903.3.1.4.
2. In all, commercial, including multifamily R-1 and R-2 Occupancies, and industrial areas hydrants will be spaced not to exceed 300 ft. (91.44 m.) or 400 ft. (121.92 m.) if protected by an approved automatic fire sprinkler system in installed in accordance with section 903.3.1.1.

3. The maximum distance from a one- or two-family dwelling to a fire hydrant shall not be more than 300 feet, as measured from an approved point on a street or road frontage to a fire hydrant. An approved point is measured from the property line furthest from the hydrant, at a right angle to the street.
4. The maximum distance from a hydrant to the end of a dead-end street shall not exceed 200 ft. (60.96 m.)
5. Fire hydrants on adjacent properties shall not be considered unless fire apparatus access roads extend between properties and easements are established to prevent obstruction of such roads & fire hydrants and a written contractual agreement exists.
6. The fire code official may require hydrants to be spaced an average of 1,000 feet on each side of the street and be arranged at 500 feet on an alternating basis when any of the following conditions are present:
 - a. Where streets are provided with median dividers.
 - b. Arterial streets with four or more traffic lanes and have a traffic count of more than 30,000 vehicles per day.
 - c. Federal or state highways regardless of the number of travel lanes.
7. Where new water mains are extended along streets or new streets are installed where hydrants are not needed for protection of structures or other fire problems, the fire code official may require hydrants at not less than 1,000 feet spacing and at all intersections in order to provide for transportation hazards.
8. When a street has a high degree of traffic volume, all hydrants being utilized to deliver fire flow to the proposed development must be located on the same side of the street as the proposed development.
9. Fire hydrants for parking lots shall be within 500 ft. (152.4 m.) hose lay of all areas.
10. For looped water main systems, an approved sectional control valve shall be installed after every two (2) hydrants or sprinkler lead-ins on a water system. No more than two (2) hydrants or sprinkler lead-ins are allowed to be out of service, due to a break in a water main.
11. For any project or facility where there are 4 or more fire hydrants/sprinkler lead-ins, two sources of supply are required.

Amendment 42, Section 508.5.7: Color of Hydrants.

New section 508.5.7 Color of Hydrants is added as follows:

508.5.7 Color of Hydrants. Private fire hydrants shall be painted red. Public hydrants shall be painted yellow. Hydrants supplied by a reclaimed water system shall be painted purple.

Amendment 43, Section 508.5.8: Street Markings.

A new Section 508.5.8 Street Markings is added as follows:

508.5.8 Street Markings. To identify the fire hydrant location, a blue reflective marker shall be installed in the centerline of the street perpendicular to the fire hydrant. Subdivided streets with physical barriers or medians shall have the blue reflective marker placed in the left most travel lane, same side of the street as the hydrant. The blue reflective marker shall meet the minimum specifications and installation requirements as outlined in the Nevada Department of Transportation's "Standard Specifications for Road and Bridge Construction" section 633.02.02 Reflective Pavement Markers.

Amendment 44, Section 509.1: Features.

Section 509.1 Features is revised as follows:

509.1 Features – Fire Command Center. Where required by other sections of this code or by the fire code official, a fire command center for fire department operations shall be provided. The location and accessibility of the fire command center shall be approved by the fire department. The fire command center shall have an access door opening to the exterior of the building and be separated from the remainder of the building by not less than a 2-hour ~~1-hour~~ fire barrier constructed in accordance with Section 706 of the *International Building Code* or horizontal assembly constructed in accordance with Section 711 of the *International Building Code*, or both. The room shall be a minimum of 96 square feet (9 m²) with a minimum dimension of 8 feet (2438 mm). The room shall have a minimum size equal to 0.015 percent of the total building area of the facility served or 150 square feet (14 m²), whichever is greater, with a minimum dimension, in feet, of 0.8 times the square root of the room area (in square feet). A layout of the fire command center and all features required by the section to be contained therein shall be submitted to the fire department for approval prior to installation. The fire command center shall comply with NFPA 72 and shall contain the following features:

1. The emergency voice/alarm communication system unit.
2. The fire department communications unit.
3. Fire detection and alarm system annunciator unit.
4. Annunciator unit visually indicating the location of the elevators and whether they are operational.
5. Status indicators and controls for air-handling systems.
6. The fire-fighter's control panel required by Section 909.16 for smoke control systems installed in the building.
7. Controls for unlocking stairway doors simultaneously.
8. Sprinkler valve and water-flow detector display panels.
9. Emergency and standby power status indicators.
10. A telephone for fire department use with direct ~~controlled~~ access to the public telephone system.
11. Fire pump status indicators.
12. Current, approved building plans including the Master Exit Plans, approved fire protection system shop drawings, approved Smoke Control Diagrams, the approved Fire Protection Report, fire/emergency preplans for the facility, and manufacturer's operation manuals for all fire protection and life safety systems. Schematic building plans indicating the typical floor plan and detailing the building core, means of egress, fire protection systems, fire-fighting equipment and fire department access.
13. Minimum 3-feet by 7-feet new worktable capable of holding building plans in an open position.
14. Generator supervision devices, manual start and transfer features.
15. Public address system, where specifically required by other sections of this code.
16. Minimum 3-feet by 4-feet new dry-erase marker board, with dry erase marker and an eraser attached.
17. Separate shunt trip switches for normal and emergency power.

Amendment 45, Section 510.1.1: Fire sprinkler equipment.

A new Section 510.1.1 Fire Sprinkler equipment is revised as follows:

Section 510.1.1 Fire sprinkler equipment. A "FIRE SPRINKLER VALVE ROOM" sign shall be provided in minimum 2" letters in color contrasting with the background on the door leading to the fire sprinkler valves, unless otherwise approved by the fire code official.

Amendment 46, Section 510.1.2: Fire alarm equipment.

A new Section 510.1.2 Fire alarm equipment is and revised as follows:

Section 510.1.2 Fire alarm equipment: A "FIRE ALARM CONTROL PANEL" sign shall be provided in minimum 2" letters in color contrasting with the background on the door leading to the fire alarm panels, unless otherwise approved by the fire code official.

Amendment 47, Section 610: Firefighter Breathing Air Replenishment Systems.

Amendment 47, Section 610 Firefighter Breathing Air Replenishment Systems is deleted as follows:

~~**Amendment 47, Section 610: Firefighter Breathing Air Replenishment Systems.**~~

~~*A new Section 610 Firefighter Breathing Air Replenishment Systems is added as follows:*~~

~~**Section 610, Firefighter Breathing Air Replenishment Systems**~~

~~**610.1** Firefighter breathing air replenishment systems shall be installed throughout in the following buildings:~~

- ~~1. High rise buildings more than 12 stories in height.~~
- ~~2. Existing high rises 50 stories or more~~
- ~~3. New underground structures that are three or more floors below grade with an aggregate area greater than 20,000 square feet.~~

~~**610.2** Firefighting breathing air replenishment systems shall be installed in accordance with Fire Department Guidelines on Firefighting Breathing Air Replenishment Systems.~~

~~**610.3** Existing buildings, as described in 610.1, shall be brought into compliance within the time frame established for that facility by the Fire Department, which shall in no case be later than June 1, 2010.~~

Amendment 48, Section 611: Radio Amplification Systems.

Section 611 Radio Amplification Systems is added as follows:

611, Radio Amplification Systems

611.1 Radio amplification systems shall be installed when the following criteria cannot be met:

1. Inbound Signals: Where inbound field strength is less than -95 dBm throughout 95% of the area of each floor of the building from the nearest LVMPD and SNACC site for the radio associated to that radio system, a radio amplification system shall be installed within the building.
2. Outbound Signals: Where the outbound signal strength received from a portable radio throughout each floor throughout the building to the receiver at the nearest LVMPD and SNACC site is less than -95 dBm from a radio associated with that radio system with a maximum of 3 watts of strength, a radio amplification system shall be installed within the building.

611.2 Radio amplification systems shall be installed in accordance with Fire Safety Division Department Guidelines.

611.3 Existing buildings, as described in 610.1, shall be brought into compliance within the time frame established for that facility by the Fire Official, which shall in no case be later than 1 year after written notice to do so.

Amendment 49, Section 612: Firefighter Equipment Storage Rooms.

Section 612 Firefighter Equipment Storage Rooms is added to read as follows:

612. Firefighter Equipment Storage Rooms

612.1 Firefighter equipment storage rooms and equipment shall be installed in the following buildings: may be required in buildings over 30 floors as determined by the Fire Chief.

1. High rise buildings more than 12 stories in height.
2. Underground structures that are three or more floors below grade with an aggregate area greater than 20,000 square feet.

612.2 Firefighter equipment storage rooms shall be installed in accordance with fire department guidelines.

Amendment 50, Section 613: Emergency Medical Provisions.

Section 613 Emergency Medical Provisions is deleted as follows:

613. Emergency Medical Provisions

613.1 Automatic External Defibrillators. An Automatic External Defibrillators (AEDs) shall be provided with in the following new and existing locations:

1. An assembly occupancy that can accommodate more than 1,000 occupants, and
2. Government owned or government employee occupied buildings that can accommodate more than 100 occupants, and
3. All high rise buildings.

613.2 The requirement of 613.1 shall become effective for existing buildings one year after adoption of this code.

613.3 Assembly occupancies used primarily for worship shall not be required to meet the requirements of 613.1.

613.4 AEDs shall be provided and distributed so that an AED will be within a 3 minute travel distance to any location on the property.

613.5 AEDs shall be conspicuously located where they will be readily accessible and immediately available when needed, both for site employees and the general public.

613.6 It shall be the responsibility of the owner/occupant of the facility to provide and maintain AEDs as required by 613.1.

Amendment 51, Section 804.1: Interior Trim.

Section 804.1 Interior Trim is revised as follows:

804.1 Interior trim. Material, other than foam plastic used as interior trim shall have a minimum Class C flame spread and smoke-developed index when tested in accordance with ASTM E 84, as described in Section 803.1.1. Combustible trim, excluding handrails and guardrails, shall not exceed 10 percent of the aggregate specific wall or ceiling area to which it is attached in which it is located.

Amendment 52, Section 804.2.3: Area Limitation.

Section 804.2.3 is revised as follows:

804.2.3 Area limitation. The interior trim shall not constitute more than 10 percent of the aggregate specific wall ~~and~~ or ceiling area to which it is attached of any a room or space.

Amendment 53, Section 806.1.1: Restricted occupancies.

Section 806.1.1 Restricted occupancies are revised as follows:

806.1.1 Restricted occupancies. Natural cut trees shall be prohibited in Group A, E, I-1, I-2, I-3, I-4, M, R-1, R-2, and R-4 occupancies, and B, F, and S occupancies.

EXCEPTION #1 – Deleted in Entirety

- ~~1. Trees located in areas protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 shall not be prohibited in Groups A, E, M, R-1, and R-2.~~

Amendment 54, Section 807.1.2: Combustible Decorative Materials.

Section 807.1.2, Combustible Decorative Materials is revised as follows:

807.1.2 Combustible Decorative Materials. The permissible amount of decorative materials meeting the flame propagation performance criteria of NFPA 701 shall not exceed 10 percent of the aggregate area of specific walls and or ceilings area to which it is attached in which it is located:

EXCEPTIONS:

1. In auditoriums in Group A, the permissible amount of decorative material meeting the flame propagation performance criteria of NFPA 701 shall not exceed ~~50~~ 75 percent of the aggregate area of walls area and ceiling where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and where the material is installed in accordance with Section 803.4 of the *International Building Code*.
2. The amount of fabric partitions suspended from the ceiling and not supported by the floor in Group B and M occupancies shall not be limited.

Amendment 55, Section 901.2.2: Plans for fire protections systems.

A new Section 901.2.2 Plans, is added as follows:

901.2.2 Plans. Complete plans and specifications for fire protection systems shall be submitted to the Fire Code Official for review and be approved prior to system installation. Approved plans shall be kept readily available on the job site.

All high rise, covered mall and atrium buildings, in addition to other major facilities as determined by the Chief, shall have a Fire and Life Safety Package Report submitted to the Fire Code Official and be approved prior to applying for building permits. When required by the Fire Code Official, fire protection drawings shall be reviewed by a Fire Protection Engineer to verify compliance with Fire and Life Safety Report.

The licensee (contractors Master or Qualified Employee) information shall be on submittals as per Nevada Administrative Code, Nevada Revised Statute and Nevada Blue Book.

~~On and after July 1, 2008, As required by NAC 477, a designer of fire sprinkler and alarm systems must hold a minimum Level III certification (in their respective discipline) from the National Institute for Certification in Engineering Technologies (NICET) or an equivalent certification (e.g., plans and calculations prepared by a Nevada Registered Fire Protection Engineer).~~ ~~On and after July 1, 2008~~ As required by NAC 477, a designer of special hazard fire protection systems must hold a minimum Level I certification from NICET or an equivalent certification. ~~On and after July 1, 2010,~~ As required by NAC 477, a designer of special hazard fire protection systems must hold a minimum Level II certification from NICET or an equivalent certification.

Submittals shall include the designer's printed name, certificate number and wet signature.

Amendment 56, Section 901.4.5: Additional installation requirements.

A new Section 901.4.5 Additional installation requirements, is added as follows:

901.4.5 Additional installation requirements. ~~On and after July 1, 2008~~ As required by NAC 477, an onsite supervising installer of fire sprinkler, alarm and special hazard systems must hold a minimum Level I certification from NICET or an equivalent certification. ~~On and after July 1, 2010~~ As required by NAC 477, an onsite supervising installer of fire sprinkler, alarm and special hazard systems must hold a minimum Level II certification from NICET or an equivalent certification.

Amendment 57, Section 901.6: Inspection, testing and maintenance.

Section 901.6 Inspection, testing and maintenance, is revised by adding a new second and third paragraph as follows:

Reports of inspections and tests shall be maintained on the premises and made available to the fire code official when requested.

All Fire Protection Systems shall be maintained in accordance with the provisions of the Nevada State Fire Marshal's Office Regulations. A copy of said inspection shall be mailed within 48 hours, to the Fire Safety Division only when any deficiency of the system or violation of the Fire Code is noted. In the event a service/maintenance contract is canceled or not renewed, the Fire Safety Division shall be notified by the service company within 24 hours.

Amendment 58, Section 902.1: Fire Alarm System.

*Section 902.1 Definitions, the definition of **FIRE ALARM SYSTEM** is revised as follows:*

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

FIRE ALARM SYSTEM is a system or portion of a combination system that consists of components and circuits arranged to monitor and annunciate the status of the fire alarm or supervisory signal-initiating devices and to initiate the appropriate response to those signals. [NFPA 72 § 3.3.67]

Amendment 59, Section 903.1.1.2: Fire Extinguishing Systems, Riser Room.

A new Section 903.1.1.2 is added as follows:

903.1.1.2 Fire Extinguishing Systems, Riser Room Requirements. All buildings equipped with an automatic fire sprinkler system shall be provided with a riser room(s). Riser room(s) shall have a one-hour separation from the remainder of the building, an exterior door, and contain the main riser control valves. The exterior door shall be labeled with the wording "Fire Sprinkler Riser Room".

EXCEPTIONS:

1. When the riser control valve(s) consist of either exterior wall control valve(s), or a post-indicating valve.
2. When approved by the fire code official, riser room(s) in Type I or II-A construction, are not required.

Amendment 60, Section 903.2: Where required.

Section 903.2 Where required, is revised as follows:

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

~~**EXCEPTION:** Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided those spaces or areas are equipped throughout with an automatic fire alarm system and are separated from the remainder of the building by fire barriers consisting of not less than 1-hour fire resistance-rated walls and 2-hour fire resistance-rated floor/ceiling assemblies.~~

If any fire area in a building or structure is provided with fire sprinklers, whether required or not, all fire areas in the building or structure shall be provided with fire sprinklers.

EXCEPTIONS:

1. If a fire area is separated from other fire areas by a listed four-hour rated firewall with no openings.
2. Special hazard areas may be fire sprinklered without requiring additional fire sprinklers, when approved by the fire code official.

An approved automatic fire sprinkler system shall be provided in all new buildings and structures of 5000 square feet or greater.

EXCEPTIONS:

1. Buildings separated into fire areas of less than 5000 square feet by a listed or approved four-hour rated fire wall with no openings constructed in accordance with the IBC.
2. R-3 occupancies with fire areas of less than 6201 square feet unless otherwise required by the provisions of this code.
3. As provided in section 903.3.1.1.1

Additions to existing buildings. Any addition to an existing non-sprinklered building or structure which expands the total area to 5000 square feet or greater shall conform to this section.

EXCEPTION: R-3 occupancies with fire areas of less than 6201 square feet unless otherwise required by the provisions of this code.

Amendment 61, Section 903.2.1.1: Group A-1 – Automatic sprinkler system.

Section 903.2.1.1 Group A-1 is revised as follows:

903.2.1.1 Group A-1. An automatic sprinkler system shall be provided for Group A-1 occupancies where one of the following conditions exists:

1. The fire area exceeds 5,000 ~~12,000~~ square feet (465 ~~1115~~ m²).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than the level of exit discharge.
4. The fire area contains a multi-theater complex.

Amendment 62, Section 903.2.1.3: Group A-3 – automatic sprinkler system.

Section 903.2.1.3 Group A-3 is revised as follows:

903.2.1.3 Group A-3. An automatic sprinkler system shall be provided for Group A-3 occupancies where one of the following conditions exists:

1. The fire area exceeds 5,000 ~~12,000~~ square feet (465 ~~1115~~ m²).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than the level of exit discharge.

EXCEPTION: ~~Areas used exclusively as participant sports areas where the main floor area is located at the same level of exit discharge of the main entrance and exit.~~

Amendment 63, Section 903.2.2: Group E – Automatic sprinkler system.

Section 903.2.2 Group E is revised as follows:

903.2.2 Group E. An automatic sprinkler system shall be provided for Group E occupancies where one of the following conditions exists: ~~as follows:~~

1. ~~Throughout all~~ The Group E fire areas have an occupant load of 50 or more, greater than 20,000 square feet in area.
2. ~~Throughout every portion of educational buildings~~ Any portion of the Group E fire areas is below the level of exit discharge.
3. Rooms used for kindergarten, first or second-grade pupils or for child care purposes, are located above or below the first story.

4. Daycare facilities when there is occupancy from 12:00 a.m. to 6:00 a.m.

EXCEPTION: An automatic sprinkler system is not required in any fire area or area below the level of exit discharge where every classroom throughout the building has at least one exterior exit door at ground level.

Amendment 64, Section 903.2.5: Group I – Automatic sprinkler system.

Section 903.2.5 Group I is revised as follows, deleting the exception:

903.2.5 Group I. An automatic sprinkler system shall be provided throughout buildings with a Group I fire area.

~~**EXCEPTION:** An automatic sprinkler system installed in accordance with Section 903.3.1.2 or 903.3.1.3 shall be allowed in Group I-1 facilities.~~

Amendment 65, Section 903.3.1.1.1: Exempt locations.

Section 903.1.1.1 Exempt Locations: is revised as follows:

903.3.1.1.1 Exempt Locations: Automatic sprinklers shall not be required in the following rooms or areas where such rooms or areas are protected with an approved automatic fire detection- extinguishing system, in accordance with Section ~~907-2~~, 904. ~~That will respond to visible or invisible particles of combustion.~~ Sprinklers shall not be omitted from any room merely because it is damp, of fire-resistance-rated construction or contains electrical equipment.

1. Any room where the application of water, or flame and water, constitutes a serious life or fire hazard.
2. Any room or space where sprinklers are considered undesirable because of the nature of the contents, when approved by the fire code official.
3. Generator and transformer rooms separated from the remainder of the building by walls and floor/ceiling assemblies having a fire-resistance rating of not less than 2 hours.
4. In room or areas that are of noncombustible construction with wholly noncombustible contents.

Amendment 66, Section 903.3.1.2: Sprinkler systems.

Section 903.3.1.2 NFPA 13 R Sprinkler Systems is revised as follows, while Section 903.3.1.2.1 remains unchanged:

903.3.1.2 NFPA 13R sprinkler systems. Where allowed in buildings of Group R-1 or R-2, up to and including two ~~four~~ stories in height, automatic sprinklers systems are permitted to ~~shall~~ be installed throughout in accordance with NFPA 13R.

Amendment 67, Section 903.3.1.4: Mitigation Matrix.

New section 903.3.1.4 Mitigation Matrix for Group R-3 Occupancies is added as follows:

903.3.1.4 Mitigation Matrix for Group R-3 Occupancies. When a fire sprinkler system is being installed to mitigate the minimum code requirements for fire flow, number of fire hydrants, or fire department access, for a Group R Division 3 Occupancy, the sprinkler system design requirements in Table 903.3.1.4 shall be applied.

Table 903.3.1.4 Mitigation Matrix for Group R Division 3 Occupancies

Building Area Size Range ⁴	Mitigation Residential System Type ^{1,3}
< 3,600 sq ft	Standard NFPA 13D
≥ 3,600 sq ft and < 10,000 sq ft	Enhanced NFPA 13D
≥ 10,000 sq ft and < 15,000 20,000 sq ft	Enhanced NFPA 13R
≥ 15,000 20,000 sq ft	Modified NFPA 13

1. This mitigation constitutes a building "protected with an approved fire sprinkler system" per the 2006 IFC.
2. Free-standing detached guest houses or garages shall be protected by a minimum Enhanced NFPA 13D system
3. Excluding Group R Division 3 occupancies used as Group Care Homes.
4. Building area is defined as all areas under roof except for porches, patios, balconies, carports and porte cocheres.

Amendment 68, Section 903.3.5.2: Secondary water supply.

Section 903.3.5.2 Secondary Water Supply is revised as follows:

903.3.5.2 Secondary water supply. A secondary on-site water supply equal to the hydraulically calculated sprinkler demand, including the hose stream requirement, but not less than 15,000 gallons, shall be provided for high-rise buildings ~~in Seismic Design Category C, D, E or F as determined by this code~~. The secondary water supply shall have duration of not less than 30 minutes as determined by the occupancy hazard classification in accordance with NFPA 13.

EXCEPTION: Existing buildings.

Amendment 68A, Section 903.4: Sprinkler System Monitoring and Alarms.

Section 903.4 Sprinkler System Monitoring and Alarms exception 8 is added as follows:

EXCEPTION 8: Underground key or hub valves in roadway boxes provided by the municipality need not be monitored;

Underground key or hub valves in roadway boxes provided with approved lock-out caps.

Amendment 69, Section 903.4.1: Signals.

Section 903.4.1 is revised as follows:

903.4.1 Signals. ~~Alarm, supervisory, and trouble signals shall be distinctly different and shall be automatically transmitted to an approved central station, remote supervising station or proprietary supervising station as defined in NFPA 72 or, when approved by the fire code official, shall sound an audible signal at a constantly attended location. Monitoring water flow alarm, valve tamper alarm, supervisory and trouble signals shall in accordance with Section 907.15.~~

EXCEPTIONS:

1. Underground key or hub valves in roadway boxes provided by the municipality or public utility are not required to be monitored.
2. ~~Unless otherwise required by the fire code official, backflow prevention devices test valves located in limited area system supply piping shall be locked in the open position. When occupancies required to be equipped with a fire alarm system, the backflow preventer valves shall be electrically supervised by a tamper switch install in accordance with NFPA 72 and separately annunciated. located at the municipal water supply connection are not required to be monitored when either locked in the open position, or are located within a underground vault or a protective enclosure (hot box) provided by the water purveyor.~~

Amendment 70, Section 903.4.2: Alarms.

Section 903.4.2 Alarms is revised as follows:

903.4.2 Alarms. Approved audible devices shall be connected to every automatic sprinkler system. Such sprinkler water-flow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Alarm devices shall be provided on the exterior of the building in an approved location. An approved audible and visual sprinkler flow alarm to alert the occupants shall be provided in the interior of the building in a normally occupied location. Multi-tenant facilities shall provide approved audible and visual notification devices within each space. Where a fire alarm is installed, actuation of the automatic sprinkler system shall actuate the building fire alarm system.

Amendment 71, Section 903.4.3: Floor control valves.

Section 903.4.3 Floor Control Valves is revised as follows:

903.4.3 Floor Control Valves. Approved supervising indicating control valves shall be provided at the point of connection to the riser on each floor. ~~in high-rise buildings.~~

Amendment 72, Section 903.7: Fire pump rooms.

Section 903.7 is added as follows:

903.7 Fire pump rooms. Where fire pumps are required to provide the required sprinkler and/or standpipe system demand, the fire pumps shall be located in a dedicated room enclosed by fire barriers that have a fire-resistance rating of not less than 2 hours. Fire pump rooms shall be provided with permanent lighting and permanent means to maintain the temperature in the room above 40°F (5°C). All fire pump rooms shall be provided with a floor drain.

Amendment 73, Section 905.3.1: Building height.

Section 905.3.1 Building Height is revised as follows, including deleting all exceptions:

Section 905.3.1 Building Height. Approved Class I Glass III standpipe systems shall be installed throughout buildings where the floor level of the highest story is located more than 30 feet (9144mm) above the lowest level of the fire department vehicle access, or where the floor level of the lowest story is located more than 30 feet (9144mm) below the highest level of fire department vehicle access.

EXCEPTIONS: 1 – 5 are deleted

Amendment 74, Section 907.1.1: Construction documents.

Section 907.1.1 Construction documents, is revised as follows:

Section 907.1.1 Construction documents. Construction documents for fire alarm systems shall be submitted for review and approval prior to system installation. As required by the fire code official, construction documents shall include but not be limited to, all of the following:

- ~~1. A floor plan which indicates the use of all rooms.~~
- ~~2. Locations of alarm initiating and notification appliances.~~
- ~~3. Alarm control and trouble signaling equipment.~~
- ~~4. Annunciation.~~
- ~~5. Power connection.~~
- ~~6. Battery calculations.~~
- ~~7. Conductor type and sizes.~~
- ~~8. Voltage drop calculations.~~
- ~~9. Manufacturers, model numbers and listing information for equipment, devices and materials.~~
- ~~10. Details of ceiling height and construction.~~
- ~~11. The interface of fire safety control functions.~~
1. Project name, street address and owner's name.
2. Contractor name, address, phone number, license numbers, license classification, and license limit.
3. Wet signature of licensee (contractors Master or Qualified Employee).
4. Wet signature of the NICET designer or Nevada Registered Fire Protection Engineer who prepared the plan, drawing and calculations. For plans prepared by a NICET designer, the designer's printed name and certificate number shall follow the signature.
5. Occupancy classification. For all occupancies state the occupant load.
6. Fire alarm circuit classification (power-limited or nonpower-limited).
7. Class/style designation of all initiating device circuit (IDC), signaling line circuits (SLC) and notification appliance circuits (NAC).
8. Conductor type and size.
9. Sequence of operation input/output matrix similar to Figure A.10.6.2.3(9) of NFPA 72.
10. Symbol legend with equipment description (manufacture's name and model number) and mounting description (surface, semi-flush, flush, and exterior). Symbols used shall follow NFPA 170, 2006 edition.
11. Site plan.

12. Floor plan drawn to an indicated scale (1/8" minimum) on sheets of a uniform size showing:
 - a. Point of compass (north arrow).
 - b. Walls, doors, windows, openings, stairs, elevators, passageways, high piled storage racks, etc., as applicable to depict the facility.
 - c. Room use identification labels.
 - d. Alarm initiating device, notification appliance, and auxiliary controlled or monitored equipment and systems, control and annunciation equipment location.
 - e. Conductor/Conduit routing and size.
 - f. Location of end-of-line resistor.
 - g. Zone identification (conventional system).
 - h. Device address (addressable systems).
 - i. Notification appliance numbering by circuit and device corresponding to the riser and/or one line diagrams.
 - j. Power panel and circuit connection.
 - k. Key plan.
 - l. Ceiling height, and construction (i.e., beam, joist, soffit, or other projection extending below the ceiling when a ceiling mounted device and/or appliance is used).
15. Mounting height detail for wall mounted device and/or appliance.
16. Riser diagram including the following information:
 - a. General arrangement of the system, in building cross-section.
 - b. Wall/shaft/stairwell and/or cable ratings when survivability or class A requirements apply.
 - c. Type and number of circuits in each riser.
 - d. Type and number of fire alarm system components/devices on each circuit, on each floor or level.
17. Authority having jurisdiction notes.
18. Standardized calculations (shown on the plans unless otherwise approved):
 - a. Battery (all panels).
 - b. Load (all notification appliance & auxiliary circuits).
 - c. Voltage drop (all notification appliance circuits, including remote annunciators and auxiliary appliances).
 - d. Manufacture specific (as necessary).
19. Product data submittal including a cover index sheet listing products used by make and model number, manufacturer data sheets and listing information for all equipment, devices, materials, wire and cable.
20. Design number and detail of penetration fire stop system when required.
21. Any additional information determined necessary.

Amendment 75, Section 907.1.3: Signage.

Section 907.1.3 Signage - is deleted as follow:

A new Section 907.1.3 Signage is added as follows:

Section 907.1.3 Signage ~~A "FIRE ALARM CONTROL PANEL" sign shall be provided in minimum 2" letters in color contrasting with the background on the door leading to the fire alarm panels, unless otherwise approved by the fire code official.~~

Amendment 75a, Section 907.2: Where required – new buildings and structures

Section 907.2 Where required – new buildings and structures is revised as follows:

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 907.10, unless other requirements are provided by another section of this code. Where automatic sprinkler protection installed in accordance with Section 903.3.1 or 903.1.2. is provided and connected to the building fire alarm system, automatic heat detection required by this section shall not be required.

The automatic fire detectors shall be smoke detectors. Where ambient conditions prohibit installation of automatic smoke detection, other automatic fire detection shall be allowed.

If any occupancy within a fire area is provided with a fire alarm system, whether required or not, the fire alarm system shall be provided throughout the fire area.

If any fire area in a multi-story building or structure is provided with a fire alarm system, whether required or not, all fire areas in the building or structure shall be provided with a fire alarm system.

A fire alarm system shall be installed throughout in all buildings or facilities three or more stories stories in height. (NRS 477.130)

Amendment 76, Section 907.2.7: Occupant notification.

Section 907.2.7.1 Occupant notification shall be deleted in its entirety

907.2.7.1 Occupant notification - Deleted in its entirety.

Amendment 77, Section 907.2.8.2: Automatic fire alarm system.

Section 907.2.8.2 Automatic fire alarm system, is revised as follows:

907.2.8.2 Automatic fire alarm system. ~~An automatic fire alarm shall be installed throughout all interior corridors serving sleeping units. An automatic smoke detection system or other approved automatic fire detection system shall be installed throughout all interior corridors serving sleeping units, and spaces open to corridors and common areas serving corridors.~~

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

Amendment 78, Section 907.2.9: Group R-2 – Automatic & Manual Fire Alarm Systems.

Section 907.2.9 Group R-2, is revised as follows:

907.2.9 Group R-2. An automatic and a manual fire alarm system shall be installed in group R-2 occupancies where:

1. Any dwelling unit or sleeping unit that 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 or more dwelling units or sleeping units.

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 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 the following conditions are met:~~
- ~~3. The building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2; and~~
- ~~4. The notification appliances will activate upon sprinkler flow.~~
- ~~5. 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.~~

When an automatic fire alarm system is required, an automatic smoke detection system or other approved automatic fire detection system shall be installed throughout all interior corridors serving sleeping units, and spaces open to corridors and common areas serving corridors.

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

When the building is equipped throughout with an automatic sprinkler system that activates the notification appliances upon sprinkler flow, manual fire alarm boxes are not required.

Amendment 79, Section 907.2.10: Single- and multiple- station smoke alarms.

Section 907.2.10 Single- and multiple-station smoke alarms, is revised as follows:

907.2.10 Single- and multiple-station smoke alarms. Listed single- and multiple-station smoke alarms complying with UL 217 shall be installed in accordance with the provisions of this code and the household fire-warning equipment provisions of NFPA 72.

If required by the fire code official, system type smoke detectors with sounder-bases shall be used. Activation of these devices shall send an alarm signal, or supervisory signal when approved by the fire code official, to the building fire alarm control panel. When an alarm signal is sent, the alarm shall only sound within the individual dwelling unit, suite of origin, or similar area and shall not actuate the building fire alarm system, unless otherwise permitted by the fire code official.

Amendment 80, Section 907.2.12: High-rise buildings.

Section 907.2.12 High-Rise Buildings is revised as follows:

907.2.12 High-rise buildings. Buildings with a floor used for human occupancy located more than 55 feet (16,764 mm) ~~75 feet (22,860 mm)~~ above the lowest level of fire department vehicle access shall be provided with an automatic fire alarm system and an emergency voice/alarm communication system in accordance with Section 907.2.12.2.

EXCEPTIONS:

1. Airport traffic control towers in accordance with Sections 907.2.22 and Section 412 of the *International Building Code*.
2. Open parking garages in accordance with Section 406.3 of the International Building Code.
3. ~~Buildings with an occupancy in Group A-5.~~ Low-hazard special occupancies in accordance with Section 503.1.1 of the International Building Code.
4. ~~Buildings with an occupancy in Group H-1, H-2 or H-3 in accordance with Section 415.~~

Amendment 81, Section 907.2.12.3: Fire Department Communication System.

Section 907.2.12.3 Fire Department Communication System is revised as follows:

907.2.12.3 Fire Department Communication System. An approved two-way, fire department communication system designed and installed in accordance with NFPA 72 shall be provided for fire department use. It shall operate between a fire command center complying with Section 509 and elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, areas of refuge and inside enclosed exit stairways. The fire department communication device shall be provided at each floor level within the enclosed stairway.

EXCEPTION: When approved by the fire code official, fire department radio systems complying with Section 611. ~~where approved by the fire department.~~

Amendment 82, Section 907.6: Wiring.

Section 907.6 Wiring, is revised as follows:

907.6 Wiring. Wiring shall comply with the requirements of the ~~ICC Electrical Code~~ *Southern Nevada Electrical Code* and NFPA 72. Wireless protection systems utilizing radio-frequency transmitting devices shall comply with the special requirements for supervision of low-powered wireless systems in NFPA 72. Conductors and connections which interconnect equipment, devices and appliances shall be monitored for integrity, as set forth in NFPA 72.

Amendment 83, Section 907.9: Control units, annunciator panels and access keys.

Section 907.9 subsections 907.9.1 and 907.9.2, are ~~deleted and revised~~ with the following new sections and subsections as follows:

907.9.1 Control units, annunciator panels and access keys. The alarm control unit, remote annunciator panel and access keys to locked fire alarm equipment shall be installed and maintained in an approved location. A remote annunciator shall be provided in the main entrance or other location as approved by the fire code official. When a fire alarm panel is located in the main entrance, a remote annunciator may not be required.

907.9.2 Limitations. Unless approved, not more than one main or master fire alarm control panel shall be permitted per building, in an approved location. Unless approved, not more than one monitoring panel shall be permitted per building.

907.9.3 Connections to other systems. A fire alarm system shall not be used for any purpose other than fire warning unless approved by the fire code official.

Fire detection systems providing control input or output signals to mechanical smoke control systems or elements thereof shall comply with Sections 907 and 909. Such systems shall be equipped with a control unit complying with UL 864 and listed as smoke control equipment (UUKL). Interconnections to other systems shall be listed for compatibility or approved by the fire code official.

907.9.4.1 Alarm Annunciation. The location of an operated initiating device shall be displayed by alphanumeric display at the fire alarm control unit. The alphanumeric display shall state the device type, the floor level (if applicable), the device address, and a descriptive location for the operated device. The visible annunciation of the location of operated initiating devices shall not be canceled by the means used to deactivate alarm notification appliances. Plain English complete words shall be utilized in the descriptions whenever possible. When required by the fire code official and acronyms are used in the descriptions(s) a framed or laminated, securely fastened, list of acronyms used and their meanings shall be provided adjacent to the control panel(s) and annunciators(s) with a minimum size of (8½" x 11").

EXCEPTION: Dedicated function fire alarm system(s) as approved by the fire code official.

907.9.4.2 Annunciator Access and Location. All required annunciation means shall be readily accessible to responding personnel and shall be located as required by the fire code official to facilitate an efficient response to the fire situation. A remote annunciator shall be provided in the main entrance of all buildings. For buildings without a main entrance the annunciator or control panel shall be installed in the riser room or other approved location. When the fire alarm control panel is located in the main entrance, a remote annunciator may not be required.

907.9.5 High-rise buildings.

907.9.5.1 Zoning. In buildings with a floor used for human occupancy that is located more than 75 55 feet above the lowest level of fire department vehicle access, a separate zone by floor shall be provided for all of the following types of alarm-initiating devices where provided:

1. Smoke detectors.
2. Sprinkler water-flow devices.
3. Manual fire alarm boxes.
4. Other approved types of automatic fire detection devices or suppression systems.

[IBC § 907.8.2]

907.9.5.2 Zoning indicator panel. A zoning indicator panel and the associated controls shall be provided in an approved location. The visual zone indication shall lock in until the system is reset and shall not be canceled by the operation of an audible-alarm silence switch.

Labeling for all fire alarm control panels and remote annunciators shall be clearly legible, durable and permanent. When required by the fire code official, framed or laminated clearly readable floor plans showing room identifications shall be mounted (securely fastened) adjacent to the control panels(s) and annunciator(s).

907.9.5.3 Multi-channel Voice Evacuation. Voice evacuation systems shall be multi-channel systems.

907.9.5.4 Reliability. Signaling line circuits interconnecting control units or transponders shall be designed as Class A circuits. Additionally, when required by the fire code official, initiating device circuits, signaling line circuits, notification appliance circuits and similar circuits shall be designed as Class A circuits.

Amendment 84, Section 907.10.1: Visible alarm.

Section 907.10.1 Visible alarms, is revised as follows:

907.10.1 Visible alarms. Visible alarm notification appliances shall be provided in accordance with Sections 907.10.1 through 907.10.4.

EXCEPTIONS:

1. ~~Visible alarm notification appliances are not required in alterations, except where an existing fire alarm system is upgraded or replaced, or a new fire alarm system is installed. When approved by the fire code official, visible alarm notification appliances may not be required except in A and E occupancies, where an existing fire alarm system is replaced.~~
2. Visible alarm notification appliances shall not be required in exits as defined by Section 1002.1.

Amendment 85, Section 907.10.1.1: Public and common areas.

Section 907.10.1.1 Public and common areas, is revised as follows:

907.10.1.1 Public and common areas. Visible alarm notification appliances shall be provided in public areas and common areas.

EXCEPTIONS:

1. Electrical rooms and mechanical rooms that are not normally occupied or less than 400 square feet.
2. Janitor closets.
3. Storage rooms less than 400 square feet.
4. Exit enclosures (2 hour).
5. Elevator cabs.
6. Individual work areas or offices and private toilets serving individual work areas or offices.
7. Individual inmate sleeping accommodations and patient sleeping rooms.
8. When required by the fire code official, areas used for exhibit space and M occupancies shall have ceiling-mounted strobes.

Amendment 86, Section 907.10.2: Audible alarms.

Section 907.10.2 Audible alarms, is revised as follows:

907.10.2 Audible alarms. Audible alarm notification appliances shall be provided and sound a distinctive sound that is not to be used for any purpose other than that of a fire alarm. The audible alarm notification appliances shall provided a sound pressure level of 15 decibels (dba) above the average ambient sound level or 5 dBA above the maximum sound level having duration of at least 60 seconds, whichever is greater, in every occupied space within the building. ~~The minimum sound pressure levels shall be: 70 dBA in occupancies in Groups R and I-1; 90 dBA in mechanical equipment rooms; and 60 dBA in other occupancies. The~~ minimum sound pressure level shall be: 80 dBA in all occupancies; 90 dBA in mechanical equipment rooms. The maximum sound pressure level for audible for audible alarm notification appliances shall be 120 dBA at the minimum hearing distance from the audible appliances. Where the average ambient noise is greater than 105 dBA, visible alarm notification appliances shall be provided in accordance with NFPA 72 and audible alarm notification appliances shall not be required.

EXCEPTIONS:

1. Visible alarm notification appliances shall be allowed in lieu of audible alarm notification appliances in critical care areas of Group I-2 occupancies.
2. Group R-3 Occupancies.

Amendment 87, Section 907.12: Duct smoke detectors.

Section 907.12 Duct smoke detectors, is revised as follows:

907.12 Duct smoke detectors. Duct smoke detectors shall be connected to the building's fire alarm control panel when a fire alarm system is provided. Activation of a duct smoke detector shall should initiate a visible and audible supervisory signal at a constantly attended location on the building's fire alarm control panel when a fire alarm system is provided. Duct smoke detectors shall not be used as a substitute for required open-area detection.

EXCEPTIONS:

1. The supervisory signal at a constantly attended location is not required where duct smoke detectors activate ~~the building's alarm notification appliances~~ a supervisory signal on the building's fire alarm system.
2. ~~In occupancies not required to be equipped with a fire alarm system, actuation of a smoke detector shall activate a visible and an audible signal in an approved location. Smoke detector trouble conditions shall activate a visible or audible signal in an approved location and shall be identified as air duct detector trouble.~~

Amendment 88, Section 907.15: Monitoring and General Requirements.

Section 907.15 is deleted and revised with the following new section and subsections as follows:

907.15 General requirements. Supervising and self-monitoring facilities shall be in accordance with this section and the fire code officials' guidelines.

907.15.1 Monitoring.

~~All alarm systems shall be monitored by an approved supervising station (central, proprietary or remote) or a local alarm which gives audible and visual signals at an approved constantly attended location. All fire sprinkler monitoring systems shall be monitored by an approved supervising station (central, proprietary or remote). Fire alarm systems in government buildings, schools (public schools, private schools, pre-school and daycare facilities) and hospitals shall be monitored by an approved supervising station.~~

EXCEPTIONS:

1. Manual fire alarm systems are not required to be connected to an approved supervising station when provided with approved signs in the following locations: Directly below the horn and strobe located on the exterior of the building and adjacent to each manual pull station, a sign which reads WHEN ALARM SOUNDS - CALL 911. The sign below the horn and strobe shall be of durable material with permanent lettering having a 2" minimum height on a contrasting background. The sign adjacent to each pull station shall be of durable material with permanent lettering having a "1/4" minimum height on a contrasting background.
2. Group R-3 occupancies, shall not be monitored unless approved by the Chief.

~~The sign below the horn and strobe shall be of durable material with permanent lettering having a 2" minimum height on a contrasting background. The sign adjacent to each pull station shall be of durable material with permanent lettering having a "1/4" minimum height on a contrasting background.~~

In occupancies provided with a fire alarm monitoring system, the following five distinctly different alarm signals shall be transmitted to an approved supervising station:

1. Water Flow Alarm, if provided with a fire sprinkler system.
2. Fire Alarm.
3. System Trouble.
4. Supervisory, when applicable.
5. Valve Tamper Alarm, if provided with a fire sprinkler system.

The supervising station shall retransmit water flow alarm signals from fire sprinkler and fire alarm monitoring systems to the Fire Department. The supervising station shall not retransmit other signals to the Fire Department, except for government buildings, schools, and hospitals where the supervising station shall retransmit to the Fire Department only the following three distinctly different alarms:

1. Water Flow Alarm, if provided with a fire sprinkler system.
2. Fire Alarm.
3. Valve Tamper Alarm, if provided with a fire sprinkler system.

The supervising station shall retransmit system trouble and supervisory signals per the fire code officials' guideline.

907.15.2 Account activation. A permit is required when adding new monitoring services or changing existing monitoring service for a subscriber. Supervising stations shall not provide monitoring services for a subscriber until final acceptance and approval is granted by the fire code official.

907.15.3 Permits. A permit is required for all supervising and self-monitoring facilities.

907.15.4 Notification. Supervising stations shall process and notify the Fire Department dispatch center within 270 seconds (4½ minutes) after initiation of a fire alarm device.

EXCEPTIONS:

1. Group R-3 occupancies.
2. Positive alarm sequence.

907.15.5 Account transfers. Supervising stations shall not transfer accounts without notification to the Fire Department. Notification must be received in writing within 30 days of transfer.

907.15.6 Account Termination. In the event a monitoring contract is canceled or not renewed, the Fire Department shall be notified in writing within 24 hours.

907.15.7 UL Certification. Annually a current UL Central Station Certification shall be provided.

907.15.8 Runner Service. Central Stations shall annually provide documentation of runner service. Runner service shall be in accordance with UL 827.

Amendment 89, Section 907.20: Inspection, testing and maintenance.

Section 907.20 Inspection, testing and maintenance, is revised as follows:

907.20 Inspection, testing and maintenance. The maintenance and testing schedules and procedures for fire alarm and fire detection systems shall be in accordance with this section and Chapter 10 of NFPA 72.

All fire alarm systems shall be tested and inspected in accordance with nationally recognized standards and the State of Nevada Fire Marshals' Regulations. The alarm contractor shall also provide proof of a license to do business within the Authority Having Jurisdiction. A maintenance contract from an approved fire alarm company is required.

Inspection reports shall be kept on-site and shall be readily available to the inspection authority. A copy of said inspection shall be mailed within 48 hours, to the Fire Safety Division Prevention Bureau only when any deficiency of the system or violation of the Fire Code is noted. Prior to service or testing of any equipment, the Fire Department's Dispatch Center shall be notified of the location of the test and the approximate time that the equipment will be inoperable. Upon the completion of the test and inspection, the Fire Department Dispatch Center shall be notified that the system is operable.

In the event a service/maintenance contract is canceled or not renewed, the Fire Safety Division Department shall be notified by the service company within 24 hours.

Amendment 90, Section 909.5.2: Opening Protection.

Section 909.5.2 Opening Protection is revised by adding exception #6 as follows:

6. Passive smoke control systems shall be permitted to be self-closing in the following locations:
 - 6.1 Guest Rooms
 - 6.2 Individual dwelling units
 - 6.3 Mechanical rooms
 - 6.4 Elevator machine rooms
 - 6.5 Electrical rooms used exclusively for that purpose
 - 6.6 Doors typically maintained in a closed position as approved by the building official

Amendment 91, Section 909.6.3: Enclosed parking garage.

A new Section 909.6.3 Enclosed parking garage, is added as follows:

909.6.3 Enclosed parking garage. A smoke control system is required in an enclosed parking garage. Fans capable of providing a minimum of 10 air changes per hour shall be provided. Fans shall be bidirectional, having capacity equal or greater in the reverse direction as the forward direction. Fans shall automatically exhaust upon sprinkler waterflow. Individual manual control shall be provided for each fan on a graphic smoke control panel adjacent to the fire alarm control panel. The system shall comply with the fire code official's guidelines which may include compliance with IBC section 909.

Amendment 92, Section 909.16, Fire-Fighter's Smoke Control Panel.

Section 909.16 Fire-fighter's Smoke Control Panel and sub-sections 909.16.1, 909.16.2, and 909.16.3 are deleted in their entirety and replaced with the following.

909.16 Fire-fighter's Smoke Control Panel shall be according to the fire code official's guidelines.

Amendment 93, Section 909.17: System response time.

Section 909.17 System Response Time is revised as follows:

909.17 System response time. Smoke-control system activation shall be initiated immediately after receipt of an appropriate automatic or manual activation command. Smoke control systems shall activate individual components (such as dampers and fans) in the sequence necessary to prevent physical damage to the fans, dampers, ducts and other equipment. For purposes of smoke control, the fire-fighter's smoke control panel response time shall be the same for automatic or manual smoke control action initiated from any other building control point. The total response time, including that necessary for detection, shut-down of operating equipment and smoke control system startup, shall allow for full operational mode to be achieved before the conditions in the space exceed the design smoke condition. ~~The system response time for each component and their sequential relationships shall be detailed in the required rational analysis and~~ Upon receipt of an alarm condition at the fire alarm control panel, fans, dampers and automatic doors shall have achieved their expected operating state and confirmation of proper operation shall be indicated at the smoke control panel within 60 seconds. ~~Verification of their installed condition shall be reported in the required final report.~~

Amendment 94, Section 909.18.8.2: Qualifications.

Section 909.18.8.2 Qualifications is revised as follows:

909.18.8.2 Qualifications. Special inspection agencies for smoke control shall have expertise in fire protection engineering, mechanical engineering, and certification as air balancers, and shall be acceptable to the fire code official.

Amendment 95, Section 909.18.8.3: Reports.

Section 909.18.8.3 Reports is revised as follows, Section 909.18.8.3.1 remains unchanged:

[F] 909.18.8.3 Reports. A complete report of testing shall be prepared by the special inspector or special inspection agency. The report shall include identification of all devices by manufacturer, nameplate data, design values, measured values and identification tag or mark. The report shall be reviewed by the responsible registered design professional and, when satisfied that the design intent has been achieved, the responsible registered design professional shall seal, sign and date the report with a statement as follows:

"I have reviewed this report and by personal knowledge and on-site observation certify that the smoke-control system is in substantial compliance with the design intent, and to the best of my understanding complies with requirements of the code."

Amendment 96, Section 909.18.10: Alternative testing method.

Section 909.18.10 Alternative Testing Method is added as follows:

909.18.10 Alternative testing method. When required by the building official, theatrical smoke or other approved tracer gases shall be used during final acceptance testing to visually verify air movement.

Amendment 97, Section 909.20: Maintenance.

Section 909.20 Maintenance, is revised as follows:

909.20 Maintenance. Smoke control systems shall be maintained in an operable condition at all times to ensure to a reasonable degree that the system is capable of controlling smoke for the duration required. ~~The system shall be maintained in accordance with the manufacturer's instructions and Sections 909.20.1 through 909.20.5.~~

Inspection and periodic testing of existing smoke control systems shall be performed in accordance with the Southern Nevada Fire Code Committee's Uniform Guideline for smoke control testing & recertification, the manufacturer's instructions and Sections 909.20.1 through 909.20.5.

Amendment 98, Section 909.20.4: Dedicated smoke control systems.

Section 909.20.4 Dedicated smoke control systems, is revised as follows:

909.20.4 Dedicated smoke control systems. Dedicated smoke control systems shall be operated for each control sequence semiannually. When required by the fire code official, the system shall also be tested under standby power conditions.

Amendment 99, Section 909.20.5: Nondedicated smoke control systems.

Section 909.20.5 Nondedicated smoke control systems, is revised as follows:

909.20.5 Nondedicated smoke control systems. Nondedicated smoke control systems shall be operated for each control sequence semiannually. When required by the fire code official, the system shall also be tested under standby power conditions.

Amendment 100, Section 910.3: Requirements for Draft Curtains & Smoke and Heat Vents.

Table 910.3 Requirements for Draft Curtains and Smoke and Heat Vents is revised as follows:

[F] TABLE 910.3
REQUIREMENTS FOR DRAFT CURTAINS AND SMOKE AND HEAT VENTS*

OCCUPANCY GROUP AND COMMODITY CLASSIFICATION	NON-SPRINKLERED						SPRINKLERED			
	DESIGNATED STORAGE HEIGHT (FEET)	MINIMUM DRAFT CURTAIN DEPTH (FEET)	MAXIMUM AREA FORMED BY DRAFT CURTAINS (SQUARE FEET)	VENT-AREA-TO-FLOOR-AREA RATIO ^c	MAXIMUM SPACING OF VENT CENTERS (FEET)	MAXIMUM DISTANCE TO VENTS FROM WALL OR DRAFT CURTAINS ^b (FEET)	DRAFT CURTAINS	VENT-AREA-TO-FLOOR-AREA RATIO ^c	MAXIMUM SPACING OF VENT CENTERS (FEET)	MAXIMUM DISTANCE TO VENTS FROM WALL ^b (FEET)
Group F-1 and S-1	-	0.2 X H ^d BUT ≥ 4	50,000	1:100	120	60	NOT PERMITTED	1:100	100	50
High-Piled Storage (see 910.2.3) Section I-IV (Option 1)	≤ 20	6	10,000	1:100	100	60				
	>20 ≤ 40	6	8,000	1:75	100	55				
High-Piled Storage (see 910.2.3) Section I-IV (Option 2)	≤ 20	4	3,000	1:75	100	55				
	>20 ≤ 40	4	3,000	1:50	100	50				
High-piled Storage (see 910.2.3) Section High hazard (Option 1)	≤ 20	6	6,000	1:50	100	50				
	>20 ≤ 30	6	6,000	1:40	90	45				
High-piled Storage (see 910.2.3) Section High hazard (Option 2)	≤ 20	4	4,000	1:50	100	50				
	>20 ≤ 30	4	2,000	1:30	75	40				

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m².

1. Requirements for rack storage heights in excess of those indicated shall be in accordance with the Fire Code. For solid-piled storage heights in excess of those indicated, an approved engineering design shall be used.
2. The distance specified is the maximum distance from any vent in a particular draft curtained area to walls or draft curtains which form the perimeter of the draft curtained area.
3. Where draft curtains are not required, the vent-area-to-floor-area ration shall be calculated based on a minimum draft curtain depth of 6 feet (Option 1).
4. "H" is the height of the vent, in feet, above the floor.

Amendment 101, Section 910.3.2.2: Sprinklered buildings.

Section 910.3.2.2 Sprinklered Buildings is revised as follows:

[F] Section 910.3.2.2 Sprinklered buildings. Where installed in buildings equipped with an approved automatic sprinkler system, smoke and heat vents shall be designed to may operate automatically by actuation of a heat-responsive device rated at a minimum of 350°F (177°C). Smoke and heat vents shall also be designed for manual operation.

Amendment 102, Section 913.1.1 – 913.1.4: Power Source through Quantity required.

New Sections 913.1.1 Power Source through 913.1.4 Quantity related to fire pumps are added as follows:

913.1.1 Power source. On any development when an electric fire pump is installed, and when an emergency generator is installed, the emergency generator shall supply and be sized to meet the fire pump power demands.

913.1.2 Hydrant supply. Fire pumps shall not supply fire hydrants unless approved by the fire code official.

913.1.3 Remote annunciation. Fire pump controllers shall be provided with a listed remote annunciator in an approved location.

913.1.4 Quantity. A separate fire pump shall be provided for each building when a fire pump is necessitated by other requirements of this Code.

EXCEPTION: Two or more fire pumps may be used to supply an entire facility, when approved. The facility shall be under a single ownership or an association which shall be provided as the responsible entity for the care and maintenance of the fire pumps.

Amendment 103, Section 913.4: Valve Supervision.

Section 913.4 Valve Supervision is revised as follows:

913.4 Valve Supervision. Where provided, the fire pump suction, discharge and bypass valves, and the isolation valves on the backflow prevention device or assembly shall be supervised open by one of the following methods: a central-station, or a proprietary or remote-station signaling service. Isolation valves on the backflow prevention device or assembly shall be supervised open by a central-station, proprietary or remote-station signaling service, or per 903.4.1 exception 2.

- ~~1. Central-station, proprietary or remote-station signaling service.~~
- ~~2. Local-signaling service that will cause the sounding of an audible signal at a constantly-attended location.~~
- ~~3. Locking valves open.~~
- ~~4. Sealing of valves and approved weekly recorded inspection where valves are located within fenced enclosures under the control of the owner.~~

Amendment 104, Section 1001.1: General – means of egress.

Section 1001.1 General is revised in the exception as follows:

1001.1 General. Buildings or portions thereof shall be provided with a means of egress system as required by this chapter. The provisions of this chapter shall control the design, construction and arrangement of means of egress components required to provide an approved means of egress from structures and portions thereof. Sections 1003 through 1026 shall apply to new construction. Sections 1027 and 1028 shall apply to existing buildings.

EXCEPTION: Detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories above grade plane in height with a separate means of egress and their accessory structures shall comply with the International Residential Code, Section 1026.4, and Section 1028.6.

Amendment 105, Section 1007.3: Exit stairways.

Section 1007.3 Exit Stairways is revised by adding Exception #6, as follows:

Section 1007.3 Exit stairways.

6. Areas of refuge are not required at exit stairways in buildings or facilities that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

Amendment 106, Section 1007.4: Elevators.

Section 1007.4 Elevators is revised by adding a new Exception #2, as follows:

Section 1007.4 Elevators.

EXCEPTIONS:

1. Elevators are not required to be accessed from an area of refuge or horizontal exit in open parking garages.
2. Elevators are not required to be accessed from an area of refuge or horizontal exit in buildings or facilities that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

Amendment 107, Section 1008.1.4: Floor Elevation (Doors).

Section 1008.1.4 Floor Elevation (Doors) is revised by adding a new Exception #6 as follows:

Section 1008.1.4 Floor Elevation (Doors)

EXCEPTION:

1. A single step with a maximum height of 7 inches (178 mm) is permitted for doors serving building equipment rooms that are not normally occupied and are not required to be accessible by International Building Code Chapter 11.

Amendment 108, Section 1008.1.8.6: Delayed Egress locks.

Section 1008.1.8.6 Delayed Egress Locks is revised as follows:

1008.1.8.6 Delayed Egress locks. Approved, listed, delayed egress locks shall be permitted to be installed on doors serving any occupancy except Group A, E and H occupancies in buildings which are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 ~~or~~ and an approved automatic smoke ~~or~~ heat detection system installed in accordance with Section 907, provided that the doors unlock in accordance with Items 1 through 6 below. A building occupant shall not be required to pass through more than one door equipped with a delayed egress lock before entering an exit.

1. The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.
2. The door unlock upon loss of power controlling the lock or lock mechanism.
3. The door locks shall have the capability of being unlocked by a signal from the fire command center.
4. The initiation of an irreversible process which will release the latch in not more than 15 seconds when a force of not more than 15 pounds (67 N) is applied for 1 second to the release device. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the door lock has been released by the application of force to the releasing device, relocking shall be by manual means only.

EXCEPTIONS: ~~Where approved, a delay of not more than 30 seconds is permitted.~~

1. A sign shall be provided on the door located above and within 12 inches (305 mm) of the release device reading: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.
2. Emergency lighting shall be provided at the door.

Amendment 109, Section 1008.1.8.7: Stairway doors.

Section 1008.1.8.7 Stairway Doors is revised as follows:

1008.1.8.7 **Stairway doors.** Interior stairway means of egress doors shall be operable from both sides without the use of a key or special knowledge or effort.

EXCEPTIONS:

1. Stairway discharge doors shall be operable from the egress side and shall only be locked from the opposite side.
2. This section shall not apply to doors arranged in accordance with International Building Code Section 403.12.
3. In stairways serving ~~buildings other than high-rise buildings not more than four stories~~, doors are permitted to be locked from the side opposite the egress side, provided they are operable from the egress side. Except for exit discharge doors, the stairway doors shall be automatically capable of being unlocked simultaneously without unlatching upon any of the following: a signal from the fire command center, if present, or a signal by emergency personnel from an approved a single location inside the main entrance to the building; activation of a fire alarm system or a fire sprinkler system in an area served by the stairway; or failure of the power supply.

Amendment 110, Section 1008.3: Turnstiles.

Section 1008.3 Turnstiles is revised as follows:

1008.3 Turnstiles. Turnstiles or similar devices that restrict travel to one direction shall not be placed so as to obstruct any required means of egress.

EXCEPTIONS: Each turnstile or similar device shall be credited with no more than a 50-person capacity where all of the following provisions are met:

1. Each device shall turn free in the direction of egress travel when primary power is lost; ~~upon the manual release by an employee in the area.~~
2. Such devices are not given credit for more than 50 percent of the required egress capacity.
3. Each device is not more than 39 inches (991 mm) high.
4. Each device has at least 16.5 inches (419 mm) clear width at and below a height of 39 inches (991 mm) and at least 22 inches (559 mm) clear width at heights above 39 inches (991 mm).
5. Buildings are protected throughout by an approved automatic sprinkler system or an approved automatic smoke detection system.
6. Activation of the building automatic sprinkler or fire detection system shall automatically unlock the turnstile. The turnstile shall remain unlocked until the fire protection system is reset.

Where located as part of an accessible route, turnstiles shall have at least 36 inches (914 mm) clear at and below a height of 34 inches (864 mm), at least 32 inches (813 clear) width between 34 inches (864 mm) and 80 inches (2032 mm) and shall consist of a mechanism other than a revolving device.

Amendment 111, Section 1011.6: Low-level exit signs.

Section 1011.6 Low-Level Exit Signs is added as follows:

1011.6 Low-level exit signs. Where exit signs are required by Section 1011.1, additional approved low-level exit signs that are internally or externally illuminated shall be provided in all corridors serving guest rooms in Group R, Division 1 Occupancies. The bottom of each such sign shall not be less than 6 inches (152 mm) nor more than 8 inches (203mm) above the floor level and shall indicate the path of exit travel. For exit and exit-access doors, the sign shall be on the door or adjacent to the door, with the closest edge of the sign within 4 inches (102 mm) of the doorframe.

EXCEPTIONS:

1. Elevators are not required to be accessed from an area of refuge or horizontal exit in open parking garages.
2. Elevators are not required to be accessed from an area of refuge or horizontal exit in buildings or facilities that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

Amendment 112, Section 1015.1: Exit or Exit Access Doors Required.

Section 1015.1 Exit or Exit Access Doors Required is revised by adding exception # 2 as follows:

Section 1015.1 Exit or exit access doors required.

EXCEPTIONS:

1. Group I-2 occupancies shall comply with Section 1014.2.2.
2. In Groups R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 20 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Sections 903.3.1.1 or 903.3.1.2.

Amendment 113, Section 1015.2.2: Three or more exits or exit access doorways.

Section 1015.2.2 three or More Exits or exit access doorways is revised as follows:

1015.2.2 Three or more exits or exit access doorways. Where access to three or more exits is required, at least two exit doors or exit access doorways shall be arranged in accordance with the provisions of Section 1015.2.1. Additional exits or exit access doorways shall be arranged a reasonable distance apart so that if one becomes blocked, the others will be available.

Amendment 114, Section 1016.4: Corridor Increases.

Section 1016.4 Corridor Increases is added as follows:

1016.4 Corridor Increases. The travel distances specified in Table 1016.1 may be increased up to an additional 100 feet (30,480 mm) provided that the last portion of exit access leading to the exit occurs within a minimum one-hour fire-resistance rated corridor. The length of such corridor shall not be less than the amount of increase taken, in feet (mm).

Amendment 115, Section 1020.1.7: Smokeproof Enclosures.

Section 1020.1.7 Smokeproof Enclosures is revised as follows:

1020.1.7 Smokeproof Enclosures. In buildings required to comply with *International Building Code* Section 403 or 405, each of the exits of a building that serves stories where the floor surface is located more than 55 feet (16,764 mm) ~~75 feet (22,860 mm)~~ above the lowest level of fire department vehicle access or more than 30 feet (9144 mm) below the level of exit discharge serving such floor levels shall be a smokeproof enclosure or pressurized stairway in accordance with *International Building Code* Section 909.20. Pressurization shall occur automatically upon activation of an approved fire alarm system.

Amendment 116, Section 1020.1.7.2: Enclosure Access.

Section 1020.1.7.2 is revised by deleting exception as follows.

Section 1020.1.7.2 Enclosure Access

~~**EXCEPTION:** Access is not required by way of a vestibule or exterior balcony for stairways using the pressurization alternative complying with Section 909.20.5.~~

Amendment 117, Section 1023.2: Use in a Means of Egress.

Section 1023.2 Section 1023.2 Use in a Means of Egress (Exterior Exit Ramps/Stairways) is revised as follows:

1023.2 Use in a means of egress. Exterior exit ramps and stairways shall not be used as an element of a required means of egress for Group I-2 occupancies. For occupancies in other than Group I-2, exterior exit ramps and stairways shall be permitted as an element of a required means of egress for buildings not exceeding six stories above grade plane or having occupied floors more than 55 feet (16,764 mm) ~~75 feet (22,860 mm)~~ above the lowest level of fire department vehicle access.

Amendment 118, Section 1025.6.2.3: Automatic Sprinklers.

Section 1025.6.2.3 Automatic Sprinklers (Smoke-Protected Seating) is revised by deleting all exceptions as follows:

EXCEPTIONS:

- ~~1. The floor area used for contests, performances or entertainment provided the roof construction is more than 50 feet (15,240 mm) above the floor level and the use is restricted to low fire hazard uses.~~
- ~~2. Press boxes and storage facilities less than 1,000 square feet (93 m²) in area.~~
- ~~3. Outdoor seating facilities where seating and the means of egress in the seating area are essentially open to the outside.~~

Amendment 119, Section 1026.4: Operational constraints.

Section 1026.4 Operational Constraints - is deleted as follows:

Section 1026.4 is revised as follows:

~~**1026.4 Operational constraints.** Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools. Bars, grilles, grates or similar devices are permitted to be placed over emergency escape and rescue openings provided the minimum net clear opening size complies with Section 1026.2 and such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the escape and rescue opening. Where such bars, grilles, grates or similar devices are installed in existing buildings, smoke alarms shall be installed in accordance with Sections 907.2.10 regardless of the valuation of the alteration.~~

~~**1026.4.1** Releasing mechanisms for security bars, grates, grilles, or similar devices over emergency escape and rescue openings shall be in accordance with Underwriters Laboratories (UL), Subject 2326, Appendix B, dated December 17, 1999.~~

Amendment 120, Section 1028.6.1: Existing security bars, grates, grilles.

Section 1028.6.1 Existing security bars, grates, grilles - is deleted as follow:

A new Section 1028.6.1 is added as follows:

~~**1028.6.1** Existing security bars, grates, grilles, or similar devices not in compliance with 1026.4.1 shall be removed.~~

Amendment 121, Section 1102: Helistop.

Section 1102 – Definition for Helistop is revised as follows

1102 Helistop: The same as "Heliport," except that no fueling, defueling, maintenance, repairs or storage (for longer than 24 hours) of helicopter, is permitted.

Amendment 122, Section 1107.9: Rooftop Heliport, Helistop Construction and Protection.

Section 1107.9 Rooftop Heliport/Helistop Construction and Protection is added as follows.

1107.9 Rooftop Heliport/Helistop Construction and Protection.

1107.9.1 Application. Heliport/Helistop construction and protection shall comply with Section 1107.9, and NFPA 418, *Standard for Heliports*.

1107.9.2 Ground level hangers. Section 1107.9 does not apply to ground level helicopter hangars. All hangars not covered by NFPA 418 standard, shall comply with NFPA 409, *Standard on Aircraft Hangars*.

1107.9.3 Temporary landing sites and emergency evacuation facilities. Temporary landing sites and emergency evacuation facilities are outside the scope of Section 21.3. For this section temporary is defined as a site intended to be used for a period of less than 30 consecutive days, and for no more than 10 operations per day.

1107.9.4 Permits. Permits, where required, shall comply with section 105.

1107.9.5 Smoking Prohibited

1107.9.5.1 Smoking shall be prohibited at rooftop heliports / helistops.

1107.9.5.2 Smoking shall be prohibited within 50 ft (15.2 m) of the landing pad edge. No smoking signs shall be erected at access/egress points to the heliport / helistop.

1107.9.6 Plans. Plans for construction and protection of heliports / helistops shall be approved by the fire code official.

1107.9.7 Tank Locations

1107.9.7.1 Storage, handling, and use of flammable and combustible liquids shall be in accordance with Chapter 34.

1107.9.7.2 Oxygen and other medical gases shall be stored and used in accordance with NFPA 99 *Standard for Health Care Facilities*, Section **5.1.3.3.1.6** and Section **9.4**.

1107.9.7.3 Aboveground flammable liquid storage tanks, compressed gas storage tanks, and liquefied gas storage tanks shall be laterally located at least 50 ft (15.2 m) from the edge of the final approach and takeoff (FATO) area as defined in FAA/C 150/ 5390-2A, *Heliport Design Advisory Circular*.

1107.9.8 Fueling: Fueling operations systems shall be in accordance with section 1106 at designated heliports. Fueling operations shall not be conducted at helistops.

1107.9.8.1 Fixed fueling dispensing equipment shall be located outside of rooftop hangars. Fueling equipment shall not hinder or obstruct access to exits or fire-fighting equipment.

1107.9.8.2 Fuel pump manifolds shall be located 25 ft (7.6 m) from rooftop hangars and fixed fire protection equipment.

1107.9.9 Rooftop Landing Facilities — Additional Protection

1107.9.9.1 Structural Support: Main structural support members that could be exposed to a fuel spill shall be made fire resistant using listed materials and methods to provide a fire resistance rating of not less than 2 hours.

1107.9.9.2 Landing Pad Pitch: The rooftop landing pad shall be pitched to provide drainage at a slope of 0.5 percent to 2 percent. The pitch of the pad shall be designed to protect, at a minimum, the primary egress path, passenger holding area, rooftop hangar, and fire protection activation systems. Flow shall not penetrate alternate egress points, stairways, ramps, hatches, and other openings not designed for drainage.

1107.9.9.3 Landing Pad Construction Materials: The rooftop landing pad surface shall be constructed of noncombustible, nonporous materials that are approved. The contiguous building roof covering within 50 ft (15.2 m) of the landing pad edge shall have a Class A rating.

1107.9.9.4 Means of Egress: At least two approved means of egress from the rooftop landing pad edge shall be provided and shall be remotely located from each other to the extent practical.

1107.9.9.4.1 For heliports occupied by 50 or more people, two approved means of egress from the roof shall be provided and shall be remotely located from each other to the extent practical, but shall not be located less than 30 ft (9.1 m) from each other. For heliports occupied by fewer than 50 people, one approved means of egress from the roof shall be provided. [418:3.4.1]

1107.9.9.4.2 Means of egress from the rooftop landing pad and roof shall not obstruct flight operations.

1107.9.10 Fire-Fighting Access: Rooftop Heliports shall have at least two access points for fire-fighting purposes. Access for fire-fighting personnel through the landing pad egress shall be permitted.

1107.9.11 Fire Protection: A foam fire-extinguishing system shall be designed and installed to protect the rooftop helistops / heliports. The design and installation shall be in accordance with NFPA 418 *Standard for Heliports*

EXCEPTIONS:

1. A foam fire-extinguishing system shall not be required for heliports located on parking garages, unoccupied buildings, or other similar unoccupied structures.
2. For H-1 heliports/helistops, two portable foam extinguishers, each having a rating of 20-A:160-B, shall be permitted to be used to satisfy this requirement.

Note: H-1 Heliports defined as:

Category	Helicopter Overall Length [†]
H-1	Up to but not including 50 ft (15.2 m)
H-2	From 50 ft (15.2 m) up to but not including 80 ft (24.4 m)
H-3	From 80 ft (24.4 m) up to but not including 120 ft (36.6 m)

[†] Helicopter length, including the tail boom and the rotors.

Source: Table 3.6.3 of NFPA 418.

Amendment 123, Section 1409: Site Identification.

Section 1409 Fire Reporting is revised as follows:

1409.1 Site Identification. ~~Emergency telephone. Readily accessible emergency telephone facilities shall be provided in an approved location at the construction site. The street address of the construction site and the emergency telephone number of the fire department shall be posted in accordance with Section 505.1. adjacent to the telephone.~~

Amendment 124, Section 1412.1: When required Water Supply for Fire Protection.

Section 1412 Water Supply for Fire Protection is revised as follows:

1412.1 When Required. An approved water supply for fire protection, either temporary or permanent, shall be made available prior to as soon as combustible material arriving arrives on site.

Amendment 124A, Section 1501.2.1: Plans and specifications submittal.

Section 1501.2.1 Plans and specifications submittal is added as follows:

Plans and specifications shall include the information specified in Section 1501 shall be submitted for review and approval.

Following approval of the plans, a copy of te approved plans shall be maintained on the premises in an approved location. The plans shall include the following:

1. Project name, street address, and owner's name.
2. Contractor name, address, phone number, license numbers (City, State Contractor, and State Fire Marshal), license classification.
3. Wet signature of the licensee (contractors Master or Qualified Employee) or seal and signature of a Professional Engineer licensed in the State of Nevada.
4. Site Plan.
5. Key Plan.
6. Floor Plan drawn to an indicated scale (1/8" minimum) on sheets of uniform size showing:
 - a. Point of compass (north arrow)
 - b. Walls, doors, windows, openings, stairs, elevators, passageways as applicable to depict the facility.
 - c. Location of the spray booth.
 - d. Electrical equipment and wiring.
 - e. Clear space and separations.
 - f. Exhaust ducts and mechanical ventilation.
 - g. Fire Protection equipment.
 - h. Roof plan including location and color of stack.
7. Any additional information determined necessary when required by the fire code official.

Amendment 125, Section 1909.1.11: Exterior Storage of Finished Lumber Products.

Section 1909 Exterior Storage of Finished Lumber Products is revised as follows: (renumbering to accommodate new sections.)

1909.1 General. Exterior storage of finished lumber products shall comply with this section.

1909.2 Location. Exterior lumber storage shall not be located within 10 feet (3048mm) of a property line.

EXCEPTIONS:

1. The separation distance is allowed to be reduced to 3 feet for storage not exceeding 6 feet (1828mm) in height.
2. The separation distance is allowed to be reduced when the fire code official determines that no hazard to the adjoining property exists.

1909.3 Size of piles. Exterior lumber storage shall be arranged to form stable piles with a maximum height of 20 feet (6096 mm). Piles shall not exceed 150,000 cubic feet (4248 m³) in volume.

1909.4 Aisles. Aisles shall be a minimum of 20 feet (6096mm) wide, and shall be maintained clear and unobstructed at all times.

1909.5 Dead Ends. No dead-ends aisles shall be allowed within the facility.

1909.6 Security. Permanent lumber storage areas shall be surrounded with an approved fence. Fences shall be a minimum of 6 feet (1829 mm) in height.

EXCEPTION: Lumber piles inside of buildings and production mills for lumber, plywood and veneer.

1909.7 Fire protection. An approved hydrant and hose system or portable fire-extinguishing equipment suitable for the fire hazard involved shall be provided for open storage yards. Hydrant and hose systems shall be installed in accordance with NFPA 24. Portable fire extinguishers complying with Section 906 shall be located so that the travel distance to the nearest unit does not exceed 75 feet (22 860 mm).

1909.8 Fire Apparatus access gates. Gates shall be provided for fire apparatus access. The gates shall be not less than 20 feet in clear width when in the open position. Additional gates complying with this section shall be provided when any portion of the storage exceeds 150 feet (45 720mm) from fire apparatus access. When other than a chain and simple padlock are provided to lock gates, an approved key box shall be installed at each gate and shall contain the means to unlock the gate. Fire apparatus access gates shall comply with Chapter 5.

1909.9 Fire apparatus access roads. Fire apparatus access roads in accordance with Section 503 shall be located so that a maximum grid system unit of 50 feet by 150 feet (15 240 mm by 45 720 mm) is established.

1909.10 Vegetation. Weeds, grass and similar vegetation shall be eliminated throughout the entire yard.

1909.11 Sources of ignition. Smoking shall be prohibited within the storage area. Potential sources of ignition such as hot work, warming, or open fires and heating devices shall not be allowed within 60 feet (18 228 mm) of storage piles.

Amendment 126, Section 1910.1-4: Pallet Storage and Rehabilitation.

New Section 1910 Pallet Storage and Rehabilitation and new subsections are added as follows:

1910 Pallet Storage and Rehabilitation

1910.1 General Exterior storage or rehabilitation of pallets shall be in accordance with sections 1910.2 thru 1920.5. Interior storage or rehabilitation of pallets shall be in accordance with Chapter 23.

1910.2 Fire Flow The minimum required fire flow shall not be less than 2,000 gpm (7571 L/m). Hydrant location shall be in accordance with Appendix B, Table B105.1 for pallet yards of 6,200 sq. ft. (576 m²) or less. For pallet storage yards greater than 6,200 sq. ft. (576 m²) the required fire flow will follow the requirements of Appendix B, Table B105.1 for Type V-B construction. Pallet yards will not exceed the available fire hydrant flow and spacing.

1910.3 Storage

1910.3.1 Stack Size: Pallets stacks shall not exceed fifteen (15) ft. (4.57 m.) in height nor shall cover an area of greater than four hundred (400) sq. ft. (37 m²) or have an aggregate size greater than six thousand (6,000) cu. ft. (170 m³) (Note: Pile height may be limited under other local ordinances.) Pallet stacks shall be arranged to form stable piles. A distance of not less than eight (8) ft (2.44 m) shall separate stacks. Piles shall be no closer than eight (8) ft. (2.44 m) to any property line or structure.

1910.3.2 Storage shall comply with NFPA 230.

1910.4 Fire Department Access. Fire apparatus access shall be in accordance with Section 1909.

Amendment 127, Section 2206.2.3: Above-ground tanks.

Section 2206.2.3 Above-ground tanks located outside, above grade is revised as follows: (renumbering to accommodate new sections)

2206.2.3 Above-ground tanks located outside, above grade. Above-ground tanks shall not be used for the storage of Class I, II or IIIA liquid motor fuels except when allowed by the following: as provided by this section.

1. With the approval of the fire code official, and
2. The tank(s) are located in an area zoned/approved by the Planning and Zoning Department.

2206.2.3.1 Above-ground tanks shall not be used for the storage of Class I, II or IIIA liquid motor fuels except as provided by this section.

1. Above-ground tanks used for outside, above-grade storage of Class I liquids shall be listed and labeled as protected above-ground tanks and be in accordance with Chapter 34. Such tanks shall be located in accordance with Table 2206.2.3.
2. Above-ground tanks used for above-grade storage of Class II or IIIA liquids are allowed to be protected above-ground tanks or, when approved by the fire code official, other above-ground tanks that comply with Chapter 34. Tank locations shall be in accordance with Table 2206.2.3.
3. Tanks containing fuels shall not exceed 12,000 gallons (45 420 L) in individual capacity or 48,000 gallons (181 680 L) in aggregate capacity. Installations with the maximum allowable aggregate capacity shall be separated from other such installations by not less than 100 feet (30 480 mm).
4. Tanks located at farms, construction projects, or rural areas shall comply with Section 3406.2.

Amendment 128, Section 2703.1.4.1, Hazardous Materials Information Storage.

Section 2703.1.4.1 Hazardous Materials Information Storage is added as follows:

Section 2703.1.4.1 Hazardous Materials Information Storage: New or existing buildings or facilities containing hazardous materials in quantities exceeding the maximum allowable quantity per control area, a KNOX Cabinet Series 1300, 7 inch depth with dual locks, rain hood part number 1201 and Document Storage Container part number 1201 shall be installed in an approved location.

Amendment 128A, Section 3001.3: Medical Gas System.

Section 3001.3 Medical Gas System Plan Submittal is amended as follows:

3001.3 Medical gas system plan submittal. Plans and specifications shall be submitted for review and approval. Following approval of the plans, a copy of the approved plans and permit shall be maintained on the premises in an approved location. As required by the fire code official, the plans shall include the following:

1. Project name, street address and owners name.
2. Contractor name, address, phone number, license numbers (City, State Contractor and State Fire Marshal).
3. Wet signature of the licensee (contractors Master or Qualified Employee) or seal and signature of a Professional Engineer licensed in the state of Nevada.
4. Code edition of standards used in the design.
5. System classification (Level).
6. When used - gas type, container size and quantity.
7. Symbol legend with equipment description (manufacture's name and model number) and mounting description (surface, semi-flush, flush, and exterior).
8. Site plan.
9. Floor plan drawn to an indicated scale (1/8" minimum) on sheets of a uniform size showing:
 - a. Point of compass (north arrow).
 - b. Walls, doors, windows, openings, stairs, elevators, passageways, high piled storage racks, etc., as applicable to depict the facility.
 - c. Room use identification labels.
 - d. Gas, air and vacuum piping distribution systems, manifolds, sizes and material types. Piping hangers and slopes.
 - e. Valves and valve boxes, outlets, gages and other components.
 - f. Electrical warning systems (local and master alarm panels), conductor/conduit routing and size, power panel and circuit connection.
 - g. Key plan.
 - h. Compressor inlet location and vacuum exhaust outlet location.
 - i. For interior gas supply rooms provide construction fire ratings, ventilation and fire sprinkler information.
10. Product data submittal including a cover index sheet listing products used by make and model number, manufacturer data sheets (highlighted or marked) and listing information for all equipment, devices, and materials.
11. Design number and detail of penetration fire stop system when required.
12. Verification & inspection requirements.
13. Name of independent medical gas testing agency to certify the system.
14. Any additional information determined necessary.

Amendment 128B, Section 3006.5 Medical gas systems, testing.

Section 3006.5 Medical gas system, testing is added as follows:

3006.5 Medical gas systems, testing. Level I & II medical gas systems shall be certified by an independent medical gas testing agency prior to use of the system. The independent medical gas inspector shall hold a current NITC certification as a medical gas inspector. The fire code official may witness any or all testing. Copies of the system certification shall be forwarded to the fire code official.

Amendment 129, Section 3301.1.3: Fireworks.

Section 3301.1.3 Fireworks is revised by adding a new exception 5 as follows:

Section 3301.1.3 Fireworks The possession, manufacture, storage, sale, handling, and use of fireworks are prohibited.

EXCEPTION:

5. The possession, storage, use, handling, and sale of consumer safe and sane fireworks in accordance with the current " Fire Prevention Association of Nevada Guidelines for Fireworks".

Amendment 130, Section 3301.2.2: Sale and Retail Display.

Section 3301.2.2 Sale and Retail Display is deleted and replaced with a new section as follows:

3301.2.2 Sale and retail display. ~~No person shall construct a retail display nor offer for sale explosives, explosive materials, of fireworks upon highways, sidewalks, public property, or in Group A or E occupancies. All sales and retail displays of fireworks are prohibited.~~

EXCEPTION: Consumer fireworks 1.4G (safe and sane) offered for sale at portable retail fireworks stands that are in accordance with the current "Fire Prevention Association of Nevada Guidelines for Fireworks".

Amendment 131, Section 3301.2.4: Financial Responsibility.

Section 3301.2.4 Financial Responsibility is revised as follows:

3301.2.4 Financial Responsibility. Before a permit is issued, as required by Section 3301.2, the applicant shall file with the jurisdiction a ~~corporate surety bond in the principal sum of \$100,000 or a public liability insurance policy for the same amount~~ valid certificate of insurance complying with Section 105.1.4.1 in the amount of \$5,000,000.00, for the purpose of the payment of all damages to persons or property which arise from, or are caused by, the conduct of any act authorized by the permit upon which any judicial judgment results. The fire code official 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.~~

Amendment 132, Section 3301.2.4.2: Fireworks Display.

3301.2.4.2 Fireworks Display is revised as follows:

3301.2.4.2 Fireworks Display. The permit holder shall furnish a ~~bond or~~ certificate of insurance as specified in Section 105.1.4 in an amount deemed adequate by the fire code official 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.

Amendment 133, Section 3301.5: Supervision.

Section 3301.5 Supervision is revised as follows:

3301.5 Supervision. The fire code official is authorized to require operations permitted under the provisions of Section 3301.2 to be supervised at any time by the fire code official in order to determine compliance with all safety and fire regulations. A fire code official or approved designee shall be required for all productions where pyrotechnic special effects are used.

Amendment 134, Section 3304.11: Development-Related Blasting Activities.

Section 3304.11 Development related blasting activities – is deleted as follow:

Section 3304.11 Development Related Blasting Activities is revised as follows:

~~**3304.11.1 General.** Development related blasting activities shall be in accordance with section 3304.11~~

~~**3304.11.2 Permit Requirements.** A permit is required for any proposed excavation or development activity that will involve the use of explosives. The permit must be obtained by the blasting contractor before any drilling or blasting activity occurs. The application shall be made to the fire department in such a form and detail as described by the fire department. Applications for permits shall be accompanied by such plans as required by the fire department.~~

~~**3304.11.3 Blasting Activity Requirements.** The blasting contractor shall comply with the following requirements in connection with any blasting activity governed by the fire department:~~

- ~~1. The blasting contractor shall conduct or provide for inspections of neighboring properties upon which are located structures in close proximity to the blasting area, or when otherwise required by condition of the fire department.~~
- ~~2. The blasting contractor shall provide a minimum of 48 hours prior written notice to all residences, businesses and public uses within 1000 feet of the blasting area. The blasting contractor shall also provide a minimum of 48 hours prior written notice to any utility company that has facilities or equipment within 300 feet of the blasting area. The form and content of any such notice must be prescribed by the fire department. The blasting contractor shall provide a minimum of 48 hours prior written notice to the fire department as prescribed by the fire department.~~
- ~~3. Except as otherwise authorized in advance by the fire department for good cause shown, all blasting activities shall be limited to the hours of 8 a.m. to 4 p.m., Monday through Friday. The fire department may restrict the time of actual blasting.~~
- ~~4. The blasting contractor shall provide for the seismic monitoring of any blasting that occurs within 1000 feet of any structure or within 300 feet of any utility installation. Such monitoring must be done by a seismologist and shall measure blast induced vibration by means of an instrument that senses and records particle velocity in the mutually perpendicular axes. Monitoring results shall be reported to the fire department in a manner as prescribed by the fire department.~~
- ~~5. Blast induced, ground borne vibrations shall not exceed a single component peak particle velocity (vector sum) of 0.5 inches per second at the nearest occupied structure.~~
- ~~6. The blasting contractor shall provide for the sound level monitoring any blasting that occurs within 1000 feet of any structure or within 300 feet of any utility installation. Such monitoring must be done by a seismologist and shall measure blast induced sound levels by means of an instrument that senses and records. The sound level shall not exceed 120 decibels. Monitoring results shall be reported to the fire department in a manner as prescribed by the fire department.~~
- ~~7. The blasting contractor shall be responsible for removing and cleaning up any blast-related debris and from the blast site and adjacent properties.~~
- ~~8. The blasting contractor shall notify the fire department and fire dispatch two (2) hours prior to any blasting.~~

Amendment 135, Section 3305.1: Mfg, assembly and testing of explosives, et al.

Section 3305.1 General, is revised as follows:

3305.1 General. The manufacture, assembly and testing of explosives, ammunition, blasting agents and fireworks is prohibited. ~~shall comply with the requirements of this section and NFPA 495 or NFPA 1124.~~

EXCEPTION: (New exception)

4. Subject to approval of the chief and obtaining a "Conditional Use Permit."

Amendment 135A, Section 3307.1: General.

Section 3307.1 General is revised as follows:

3307.1 General. Blasting operations for new development shall be conducted in accordance with Henderson Municipal Code Title 15.

Amendment 135B, Section 3307.2-15.

Sections 3307.2-15 are deleted in their entirety.

Amendment 136, Section 3308.1: General – display of fireworks.

Section 3308.1 General is revised as follows:

3308.1 General. The display of fireworks, including proximate audience displays and pyrotechnic special effects in motion picture, television, theatrical, and group entertainment productions, shall comply with the fire code official's guidelines, this chapter, NFPA 1123, NFPA 160 and NFPA 1126.

Amendment 136A, Section 3308.1.1: Additional Requirements for Outside Fireworks Displays.

Section 3308.1.1 Additional Requirements for Outside Fireworks Displays is added as follows:

3308.1.1 Additional Requirements for Outside Fireworks Displays. The following conditions apply to fireworks displays:

1. Fireworks displays shall not exceed eight times per calendar year at any one location.
2. Fireworks displays shall only occur on Friday and Saturday nights, with the sole exception of New Years Eve and July 4th. On New Years Eve and July 4th, fireworks must conclude by 12:30a.m. (including all misfires). On any other occasion, fireworks must conclude by 10:30 p.m. (including all misfires).
3. Notification of the fireworks display must be provided not more than 30 days and not less than 10 days prior to the fireworks display, to all occupancies and residences, as specified in the permit. A copy of the notification plan shall be included with the permit application.
4. Fireworks displays will be cancelled or postponed when the wind velocity is in excess of 15 mph for aerial displays and when the wind velocity is in excess of 20 mph for ground displays. All advertising for the fireworks display shall contain a disclaimer advising that "The fireworks displays will be cancelled or postponed when the wind velocity is in excess of 15 mph".
5. Other fireworks displays for special events may be considered on an individual basis.

Amendment 137, Section 3404.2.9: Above-ground tanks.

Section 3404.2.9 Above-ground Tanks is revised as follows:

3404.2.9 Above-ground tanks. Above-ground storage of flammable and combustible liquids in tanks shall comply with section 3404.2 and 3404.2.9.1 through 3404.2.9.6.10, not be allowed except when allowed by the following:

1. Only with the explicit approval of the Fire Chief, and
2. The tanks shall be located in an area zoned as Industrial, and
3. Above-ground storage of flammable and combustible liquids in tanks shall comply with Section 3404.2 and Sections 3404.2.9.1 through 3404.2.9.6.10

EXCEPTION: Generator and Diesel Fire Pump fuel tanks are permitted when meeting the requirements of section 3404.5.

Amendment 137A, Section.3404.2.13.1.3 Out of Service for one year.

Section 3404.2.13.1.3 Out of Service for one year is revised as follows:

3404.2.13.1.3 Out of Service for one year. Underground tanks that have been out of service for a period of one year shall be removed from the ground in accordance with Section 3404.2.14 and the Environmental Health Division of Clark County Health District and the site shall be restored in an acceptable manner.

Amendment 137B, Section.3404.2.13.1.4 Tanks Abandoned in Place.

Section 3404.2.13.1.4 Tanks Abandoned in Place is deleted in its entirety.

Amendment 138, Section 3404.5: Generator and Diesel Fire Pump Fuel Tanks.

Section 3404.5 Generator and Diesel Fire Pump Fuel Tanks and subsections are added as follows:

3404.5 Generator and Diesel Fire Pump Fuel Tanks.

3404.5.1 Exterior Installations.

3404.5.1.1 Tanks containing 240 gallons of fuel or less. Tanks containing 240 gallons (908.5 L.) of fuel or less which are integral with a generator assembly shall comply with Chapter 34 and shall meet the requirements of UL 142 for secondary containment.

3404.5.1.2 Tanks containing more than 240 gallons. Tanks containing more than 240 gallons (908.5 L.) shall comply with Sections 3404.2, and Sections 3404.2.9.1 through 3404.2.9.6.10

3404.5.1.2.1. Tanks containing more than 240 gallons (908.5 L.) up to 500 gallons (1893 L.) of fuel may be installed when provided with an approved protective enclosure, and shall comply with Sections 3404.2, and Sections 3404.2.9.1 through 3404.2.9.6.10

3404.5.1.3 Separation distances. A protected aboveground tank shall be separated from property lines, important buildings, public ways, and other tanks in accordance with NFPA 30 Table 4.3.2.1.1(a).

3404.5.2 Interior Installations.

3404.5.2.1 General. Interior installations of aboveground fuel tanks shall comply with Chapter 34. Tanks containing more than 120 gallons (454.25 L.) in a non-sprinklered building, or more than 240 gallons (908.5 L.) in a sprinklered building shall be in a room meeting the requirements in the IBC.

Amendment 139, Section 3801.3: Construction documents.

Section 3801.3 Construction Documents is revised as follows:

3801.3 Construction documents. ~~When a single container is more than 2,000 gallons (7570 L.) in water capacity or the aggregate capacity of containers is more than 4,000 gallons (15140 L.) in water capacity, the installer shall submit construction documents for such installation. When a permit is required construction documents shall be provided.~~

Amendment 140, Chapter 46 Adopted Standards.

A new Chapter 46 Adopted Standards is added as follows:

Chapter 46, ADOPTED STANDARDS

4601, General. The standards referred to in this chapter are hereby declared to be part of this code:

NFPA 10 – Standard for Portable Fire Extinguishers, 2007 Edition

NFPA 11 – Standard for Low-, Medium-, and High- Expansion Foam Systems, 2005 Edition

NFPA 13 – Standard for Installation of Sprinkler Systems, 2007 Edition, as modified in Section 4602

NFPA 13D – Standard for Installation of Sprinkler Systems in One- and Two- Family Dwellings, 2007 Edition, as modified in Section 4603

NFPA 13R – Standard for Installation of Sprinkler Systems in Residential Occupancies up to and including 4 stories in height, 2007 Edition, as modified in Section 4604

NFPA 14 – Standard for the Installation of Standpipe and Hose Systems, 2007 Edition, as modified in Section 4605

NFPA 15 – Standard for Water Spray Fixed Systems for Fire Protection, 2007 Edition

NFPA 17 - Standard for Dry Chemical Extinguishing Systems, 2002 Edition

NFPA 17A - Standard for Wet Chemical Extinguishing Systems, 2002 Edition

NFPA 20 - Standard for the Installation of Stationary Pumps for Fire Protection, 2007 Edition, as modified in Section 4606

NFPA 22 - Standard for Water Tanks for Private Fire Protection , 2003 Edition

NFPA 24 - Standard for the Installation of Private Fire Service Mains and Their Appurtenances, 2007 Edition

NFPA 25 - Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems , 2007 Edition

NFPA 30B – Code for the Manufacturing and Storage of Aerosol Products, 2007 Edition

NFPA 55 – Standard, Use, and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders, and Tanks, 2005 Edition

NFPA 52 – Vehicular Fuel Systems Code, 2006 Edition

NFPA 58 – Liquefied Petroleum Gas Code, 2004 Edition

NFPA 72 – National Fire Alarm Code, 2002 Edition, as modified in Section 4607

NFPA 86 – Standard for Ovens and Furnaces, 2007 Edition

NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems, 2002 Edition

NFPA 90B - Standard for the Installation of Warm Air Heating and Air-Conditioning Systems, 2006 Edition

NFPA 96 - Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, 2004 Edition
NFPA 99 – Standard for Healthcare Facilities, 2005 Edition
NFPA 110 - Standard for Emergency and Standby Power Systems, 2005 Edition
NFPA 111 - Standard on Stored Electrical Energy Emergency and Standby Power Systems, 2005 Edition
NFPA 140 - Standard on Motion Picture and Television Production Studio Soundstages and Approved Production Facilities, 2004 Edition
NFPA 160 - Standard for Flame Effects Before an Audience, 2006 Edition
NFPA 385 – Standard for Tank Vehicles for Flammable and Combustible Liquids, 2000 Edition
NFPA 407 – Standard for Aircraft Fuel Servicing, 2007 Edition
NFPA 409 - Standard on Aircraft Hangars, 2004 Edition
NFPA 410 - Standard on Aircraft Maintenance, 2004 Edition
NFPA 704 – Standard System for the Identification of the Hazards of Materials for Emergency Response, 2007 Edition
NFPA 1123 - Code for Fireworks Display, 2006 Edition
NFPA 1126 - Standard for the Use of Pyrotechnics before a Proximate Audience, 2006 Edition
NFPA 2001 - Standard on Clean Agent Fire Extinguishing Systems, 2004 Edition
CGA P-18 – Standard for Bulk Inert Gas Systems, 2006 Edition

Amendment 141, Section 4602 NFPA 13, 2007 Edition: Installation of Sprinkler Systems in One- and Two- family Dwellings/Mfg Homes.

Section 4602 NFPA 13, 2007 Edition, Standard for the Installation of Sprinkler Systems, is added and NFPA 13 is revised and adopted by reference with the following amendments:

4602, NFPA 13, 2007 Edition: Installation of Sprinkler Systems in One- and Two-family Dwellings/Mfg Homes

Chapter 5 Classification of Occupancies and Commodities

5.3.2 Ordinary Hazard (Group 2)

Section 5.3.2 Ordinary Hazard (Group 2), A second paragraph is added as follows.)

5.3.2 Ordinary Hazard Ordinary hazard (Group 2) occupancies shall be occupancies or portions of other occupancies where the quantity and combustibility of contents is moderate to high, stockpiles do not exceed 12 ft (3.7 m), and fires with moderate to high rates of heat release are expected.

Occupancies containing Casinos, Mini-Storage Facilities, and Shell Buildings, regardless of occupancy classification (unknown tenants and/or floor layout), shall be designed to meet the requirements of Ordinary Hazard Group 2.

Chapter 6 System Components and Hardware

6.1.3 Related Pressure

Section 6.1.3 Rated Pressure, is revised as follows:

6.1.3 Rated Pressure. System components shall be rated for the maximum system working pressure to which they are exposed but shall not be rated at less than 175 psi (12.1 bar) for components installed aboveground and 150 psi (10.4 bar) for components installed underground. When the underground piping can be supplied or pressurized by a Fire Department Connection (FDC), the underground piping shall be designed to withstand a working pressure of not less than 200 psi (Class 200).

6.2.9.7 Stock of Spare Sprinklers.

Section 6.2.9.7 is revised as follows:

6.2.9.7 A list of the sprinklers installed in the property shall be posted in the sprinkler cabinet. The list shall be engraved on a durable sign secured to the cabinet.

6.5.5 Other Joining Methods

Section 6.5.5.2(2) Other Joining Methods, Item 2 is revised as follows:

6.5.5.2(2) Discs shall be retrieved and attached to the piping at the point at which the hole was made. This requirement applies to all field and shop installations.

6.8 Fire Department Connections

Section 6.8.1.3 is revised and renumber as follows:

6.8.1.3 Number and Type of Connections. ~~A single 2½-inch inlet fire department connection shall be acceptable where piped to a 3" or smaller riser.~~

~~**6.8.1.3.1** A single 2½-inch inlet fire department connection shall be acceptable where piped to a 3" or smaller riser.~~

6.8.1.3.1 The minimum number of required inlets shall be one 2½ inch inlet for every 250 gpm of the sprinkler and/or standpipe system demand, or fraction thereof.

~~**6.8.1.3.2** When required by the authority having jurisdiction, sprinkler and standpipe systems with a minimum required pressure of 200 psi or less, with a required flow of 500 gpm or greater, shall provide two 5-inch nonthreaded connection (Storz or equivalent), in lieu of the 2½" connections required in section 6.8.1.3.2.~~

6.9 Waterflow Alarms

Section 6.9.1 General, is revised as follows:

6.9.1 General. Waterflow alarm devices shall be listed for the service and so constructed and installed that any flow of water from a sprinkler system equal to or greater than that from a single automatic sprinkler of the smallest orifice size installed on the system will result in an audible alarm on the premises within 60 seconds ~~5 minutes~~ after such flow begins and until such flow stops. Multi-story facilities shall be provided with zone annunciation on a floor by floor basis.

6.9.3 Attachments

Section 6.9.3.1 Attachments – General. and annex are revised as follows:

6.9.3.1 An alarm unit shall be include a listed audible and visual device ~~mechanical alarm, horn, or siren or a listed electric gong, bell, speaker, horn, or siren~~

A.6.9.3.1 Audible alarms are normally located on the outside of the building. Listed electric gongs, bells, horns, or sirens inside the building, or a combination of such used inside and outside, are sometimes advisable.

~~Outside alarms can be omitted where the sprinkler system is used as part of a central station, auxiliary, remote station, or proprietary signaling fire alarm system utilizing listed audible inside alarm devices.~~

Chapter 7 System Requirements

7.1 Wet Pipe Systems

Section 7.1.3 Auxiliary Systems. and annex material are revised as follows:

7.1.3 Auxiliary Systems A wet pipe system shall be permitted to supply an auxiliary dry pipe, or antifreeze system pre-action or deluge system, provided the water supply is adequate.

A.7.1.3 An auxiliary system should be comparatively small to the system it is being attached to, and should not pose confusion as to what system is flowing water in the event of a fire. Multiple flow alarms or a single flow alarms connected to two systems protecting two different areas of a building should be avoided.

7.2 Dry Pipe Systems

7.2.3 Size of System. Sections 7.2.3.1 thru 7.2.3.4 are revised as follows:

7.2.3.1 Volume Limitations. Regardless of the system size, a dry pipe system shall be designed and installed such that water is delivered to the system test connection in not more than 60 seconds, starting at the normal air pressure on the system and at the time of fully opened inspection test connection.

7.2.3.2 Dry systems that are size based on water delivery in accordance with 7.2.3.6 do not have to meet the requirements of 7.2.3.1.

7.2.7 Application of Dry-Pipe Systems.

7.2.7 Application of Dry-Pipe Systems. A new section 7.2.7 is added as follows:

7.2.7 Application of Dry-Pipe Systems. Dry pipe systems shall not be utilized for the protection of areas that can be maintained above 40 degrees intended to be normally heated and occupied.

7.3 Preaction Systems and Deluge Systems.

7.3.2.4.1 Supervision. Section 7.3.2.4.1 is revised as follows:

7.3.2.4.1 Supervision. Sprinkler piping and fire detection devices shall be automatically electronically supervised. ~~where there are more than 20 sprinklers on the system.~~

7.6 Antifreeze Systems.

7.6.2 Antifreeze Solutions. Section 7.6.2.4 is revised as follows:

7.6.2.4 An antifreeze solution shall be prepared with a freezing point at or below 0°F (-17.8°C).

Chapter 8 Installation Requirements

8.2 System Protection Area Limitations.

8.2.6 Multistory Buildings. A new section 8.2.6 Multistory Buildings is added as follows:

8.2.6 Multistory Buildings. In multistory buildings, each story requires a separate system with control valve and water flow switch, in accordance with section 6.9.1.

8.15 Special Situations

8.15.1.2 Concealed Spaces not Requiring Sprinkler Protection. Sections 8.15.1.2.1 thru 8.15.1.2.10 are revised as follows:

8.15.1.2.1 Concealed Spaces Not Requiring Sprinkler Protection. Concealed spaces of noncombustible and ~~limited combustible~~ construction with minimal combustible loading having no access shall not require sprinkler protection. The space shall be considered a concealed space even with small openings such as those used as return air for a plenum.

8.15.1.2.2 Concealed spaces of noncombustible and ~~limited combustible~~ construction with limited access and not permitting occupancy or storage of combustible shall not require sprinkler protection. The space shall be considered a concealed space even with small openings such as those used as return air for a plenum.

8.15.1.2.10 thru 8.15.1.2.12 – deleted in entirety.

8.15.5 Elevator Hoistways and Machine Rooms

8.15.5 Elevator Hoistways and Machine Rooms, is revised as follows:

8.15.5.1* Sidewall spray sprinklers shall be installed at the bottom of each elevator hoistway not more than 2 ft (0.61 m) above the floor of the pit. Sprinklers are prohibited at the top of the hoistway and in the machine room, unless otherwise approved by Authority Having Jurisdiction.

8.15.5.2. ~~Sprinkler protection shall be required in elevator machine rooms that contain hydraulic fluids.~~ The sprinkler required at the bottom of the elevator hoistway by 8.15.5.1 shall not be required for enclosed, non-combustible elevator shafts that do not contain combustible hydraulic fluids.

8.15.5.3 thru 8.15.5.5 – deleted in entirety.

8.15.8 Dwelling Units

8.15.8 Dwelling Units. Sections 8.15.8.1.1 thru 8.15.8.1.2 are revised as follows:

8.15.8.1.1 Bathrooms. Sprinklers shall be installed in all bathrooms. Unless sprinklers are required by 8.15.8.1.2 or 8.15.8.1.3, ~~sprinklers shall not be required in bathrooms within dwelling units in hotels and motels, that do not exceed 55 ft² in areas, and that have walls and ceilings of non-combustible or limited combustible materials with a 15-minute thermal barrier rating, including the walls and ceilings behind any shower enclosure or tub.~~

8.15.8.1.2 Closets Sprinklers shall be ~~are not~~ required in clothes closet, linen closets, and pantries within dwelling units in hotels and motels. ~~where the area of the space does not exceed 24ft² (2.2m²), the least dimension does not exceed 3 ft, and the walls and ceilings are surfaced with noncombustible or limited combustible materials.~~

8.15.8.2

8.15.8 Dwelling Units. Section 8.15.8.2 is deleted in entirety:

8.15.8.2 – Deleted in entirety.

8.15.10 Electrical Equipment

8.15.10 Electrical Equipment Section 8.15.10.1 is revised as follows:

8.15.10.1 ~~Unless the requirements of 8.15.10.3 are met,~~ Sprinkler protection shall be required in electrical equipment rooms.

8.15.10.3

8.15.10.3 is deleted in entirety.

8.15.10.3 - Deleted in entirety.

8.15.14 Drop Out Ceilings.

5.15.14 Drop-Out Ceilings Section 8.15.14.1 is revised as follows:

8.15.14.1 Drop out ceilings are not permitted to be installed beneath sprinklers. Drop-out ceilings shall be permitted to be installed beneath sprinklers where ceilings are listed for that service and are installed in accordance with their listings.

8.15.14.2 thru 8.15.14.5

Sections 8.15.14.2 thru 8.15.14.5 are deleted in entirety.

8.15.14.2 thru 8.15.14.5 - Deleted in entirety.

8.15.19.4.5

8.15.19.4.5 is added as follows:

8.15.19.4.5 A one-inch outlet shall supply only one sprinkler head.

EXCEPTION: A second head located in a separate fire area.

8.15.19.5.5

8.15.19.5.5 is added as follows:

8.15.19.5.5 A one-inch outlet shall supply only one sprinkler head.

EXCEPTION: A second head located in a separate fire area.

8.16 Piping Installations.

New sections 8.16.1.1.1.4 thru 8.16.1.1.1.7 are added as follows:

8.16.1 Valves

8.16.1.1.1.4 Valve rooms shall be lighted.

8.16.1.1.1.5 The valve room shall be environmentally conditioned. The source of heating and cooling shall be of a permanently installed type (hard wired).

8.16.1.1.1.6 Heat tape shall not be used in lieu of heated valve enclosures to protect the dry pipe valve and supply pipe against freezing.

8.16.1.1.1.7 Every tenant space in covered mall buildings shall be provided with an individual control valve.

8.16.4 Protection of Piping.

8.16.4 Protection of Piping. A new section 8.16.4.1.6 is added as follows:

8.16.4.1.6 Design Temperature and Duration. The minimum criteria for an engineered solution in calculating heat loss for the requirement to maintain 40° F (4.4°C) shall be 0°F (-17.8°C) for 8 hours. The initial starting temperature of the water shall be no greater than 50°F (10°C)

8.17 System Attachments.

8.17.1. *Sprinkler Alarms/Waterflow Alarms.* Section 8.17.1.1 is added as follows:

8.17.1.1 Local Waterflow Alarms. A local waterflow alarm shall be provided on every sprinkler system having more than 20 sprinklers. An approved audible and visual notification device shall be provided on the exterior of the building in an approved location. An approved audible and visual alarm to alert the occupants shall be provided in the interior of the building, in a normally occupied location. Multi-tenant facilities shall be provided with an approved audible and visual notification device within each space.

8.17.4 System Connections.

8.17.4.2 *Wet Pipe Systems.* Section 8.17.4.2.4 is revised and a new section 8.17.4.2.5 is added as follows:

8.17.4.2.4 The test connection valve shall be piped from the most hydraulically demanding area and shall be readily accessible. The alarm test connection shall be permitted to be installed in any location on the fire sprinkler system down-stream of the waterflow alarm.

8.17.4.2.5 Buildings 3 or more stories in height do not require the inspector test valve to be piped from the most hydraulically demanding area.

Chapter 9 Hanging, Bracing, and Restraint of System Piping

9.1.3 Fasteners in Concrete

9.1.3.9 *Powder-Driven Studs.* Sections 9.1.3.9.3 and 9.1.3.9.4 are revised as follows:

9.1.3.9.3 Powder-driven fasteners may only be used for branch lines less than or equal to two (2) inches in diameter. The supporting concrete shall have a minimum 28-day strength of 3,000 psi. Representative samples of concrete into which studs are to be driven shall be tested to determine that the studs will hold a minimum load of 750 lb (341 kg) for 2 in. (51 mm) or smaller pipe, 1000 lb (454 kg) for 2 1/2, 3, or 3 1/2 in. (64, 76, or 89 mm) pipe, and 1200 lb (545 kg) for 4 or 5 in. (102 or 127 mm) pipe.

9.1.3.9.4 Increased couplings shall not be used with be attached directly to the powder-driven studs.

9.2 Installation of Pipe Hangers

9.2.1.3.3 *Flexible Sprinkler Hose Fittings.* Section 9.2.1.3.3.4 is added as follows:

9.2.1.3.4 Where flexible sprinkler hose fittings have a horizontal span of more than 24 inches from the pipe from which it is connected, and the flexible hose is not supported by a ceiling meeting the requirements of section 9.2.1.3.3.2, a hanger attached to the structure shall be provided.

9.3 Protection of Piping against Damage where Subject to Earthquakes

9.3.5 *Sway Bracing.* Section 9.3.5.6.2 is revised as follows:

9.3.5.6.2 The horizontal force, F_{pw} acting on the brace shall be taken as $F_{pw} = C_p W_{pw}$. Where C_p is the seismic coefficient selected in Table 9.3.5.6.2 utilizing the short period response parameter S_s . The value of S_s used in Table 9.3.5.6.2 shall be 0.95. ~~obtained from the authority having jurisdiction or from seismic hazard maps. Linear interpolation shall be permitted to be used for intermediate values of S_s .~~

9.3.6 Restraint of Branch Lines

9.3.6 *Restraint of Branch Lines.* Section 9.3.6.7 is added as follows:

9.3.6.7 Drops 10 feet or longer shall be restrained against lateral movement.

Chapter 10 Underground Piping

10.1 Piping Materials

10.1 Piping Materials. Section 10.1.5 is revised as follows:

10.1.5 Working Pressure. Pipe shall be designed to withstand a system working pressure of not less than 150 psi (10.3 bar). When the underground piping can be supplied or pressurized by a Fire Department Connection (FDC), the underground piping shall be designed to withstand a working pressure of not less than 200 psi (Class 200).

Chapter 11 Design Approaches

11.2.3 Water Demand Requirements – Hydraulic Calculations Method

11.2.3.1.4 Restrictions. Section 11.2.3.1.4 is revised as follows:

11.2.3.1.4(4) Restrictions

- a. Noncombustible ~~and limited combustible~~ concealed spaces with minimal combustible loading having no access. The space shall be considered in concealed space even with small openings such as those used as return air for a plenum.
- b. Noncombustible ~~and limited combustible~~ concealed spaces with limited access and not permitting occupancy or storage of combustibles. The space shall be considered a concealed space even with small openings such as those used as return air for a plenum.
- c. (No Change)
- d. Light or ordinary hazard occupancies where noncombustible ~~or limited combustible~~ ceilings are directly attached to the bottom of solid wood joists so as to create enclosed joist spaces 160 ft³ (4.8 m³) or less in volume, including space below insulation that is laid directly on top or within the ceiling joist in an otherwise sprinklered attic.
- e. (Deleted in its entirety)
- f. (Deleted in its entirety)
- g. (No Change)
- h. (No Change)
- i. (No Change)

11.3 Special Design Approaches

11.3.1 Residential Sprinklers. Sections 11.3.1.1 and 11.3.1.2 are revised as follows:

11.3.1.1 ~~The design area shall be the area that includes the four adjacent sprinklers that produce the greatest hydraulic demand.~~ The design area shall be in accordance with either section 11.2.3.2 or section 11.2.3.3

11.3.1.2 Unless the requirements of 11.3.1.3 are met, the minimum required discharge from each sprinkler ~~of the four hydraulically most demanding sprinklers~~ shall be the greater of the following:

- a. No change
- b. No change

Chapter 12 General Requirements for Storage

12.9 Restrictions

12.9.2 Section 12.9.2 is revised as follows:

12.9.2

1. Noncombustible ~~and limited combustible~~ concealed spaces with minimal combustible loading having no access. The space shall be considered in concealed space even with small openings such as those used as return air for a plenum.
2. Noncombustible ~~and limited combustible~~ concealed spaces with limited access and not permitting occupancy or storage of combustibles. The space shall be considered a concealed space even with small openings such as those used as return air for a plenum.
3. (No Change)
4. Light or ordinary hazard occupancies where noncombustible ~~or limited combustible~~ ceilings are directly attached to the bottom of solid wood joists so as to create enclosed joist spaces 160 ft³ (4.8 m³) or less in volume, including space below insulation that is laid directly on top or within the ceiling joist in an otherwise sprinklered attic.
5. (Deleted in its entirety)
6. (Deleted in its entirety)
7. (No Change)
8. (No Change)
9. (No Change)

Chapter 21 Special Occupancy Requirements

21.20 Life Safety Code

21.20.16 Lodging or Rooming Houses.

21.20.16 Lodging or Rooming Houses. Section 21.20.16.2.2 is deleted in entirety.

~~21.20.16.2.2~~ In existing logging or rooming houses, sprinkler installations shall not be required in closets not exceed 24ft² (2.2m²) and in bathrooms not exceeding 55ft² (5.1m²).

21.20.18 Existing Hotels and Dormitories.

21.20.18 Existing Hotels and Dormitories. Section 21.20.18.2.1 is deleted in entirety.

~~21.20.18.2.1~~ In guest rooms and in guest room suites, sprinkler installations shall not be required in closets not exceed 24ft² (2.2m²) and in bathrooms not exceeding 55ft² (5.1m²).

21.20.19 New Apartment Buildings.

21.20.19 New Apartment Buildings. Section 21.20.19.2.1 is deleted in entirety.

~~21.20.19.2.1~~ In buildings sprinklered in accordance with NFPA 13, closets less than 12ft² (1.1m²) individual dwelling units shall not be required to be sprinklered. Closets that contain equipment such as washers, dryers, furnaces, or water heaters shall be sprinklered regardless of size.

21.20.20 Existing Apartment Buildings.

21.20.20 Existing Apartment Buildings. Section 21.20.20.2.1 is deleted in entirety.

~~21.20.20.2.1~~ In individual dwelling units, sprinkler installation shall not be required in closets less than 24ft² (2.2m²) and in bathrooms not exceeding 55ft² (5.1m²). Closets that contain equipment such as washers, dryers, furnaces, or water heaters shall be sprinklered regardless of size.

21.20.22 Existing Residential Board and Care Occupancies.

21.20.22 Existing Residential Board and Care Occupancies. Section 21.20.22.2.2 is deleted in entirety.

~~21.20.22.2.2~~ In prompt and slow evacuation facilities, where an automatic sprinkler system is installed in accordance with NFPA 13 sprinklers shall not be required in closets not exceeding 24ft² (2.2m²) and in bathrooms not exceeding 55ft² (5.1m²) provided that such spaces are finished with a lath and plaster or materials providing a 15-minute thermal barrier.

21.37 Mitigation Matrix for Group R Division 3 Occupancies.

21.37 Mitigation Matrix for Group R Division 3 Occupancies. (Add a new section 21.37 and subsequent subsections as follows.)

21.37.1 General. When a sprinkler system is being installed to mitigate the minimum Fire Code requirements for fire flow, number of fire hydrants, or fire department access, for a Group R Division 3 Occupancy, the design requirements in Table 21.37.1 shall be applied.

Table 21.37.1 Mitigation Matrix for Group R Division 3 Occupancies ⁴					
Building Area Size Range ⁶	Mitigation Residential System Type ^{1,3}	SEPARATE SPRINKLER LEAD-IN REQUIRED ⁵	MINIMUM UNDERGROUND PIPE SIZE ⁵	MINIMUM WATERMETER SIZE ⁵	SPRINKLERS REQUIRED IN AREAS SUBJECT TO FREEZING.
<3,600 sq ft	Standard NFPA 13D ²	See NFPA 13D for design requirements.			
≥3,600 sq ft & ≤10,000 sq ft	Enhanced NFPA 13D ^{1,2}	See NFPA 13D for design requirements			
≥10,000 sq ft & ≤15,000 sq ft	Enhanced NFPA 13R ¹	See NFPA 13R for design requirements			
≥ 15,000 sq ft	Modified NFPA 13 ¹	Yes	N/A	N/A	Yes

N/A = Not Applicable

1. This mitigation constitutes a building "protected with an approved fire sprinkler system" per the 2006 IFC.
2. Domestic demand of 5 gpm is required to be added to the sprinkler demand in the hydraulic calculations.
3. Free-standing detached guest houses or garages shall be protected by a minimum Enhanced NFPA 13D system.
4. Excluding Group R Division 3 occupancies used as Group Care Homes.
5. U.G. lead-in shall be the minimum size required hydraulically as proven by the sprinkler contractor and shall be hydrostatically tested and flushed, witnessed by the fire dept.
6. Building area is defined as all areas under roof except for porches, patios, balconies, carports and porte cocheres.

21.37.2 Modified 13 Design Criteria. When Table 21.37.1 requires a Modified 13 Design, the sprinkler system shall be installed to meet the requirements of this code, with the exception of the following items:

1. **Fire Department Connections (FDC):** A 2½-inch fire department connection is required. A single snoot connection will be accepted. The FDC shall be located on the garage wall facing the street except for special circumstances where the FDC may be freestanding and located adjacent to the street or private drive. A freestanding FDC in these circumstances may be designed into the mailbox column.
2. **Riser Room:** Risers shall be located in either the garage or within a dedicated room with an exterior door. Provided the garage/room is fully insulated the requirement for maintaining 40°F will not require a source of heat.
3. **Inspectors Test Connection:** The inspectors test location may be piped off the system riser.
4. **Piping in locations less than 40°F:** Dry pipe systems are not permitted for the protection of living spaces, anti-freeze systems shall be used. The protection of non-living spaces such as attics, overhangs/porches, carports, etc., may be protected by dry-pipe systems.
5. **Anti-Freeze Loops:** The capacity shall not exceed 80 gallons.
6. **Separate Water Supply:** A separate water lead-in for the fire sprinkler system along with an approved (by the local water authority) back-flow prevention device is required. The back-flow prevention device shall be located at the street with in an approved protective enclosure (Hot Box or equivalent). The lead-in shall be sized using the minimum pipe size available that provides the calculated flow.
7. **Control Valves:** All valves used to control the sprinkler system are required to be indicating. A Post Indicator Valve (PIV) is not permitted.
8. **Electrical Supervision:** The main control valves shall be electrically supervised. The back-flow valves are not required to be electrically supervised.
9. **Fire Pumps:** Electric fire pumps normally accepted in NFPA –13D systems for residential use (UL listed jockey pump) are acceptable.
10. **Notification Devices:** Interior – One (1) interior horn/strobe shall be installed in a location specified by the homeowner. Exterior – One (1) exterior horn/strobe shall be located above the FDC or other acceptable location. The sprinkler flow switch shall activate both of the required devices.
11. **Residential Sprinkler Heads:** Residential sprinkler heads shall be utilized and the design allowances specified in section 11.2.3.2.3.1 (reduction to design area) may be applied.
12. **Hangars and Earthquake Bracing:** The hanging of sprinkler pipe shall be in accordance Chapter 9. Earthquake bracing is not required.
13. **Garages:** Garages shall be classified as Ordinary Hazard Group I. Commercial style QR sprinkler heads are required.
14. **Location of Sprinklers:** Sprinklers shall be installed in all areas except where omissions are permitted as follows:
 - a. Inaccessible attic spaces.
 - b. Exterior overhangs, porches, and carports.
 - c. Rooms not provided with environmental control.

21.37.3 Other Mitigation Designs: For the other mitigation designs listed in Table 21.37.1, see the respective revised codes for NFPA 13D and NFPA 13R design requirements.

21.38 Sprinkler Protection for Non-Storage Occupancies with High Ceilings.

Section 21.38 and subsections are added as follows:

21.38.1 Non-storage occupancies with ceiling heights between 25 and 50 feet.

21.38.1.1 Light and Ordinary Hazard Occupancies. The minimum design area shall be determined utilizing the formula of 100 x the ceiling height. The sprinkler system shall utilize listed quick response sprinklers with a K-factor of 11.2 or greater. Architectural design features, occupancy use considerations, or other conditions may trigger additional design requirements as required by the authority having jurisdiction.

21.38.1.2 Extra Hazard Occupancies. Extra Hazard occupancies require a design analysis from a licensed Fire Protection Engineer. This analysis must be submitted to the Authority Having Jurisdiction for review and approval prior to issuing the building permit.

21.38.2 Non-storage occupancies with ceiling heights over 50 feet. All structures, regardless of occupancy or hazard classification, with ceiling heights exceeding 50'-0", require a design analysis from a licensed Fire Protection Engineer. This analysis must be submitted to the Authority Having Jurisdiction for review and approval prior to issuing the building permit.

Chapter 22 Plans and Calculations

22.2 Water Supply Information

22.2.1 Water Supply Capacity Information. Section 22.2.1 is revised as follows:

22.2.1 Water Supply Capacity Information. Water supply information shall only be valid for a period of 6 months from which the date of the flow test was conducted. The following information shall be included:

- a. Location and elevation of static and residual test gauge with relation to the riser reference point.
- b. Flow location.
- c. Static pressure, psi (bar).
- d. Residual pressure, psi (bar).
- e. Flow, gpm (L/min).
- f. Date.
- g. Time.
- h. Test conducted by. ~~or information supplied by.~~ Flow tests shall be witnessed by the Authority Having Jurisdiction.
- i. Other sources of water supply, with pressure or elevation.

22.4 Calculation Procedures.

New sections 22.4.1.6 and 22.4.1.7 are added as follows:

22.4.1.6 Maximum Velocity. The maximum velocity limit for uses in hydraulic calculations is 32 feet per second (6.1 m/sec).

22.4.1.7 Minimum Safety Factor. Hydraulically calculated fire sprinkler systems shall be designed to ensure the required system pressure is a minimum of ten (10) psi below the available supply pressure.

22.4.1.8 Flexible Drops. Flexible drops shall be proven through hydraulic calculation.

Chapter 24 System Acceptance

24.2 System Acceptance.

24.2.3.2 Dry Pipe Systems. Section 24.2.3.2.2 is revised as follows:

24.2.3.2.2 The test shall measure the time to trip the valve and the time for water to be discharged from the inspector's test connection. The flow from the inspector's test shall be predominately water with small amounts of air permitted. All times shall be measured from the time the inspector's test connection is completely opened.

Amendment 142, Section 4603, NFPA 13D, 2007 Edition: Standard for the Installation of Sprinkler Systems in One- and Two- family Dwellings and Manufactured Homes.

Section 4603, NFPA 13D, 2007 Edition, Standard for the Installation of Sprinkler Systems in One- and Two- family Dwellings and Manufactured Homes, is hereby adopted by reference with the following amendments, and NFPA 13D is revised as follows:

4603, NFPA 13D, 2007 Edition: Standard for the Installation of Sprinkler Systems in One- and Two- family Dwellings and Manufactured Homes.

Chapter 1 Administration

1.1 Scope

1-1 Scope A second paragraph is added as follows:

1.1 Scope This standard shall cover the design and installation of automatic sprinkler systems for protection against the fire hazards in one- and two-family dwellings and manufactured homes. When sprinkler protection is being provided to mitigate the minimum Fire Code requirements for fire flow, number of fire hydrants, or fire department access, the minimum design criteria shall be as outlined in Section 8.7 Mitigation Matrix for Group R Division 3 Occupancies.

Chapter 6 Water Supply

6.2 Water Supply Sources

6.2 Water Supply Sources. Section 6.2.2, is revised as follows:

6.2.2 Where a well-pump, city-pump, or tank-pump combination ~~and tank~~ is the source of supply for a fire sprinkler system but is not a portion of the domestic water system, the following shall be met:

1. A test connection shall be provided downstream of the pump that creates a flow of water equal to the two sprinkler flow rate established by the hydraulic calculation. ~~smallest sprinkler on the system.~~ The connection shall return water to the tank when provided.
2. Pump motors using AC power shall be connected to a 240V normal circuit.
3. The circuit shall be hardwired with approved disconnect as required by the National Electrical Code. ~~Any disconnecting means for the pump shall be approved.~~
4. When a tank is provided, a method for refilling the tank shall be piped to the tank.
5. When a tank is provided, a method of seeing the water level in the tank shall be provided without having to open the tank.
6. The pump shall not be permitted to sit directly on the floor.
7. Pumps fed by a city or well supply, shall be provided with a pump by-pass.

6.3 Multipurpose Piping System

6.3 Multipurpose Piping System. Section 6.3 is revised as follows:

6.3 A piping system serving both sprinkler and domestic needs shall be considered to be acceptable by this standard where the following conditions are met. ~~In common water supply connections serving more than one dwelling unit,~~

A minimum demand of 5 gpm (19 L/min) are shall be added to the sprinkler system demand to determine the size of common piping and the size of the total water supply requirements.

EXCEPTION: Domestic design demand shall not be required to be added where provision is made to prevent flow into the domestic water system upon operation of a sprinkler.

1. No Change
2. No Change
3. No Change
4. No Change
5. No Change

Chapter 7 Installation

7.3 Pressure Gauges

7.3 Pressure Gauges. A new section 7.3.3 is added as follows:

7.3.3 For wet systems, a pressure gauge shall be installed on the supply side of the check valve.

7.8 Stock of Spare Sprinklers

7.8 Stock of Spare Sprinklers. A new section 7.8 is added as follows:

7.8 Stock of Spare Sprinklers. A supply of at least two spare sprinklers for each type installed shall be provided. The spare sprinklers shall be kept in a metal spare sprinkler cabinet mounted near the riser.

Chapter 8 System Design

8.1 Design Criteria

8.1.3 Sprinkler Coverage. Section 8.1.3.1.2 is revised as follows:

8.1.3.1.2 Where construction features or other special conditions exist that are outside the scope of sprinkler listings, the designer shall work with the AHJ in developing an engineered solution. For the engineered solution, listed sprinklers, may shall be permitted to be installed beyond their listing limitations.

8.6 Location of Sprinklers

8.6 Location of Sprinklers. Section 8.6.5 is revised as follows:

8.6.5 Sprinklers shall not be required in attics, penthouse equipment rooms, elevator machine rooms, concealed spaces dedicated exclusively to and containing only dwelling unit ventilation equipment, floor/ceiling spaces, elevator shafts, craw spaces, and other concealed spaces that are not used for intended for living purposes. ~~And, do not contain fuel-fire equipment.~~

8.7 Mitigation Matrix for Group R Division 3 Occupancies

8.7.1 A new subsection 8.7 and subsections are added as follows:

8.7.1 General. When a sprinkler system is being installed to mitigate the minimum Fire Code requirements for fire flow, number of fire hydrants, or fire department access, the design requirements in Table 8.7 shall be applied.

Table 8.7 Mitigation Matrix for Group R Division 3 Occupancies⁴

Building Area Size Range ⁶	Mitigation Residential System Type ^{1,3}	SEPARATE SPRINKLER LEAD-IN REQUIRED ⁵	MINIMUM UNDERGROUND PIPE SIZE ⁵	MINIMUM WATER METER SIZE ⁵	SPRINKLERS REQUIRED IN AREAS SUBJECT TO FREEZING.
< 3,600 sq.ft.	Standard NFPA 13D ²	No	1"	¾"	No
≥ 3,600 sq.ft. and < 10,000 sq.ft.	Enhanced NFPA 13D ^{1,2}	No	1"	¾"	No
≥ 10,000 sq.ft. and < 15,000 sq.ft.	Enhanced NFPA 13R ¹	See NFPA 13R for design requirements (section 6.8.5)			
≥ 15,000 sq.ft.	Modified NFPA 13 ¹	See NFPA 13 for design requirements (section 21.37)			

N/A = Not Applicable

1. This mitigation constitutes a building "protected with an approved fire sprinkler system" per 2006 IFC.
2. Domestic demand of 5 gpm is required to be added to the sprinkler demand in the hydraulic calculations.
3. Free-standing detached guest houses or garages shall be protected by a minimum Enhanced NFPA 13D system.
4. Excluding Group R Division 3 occupancies used as Group Care Homes.
5. U.G. lead-in shall be the minimum size required hydraulically as proven by the sprinkler contractor and shall be hydrostatically tested and flushed, witnessed by the fire dept.
6. Building area is defined as all areas under roof except for porches, patios, balconies, carports and porte cocheres.

8.7.2 Enhanced 13D Design. When Table 8.7 requires an Enhanced 13D design, sprinklers shall be installed throughout the structure except where omissions are permitted by sections 8.6.6 and 8.6.7, and the following:

1. Unheated attic spaces.
2. Floor/ceiling spaces.
3. Concealed combustible spaces with no access for storage or living purposes.

8.7.2.1 Garages. Garages shall be sprinklered with residential commercial QR sprinklers in accordance with 8.1 or quick response sprinklers designed to provide a density of 0.15 gpm/ft² over the areas of the garages, but not to exceed two sprinklers. Garages doors shall not be considered obstructions and shall be permitted to be ignored for placement and calculations of sprinklers.

8.7.3 Other Mitigation Designs. For other mitigation designs listed in Table 8.7, see the respective revised codes for NFPA 13 and NFPA 13R minimum design requirements.

Amendment 143, Section 4604, NFPA 13R, 2007 Edition, Standard for the Installation of Sprinkler Systems, in Residential Occupancies up to and Including Two Stories in Height.

Section 4604, NFPA 13R, 2007 Edition, Standard for the Installation of Sprinkler Systems, in Residential Occupancies up to and Including Two Stories in Height is added and NFPA 13R is revised as follows:

4604, NFPA 13R, 2007 Edition, Standard for the Installation of Sprinkler Systems, in Residential Occupancies up to and Including Two Stories in Height.

Chapter 1 Administration

1.1 Scope

1-1 Scope (Revise section 1.1 and add sections 1.1.1 and 1.1.2 as follows.)

1.1 Scope. This standard covers the design and installation of automatic sprinkler systems for protection against fire hazards in residential occupancies up to and including two ~~four~~ stories in height.

1.1.1 International Building Code: When required by the International Building Code, a full NPFA 13 system is required and NFPA 13R system is not permitted. See IBC chapters 5 and 7.

1.1.2 Mitigation Matrix: When sprinkler protection is being provided to mitigate the minimum Fire Code requirements for fire flow, number of fire hydrants, or fire department access, the minimum design criteria shall be as outlined in Section 6.8.5 Mitigation Matrix for Group R Division 3 Occupancies.

Chapter 6 Working Plans, Design, Installation, Acceptance Tests, and Maintenance

6.1.4 Protection of Piping

6.1.4 Protection of Piping (Revise section 6.14.2.2 as follows.)

6.1.4.2.2 Where water supplies have shown to have unusual corrosive properties and threaded or cut-groove steel pipe is to be used, wall thickness shall be in accordance with the Schedule 30 [in sizes 8 inch or larger] or Schedules 40 [in sizes less than 8 inches]. Piping shall have corrosion resistance ratio (CRR) of 1 or more.

6.8 System Design

6.8.1.3 Sprinkler Coverage.

6.8.1.3 Sprinkler Coverage. Section 6.8.1.3.1.3 is revised as follows:

6.8.1.3.1.3 Where construction features or other special conditions exist that are outside the scope of sprinkler listings, the designer shall work with the AHJ in developing an engineered solution. For the engineered solution listed sprinklers may ~~shall~~ be permitted to be installed beyond their listing limitations.

6.8.3 Design Criteria - Garages

6.8.3 Design Criteria – Garages (Revise section 6.8.3.3 as follows.)

6.8.3.3 Garages that are accessible only from a single dwelling unit shall be considered as part of that dwelling unit. Such garages shall be sprinklered with residential commercial QR sprinklers in accordance with 6.8.1 or quick response sprinklers ~~residential commercial QR sprinklers in accordance with 6.8.1 or quick response sprinklers~~ designed to provide a density of 0.15 gpm/ft² ~~0.05 gpm/ft²~~ over the areas of the garages, but not to exceed four sprinklers. Garages doors shall not be considered obstructions and shall be permitted to be ignored for placement and calculations of sprinklers.

6.8.5 Mitigation Matrix for Group R Division 3 Occupancies.

A new section 6.8.5 Mitigation Matrix for Group R Division 3 Occupancies is added as follows:

6.8.5 Mitigation Matrix for Group R Division 3 Occupancies. When a sprinkler system is being installed to mitigate the minimum Fire Code requirements for fire flow, number of fire hydrants, or fire department access, the design requirements in Table 6.8.5 shall be applied.

Table 6.8.5 Mitigation Matrix for Group R Division 3 Occupancies ⁴					
Building Area SIZE RANGE ⁶	Mitigation Residential SYSTEM TYPE ^{1,3}	SEPARATE SPRINKLER LEAD-IN REQUIRED ⁵	MINIMUM UNDERGROUND PIPE SIZE ⁵	MINIMUM WATER METER SIZE ⁵	SPRINKLERS REQUIRED IN AREAS SUBJECT TO FREEZING.
< 3,600 sq.ft.	Standard NFPA 13D ²	See NFPA 13D for design requirements (section 8.7)			
≥ 3,600 sq.ft. and < 10,000 sq.ft.	Enhanced NFPA 13D ^{1,2}	See NFPA 13D for design requirements (section 8.7)			
≥ 10,000 sq.ft. and < 15,000 sq.ft.	Enhanced NFPA 13R ¹	Yes	N/A	N/A	Yes
≥ 15,000 sq.ft.	Modified NFPA 13 ¹	See NFPA 13 for design requirements (section 21.37)			

N/A = Not Applicable

1. This mitigation constitutes a building "protected with an approved fire sprinkler system" per 2006 IFC.
2. Domestic demand of 5 gpm is required to be added to the sprinkler demand in the hydraulic calculations.
3. Free-standing detached guest houses or garages shall be protected by an Enhanced NFPA 13D system.
4. Excluding Group R Division 3 occupancies used as Group Care Homes.
5. U.G. lead-in shall be the minimum size required hydraulically as proven by the sprinkler contractor and shall be hydrostatically tested and flushed, witnessed by the fire dept.
6. Building area is defined as all areas under roof except for porches, patios, balconies, carports and porte cocheres.

6.8.5.1 Enhanced 13R Design. When Table 6.8.5 requires an Enhanced 13R design, the sprinkler system shall be designed and installed in accordance with NFPA 13R, except that sprinklers shall be installed throughout the structure except where omissions are permitted by the following:

1. Unheated attic spaces that do not contain fuel fired equipment.
2. Floor/ceiling spaces.
3. Concealed combustible spaces with no access for storage or living purposes.

6.8.5.2 Other Mitigation Designs. For other mitigation designs listed in Table 6.8.5, see the respective revised codes for NFPA 13 and NFPA 13D minimum design requirements.

6.9 Location of Sprinklers

6.9 Location of Sprinklers. Sections 6.9.4 through 6.9.7 are revised and a new section 6.9.8 is added as follows:

6.9.4 Sprinklers shall be installed in any closet used for heating and air-conditioning equipment or containing fuel fired equipment.

6.9.5 Unless required by section 6.9.5.1, sprinklers shall not be required in any porches, balconies, corridors, and stairs that are open and attached.

6.9.5.1 When required by the International Building Code, sprinkler protection shall be provided for exterior balconies, decks and ground floor patios of dwelling units. See IBC sections 903.3.1.2.1 and 1406.3.

6.9.6 Sprinklers shall not be required in attics, penthouse equipment rooms, elevator machine rooms, concealed space dedicated exclusively to and containing only dwelling unit ventilation equipment, crawl spaces, floor/ceiling spaces, noncombustible elevator shafts where the elevator's cars comply with ANSI A17.1 *Safety Code for Elevators and Escalators*, and other concealed spaces that are not used or intended for living purposes or storage and do not contain fuel-fired equipment.

6.9.7 Sprinklers shall not be required in closets on exterior balconies, regardless of size, as long as there are no doors or unprotected penetrations from the closet directly into the dwelling unit, and the closet does not contain fuel-fired equipment.

6.9.8 Attics. Sprinklers are not required in attics that do not contain fuel-fired equipment. When fuel-fired equipment is present, sprinkler protection shall be provided in accordance with the following:

1. At least 1 quick response intermediate temperature sprinkler shall be installed above the equipment. When the roof pitch is greater than or equal to a 4:12 pitch, the sprinkler shall be located above the upslope side of the equipment, see Figure 6.9.8.
2. Freeze protection shall be provided in accordance with section 6.1.4.1.
3. The sprinkler shall have a K-factor of 5.6 and be capable of flowing at a minimum residual pressure of 7 psi.

Amendment 144, Section 4605 NFPA 14, 2007 Edition, Standard for the Installation of Standpipe, and Hose Systems

Section 4605 NFPA14 is hereby adopted and revised as follows:

4605, NFPA 14, 2007 Edition, Standard for the Installation of Standpipe, and Hose Systems

Chapter 3 Definitions
3.3 General Definitions

3.3.5 High-Rise Building. A building, where the floor of an occupiable story is greater than 55 ft 75 ft (23 m) above the lowest level of fire department vehicle access.

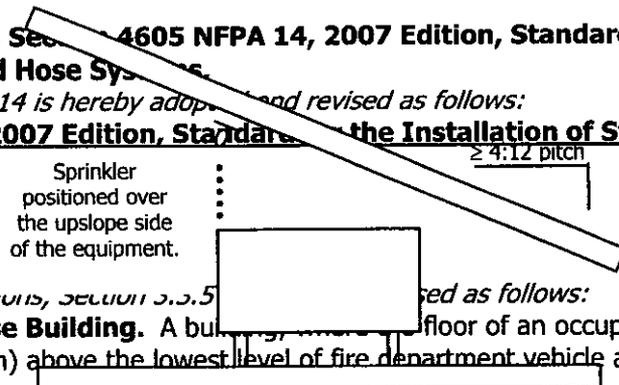


Figure 6.9.8. Attic sprinkler location.

Chapter 6 Installation Requirements

6.1.2 Protection of Piping

6.1.2 *Protection of Piping*, Section 6.1.2.2.1 thru 6.1.2.2.3 is revised as follows:

6.1.2.2.1 In buildings constructed of International Building Code Type I or II construction, or equipped with an approved automatic sprinkler system, standpipes lateral piping to 2½ in. (65 mm) hose connections shall not be required to be protected by fire rated construction.

6.1.2.2.2 Branch line piping connecting standpipes to 1½ in. or 2½ in. hose connections shall not be required to be protected.

6.1.2.3.2 Listed heat tracing shall be permitted to be used for protection from freezing provided that it is installed and insulated in accordance with the manufacture's specifications, and the heat tracing is electronically supervised.

Chapter 7 Design

7.2 Pressure Limitation

7.2 *Pressure Limitation* Section 7.2 is revised as follows:

7.2 Pressure Limitation. The maximum pressure at any point in the system at any time shall not exceed 350 psi. Bulk high-pressure mains serving the upper portions of buildings are permitted to exceed 350 psi, so long as there are no connections to the lower portions of the building where the system pressure exceeds 350 psi.

7.2.1.2 Where the static pressure at a hose connection exceeds 175 psi (12.1 bar), an approved pressure-regulating device shall be provided to limit static and residual pressures at the outlet of the hose connection to 100 psi (6.9 bar) for 1½ in. (40 mm) hose connections and 200 psi (13.9 bar) 175 psi (12.1 bar) for other hose connections. The pressure on the inlet side of the pressure-regulating device shall not exceed the device's rated working pressure.

7.2.2 The authority having jurisdiction shall be consulted regarding the use of system pressure regulating devices. When system pressure-regulating devices are used in lieu of providing separate pumps, multiple zones shall be permitted to be supplied by a single multiple pumps and pressure-regulating device(s) under the following conditions:

1. Pressure-regulating device(s) shall be permitted to control pressure in the lower zone(s).
2. A method to isolate the pressure-regulating device(s) shall be provided for maintenance and repair.
- ~~3. Regulating devices shall be arranged so that the failure of any single device does not allow pressure in excess of 175 psi (12.1 bar) to more than two hose connections.~~
4. An equally sized bypass around the pressure-regulating device(s), with a normally closed control valve, shall be installed.
5. Pressure-regulating device(s) shall be installed not more than 7 ft 6 in. (2.31 m) above the floor.
6. The pressure-regulating device shall be provided with inlet and outlet pressure gauges.
- ~~7. The fire department connection(s) shall be connected to the system side of the outlet isolation valve.~~
8. The pressure-regulating device shall be provided with a pressure relief valve in accordance with the manufacturers recommendations.

9. Remote monitoring and supervision for detecting high pressure failure of the pressure-regulating device shall be provided in accordance with NFPA 72, National Fire Alarm Code.

7.3 Locations of Hose Connections

7.3 Locations of Hose Connections Section 7.3.2.3 is revised as follows:

7.3.2.3 Class I systems shall be provided with 2½ -in. (38.1-mm) hose connections so that all portions of each floor level of the building are within 130 ft (39.7 m) of a hose connection. Distances shall be measured along a path of travel originating at the hose connection.

~~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 containing or adjacent to a hose connection, or the most remote portion of a sprinklered floor or story is located in excess of 200 ft (61 m) of travel distance from a required exit containing or adjacent to a hose connection, additional hose connections shall be provided, in approved locations, where required by the local fire department or the authority having jurisdiction.~~

7.4 Number of Standpipes

7.4 Number of Standpipes Section 7.4 is revised as follows:

7.4 Number of Standpipes. Separate standpipes shall be provided in each required exit stairway. Scissor Stairs shall be provided with a hose connection for both stairs within the stairway.

7.8 Minimum and Maximum Pressure Limits

7.8.1 Minimum and Maximum Pressure Limits Section 7.8.1 thru 7.8.3.2 is revised as follows:

7.8.1 Minimum Design Pressure for Hydraulically Designed Systems. Hydraulically designed standpipe systems shall be designed to provide the water flow rate required by Section 7.10 at a minimum residual pressure of 127 psi 100 (6.9 bar) at the outlet of the hydraulically most remote 2½ in. (65 mm) hose connection and 65 psi (4.5 bar) at the outlet of the hydraulically most remote 1½ in. (40 mm) hose station.

7.8.3.2 Where the static pressure at a hose connection exceeds 200 psi 175 psi (12.1 bar), an approved pressure-regulating device shall be provided to limit static and residual pressures at the outlet of the hose connection to 100 psi (6.9 bar) for 1½ in. (40 mm) hose connections available for trained personnel use and 200 psi 175 psi (12.1 bar) for other hose connections.

EXCEPTION: Pressure regulating devices may be permitted when approved by the fire code official and they are capable of being restored to full pressure in a single motion.

7.9 Standpipe System Zones

7.9 Standpipe System Zones. Sections 7.9.1 thru 7.9.4 are revised as follows:

7.9.1 General Requirements

7.9.1.1 Standpipes shall utilize pressure zones where the maximum pressure exceeds the limits of sections 7.2.1 and 7.8.3. Pressure zones maybe established by the use of pumps or pressure regulating devices, or a combination thereof. Each standpipe system zone created due to system component pressure limitations, requiring pumps, shall be provided with a separate pump.

7.9.1.2 Zones with two or more standpipes shall have at least two direct supply pipes of a size not smaller than the largest standpipe that they serve.

7.9.2 Pumps

7.9.2 Pumps. Section 7.9.2 is revised as follows:

~~7.9.2 For systems with two or more zones in which portions of the second and higher zones cannot be supplied using the residual pressure required by Section 7.8 by means of fire department pumps through a fire department connection, an auxiliary means of supply shall be provided.~~

7.9.2.1 The requirement in 7.9.1.1 shall not preclude the use of pumps arranged in series.

7.9.2.2 Where pumps are used in structures greater than 250 ft in height above the lowest level of fire department access, a redundant pump shall be provided for each pump zone.

7.9.2.3 Where pumps supplying two or more zones are located at the same level, each zone shall have separate and direct supply piping of a size not smaller than the standpipe that it serves.

7.9.2.4 Where the supply for each zone is pumped from the next lower zone, and the standpipe or standpipes in the lower zone are used to supply the higher zone, such standpipes shall comply with the provisions for supply lines in 7.9.3.3.

7.9.2.4.1 At least two lines shall be provided between pump zones.

7.9.2.4.2 One of the lines specified in 7.9.3.4.1 shall be arranged so that the supply can be automatically delivered from the lower to the higher zone.

7.9.2.5 For structures with a floor level greater than 500 ft above the lowest level of fire department access, a ~~The auxiliary means shall be in the form of upper-level water storage with additional pumping equipment shall be provided.~~ or, other means acceptable to the authority having jurisdiction.

7.9.3 Pressure Regulating Devices. Pressure regulating devices shall be installed in accordance with section 7.2.2

7.11 Drains and Test Risers

7.11 Drains and Test Risers Section 7.11.1 is revised as follows:

7.11.1 A permanently installed ~~3~~-in drain riser shall be provided adjacent to each standpipe equipped with pressure-regulating devices to facilitate tests of each device. The drain shall be sized large enough to handle the full flow required from the largest pressure reduction device, but shall not be less than 3 inches.

7.12 Fire Department Connections

7.12 Fire Department Connections. Sections 7.12.1 thru 7.12.2.1 are revised as follows:

7.12.1 The fire department shall be consulted for information concerning the location and configuration for fire department connections. ~~One or more fire department connections shall be provided for each zone of each Class I or Class III standpipe system.~~

7.12.1.1 In building with multiple pump zones, an express fire department connection shall be provided from the street to the respective pump zone(s). ~~The high-zone fire department connection(s) shall not be required to be provided where 7.9.4 applies.~~

7.12.2 High-rise buildings shall have at least two remotely located fire department connections. ~~for each zone.~~

~~**7.12.2.1** A single connection for each zone shall be permitted where acceptable to the fire department.~~

Chapter 8 Plans and Specifications

8.1 Plans and Specifications

8.1 Plans and Specifications. Section 8.1.5 is revised as follows:

8.1.5 The plans shall include an isometric elevation diagram. The vertical elevation of each floor shall be indicated.

Amendment 145 Section 4606, NFPA 20, 2007 Edition, Standard for the Installation of Stationary Pumps for Fire Protection.

Section 4606, NFPA 20, 2007 Edition, Standard for the Installation of Stationary Pumps for Fire Protection is added and NFPA 20 is revised as follows:

4606, NFPA 20, 2007 Edition, Standard for the Installation. of Stationary Pumps for Fire Protection.

Chapter 3 Definitions

5.10 Pressure Gauges

3.3.12.3.2 Manual Dry Standpipe System. A standpipe system with no permanently attached water supply that is designed to have piping contain water only when the system is being utilized through the fire department connection. Manual standpipes shall not be installed unless specifically approved by the fire code official.

3.3.12.4 Manual Standpipe System. A standpipe system that relies exclusively on the fire department connection to supply the system demand. Manual standpipes shall not be installed unless specifically approved by the fire code official.

5.2.4 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 standpipes shall not be installed unless specifically approved by the fire code official.

5.2.4 Manual Wet. A manual wet standpipe system shall be a wet standpipe system connected to a small water supply for the purpose of maintaining water within the system or sharing water supply with an automatic sprinkler system, but not having a water supply capable of delivering the system demand attached to the system. Manual standpipes shall not be installed unless specifically approved by the fire code official.

5.2.4 Manual Standpipe Systems. Where a manual standpipe system is provided, each hose connection shall be provided with a conspicuous sign that reads "MANUAL STANDPIPE FOR FIRE DEPARTMENT USE ONLY." Manual standpipes shall not be installed unless specifically approved by the fire code official.

Chapter 5 General Requirements

5.10 Pressure Gauges

5.10 Pressure Gauges. Sections 5.10.1.1 and 5.10.2.1.1 are revised as follows:

5.10.1.1 A liquid filled pressure gauge having a dial not less than 3.5 in. (89 mm) in diameter shall be connected near the discharge casting with a 0.25 in. (6.25-mm) gauge valve.

5.10.2.1 Unless the requirements of 5.10.2.4 are met, a liquid filled compound pressure and vacuum gauge having a dial not less than 3.5 in. (89 mm) in diameter shall be connected to the suction pipe near the pump with a 0.25 in. (6.25-mm) gauge valve.

5.12 Equipment Protection

5.12.1.1 Indoor Fire Pump Units. Sections 5.12.1.1.1 thru 5.12.1.1.3 are revised as follows.)

5.12.1.1.1 Indoor fire pumps in ~~high-rise buildings~~ shall be physically separated or protected by 2-hour fire-rated construction.

5.12.1.1.2 ~~Indoor fire pumps in non-high-rise buildings shall be physically separated or protected by fire-rated construction in accordance with Table 5.12.1.1.2.~~
~~Table 5.12.1.1.2 Table 5.12.1.1.2 – is deleted in entirety.~~

Location and access to the fire pump room shall be pre-planned with the fire department. The fire pump room shall be provided with an exterior door.

~~**5.12.1.1.3** Intermediate level fire pumps, located above grade for a high-rise structure, shall have an access door opening directly to a corridor having a fire resistive rating of not less than 2-hour. The travel distance from the nearest exit stair to the fire pump room door shall not exceed 50 feet.~~

5.14 Equipment Protection

5.14.4 Pumps with Bypass. Section 5.14.4.1 is revised as follows:

5.14.4.1 ~~Where the suction supply is only drawing water from of sufficient pressure to be of material value without the pump, The pump shall be installed with a bypass. (See Figure A.5.14.4.)~~

Chapter 9 Electric Drive for Pumps

9.3 Alternate Power

9.3 Alternate Power. Sections 9.3.1 thru 9.3.4 are revised as follows:

9.3.1 ~~Except for an arrangement described in 9.3.6, At least one alternate source of power shall be provided when the requirement of 9.3.3 is not satisfied. height of the structure is beyond the pumping capacity of the fire department apparatus.~~

9.3.2 ~~At the discretion of the authority having jurisdiction, the requirement of section 9.3.1 for an alternate source of power may not be required for structures that are small in nature with limited fuel loading. Other Sources. Except for an arrangement described in 9.3.3, at least one alternate source of power shall be provided where the normal source is not reliable.~~

9.3.3 An alternate source of power is not required where a back-up engine driven or back-up steam turbine driven fire pump is installed in accordance with this standard.

9.3.4 When provided, the alternate source of power shall be supplied from one of the following sources:

1. A generator installed in accordance with Section 9.6.
2. One of the sources identified in 9.2.2(1), 9.2.2(2), 9.2.2(3), or 9.2.2(5) when the power is provided distinctly independent of the normal source of power. Any connections to the public utility (Nevada Power) shall be considered a single source of power and subsequently cannot be utilized as both normal power and the alternate (backup) power.

Chapter 10 Electric Drive Controllers and Accessories

10.2 Location

10.2 Location. Section 10.2.1 is revised as follows:

10.2.1 Controllers shall be located as close as is practical to the motors they control and shall be within sight of the motors. Additionally the controllers shall be readily accessible by locating near the entrance to the room.

Chapter 12 Engine Drive Controllers

12.2 Location

12.2 Location. (Revise section 10.2.1 as follows)

12.2.1 Controllers shall be located as close as is practical to the motors they control and shall be within sight of the motors. Additionally the controllers shall be readily accessible by locating near the entrance to the room.

Amendment 146, Section 4607, NFPA 72, 2007 Edition: National Fire Alarm Code.

Section 4607, NFPA 72, 2007 Edition, National Fire Alarm Code, is added and NFPA 72 is adopted and revised as follows:

4607 NFPA 72, 2007 Edition: National Fire Alarm Code

3.3.67.5.2 Dedicated Function Fire Alarm System

Section 3.3.67.5.2 is revised as follows:

3.3.67.5.2 Dedicated Function Fire Alarm System. A protected premises fire alarm system installed specifically to perform fire safety function(s) where a building fire alarm system is not required. Examples of such systems are sprinkler monitoring and elevator recall systems. See also 3.3.64.2.1. (SIG-PRO)

4.4.1.4.1 Dedicated Branch Circuit

Section 4.4.1.4.1 is revised as follows. Items 1, 2 and 3 are deleted and revised as follows:

4.4.1.4.1 Dedicated Branch Circuit. A dedicated branch circuit ~~of one of the following shall supply primary power:~~ from a commercial light and power supply shall supply primary power.

EXCEPTION:

1. When approved by the AHJ for a specified period of time, an engine-driven generator or equivalent in accordance with 4.4.1.9.2, where a person specifically trained in its operation is on duty at all times.
2. When approved by the AHJ, an engine-driven generator or equivalent arranged for cogeneration with commercial light and power in accordance with 4.4.1.9.2, where a person specifically trained in its operation is on duty at all times.

4.4.4.4 Wiring.

Section 4.4.4.4 Wiring, is revised and a new sentence is added as follows:

4.4.4.4 Wiring. The installation of all wiring, cable, and equipment shall be in accordance with NFPA 70, National Electrical Code, and Specifically with Articles 760, 770, and 800, where applicable. Optical fire cables shall be protected against mechanical injury in accordance with Article 760. All wiring shall be in enclosed metallic conduit or shall be MI cable, MC cable or AC cable except residential occupancies two stories or less.

4.4.6.1 Alarm Annunciation

Section 4.4.6.1 Alarm Annunciation is revised as follows:

4.4.6.1 Alarm Annunciation. ~~Where required, the location of and operated initiating device shall be annunciated by visible means. Visible annunciation shall be by an indicator lamp, alphanumeric display, printout, or other approved means. The visible annunciation of the location of operated initiating devices shall not be canceled by the means used to deactivate alarm notification appliances.~~ The location of an operated initiating device shall be displayed by alphanumeric display at the fire alarm control unit. The alphanumeric display shall state the device type, the floor level (if applicable), the device address, and a descriptive location for the operated device. The visible annunciation of the location of operated initiating devices shall not be canceled by the means used to deactivate alarm notification appliances.

EXCEPTION: Dedicated function fire alarm system(s) as approved by the AHJ.

4.4.6.3 Annunciator Access and Location

Section 4.4.6.3 Annunciator Access and Location is revised as follows:

4.4.6.3 Annunciator Access and Location. All required annunciation means shall be readily accessible to responding personnel and shall be located as required by the authority having jurisdiction to facilitate an efficient response to the fire situation. A remote annunciator shall be provided in the main entrance of all buildings. When the fire alarm control panel is located in the main entrance, a remote annunciator may not be required.

5.5.2.1 Total (Complete) Coverage

Section 5.5.2.1 is revised as follows:

5.5.2.1 Total (Complete) Coverage. If required and unless otherwise modified by 5.5.2.1.1 through 5.5.2.1.5, total coverage shall include all rooms, halls, storage areas, and basements. Attics, lofts, spaces above suspended ceilings, and other subdivisions and accessible spaces; as well as the inside of all closets, elevator shafts, enclosed stairways, dumbwaiter shafts, and chutes shall also have detectors if required by the authority having jurisdiction or to satisfy performance design criteria. Inaccessible areas may not be required to be protected by detectors.

5.5.2.1.6

A new Section 5.5.2.1.6 is added as follows:

5.5.2.1.6 When detectors are installed to comply with the Uniform Mechanical Code section 609.0 Exception 1, total coverage is defined as the area served by the air-moving equipment.

5.13.4

Section 5.13.4 is revised as follows:

5.13.4 The operable part of each manual fire alarm box shall be not less than 3½-ft (1.1m) and not more than 4-ft (1.22 m) above floor level.

6.2.2.4

A new Section 6.2.2.4 is added as follows:

6.2.2.4 A permit is required prior to making any changes except room label changes.

6.4.2.2.2

Section 6.4.2.2.2 is revised as follows:

6.4.2.2.2 All styles of Class A circuits using physical conductors (e.g., metallic, optical fiber) shall be installed such that the outgoing and return conductors, exiting from and returning to the control unit, respectively, are routed separately. The outgoing and return (redundant) circuit conductors shall not be run in the same cable assembly (i.e., multi-conductor cable), enclosure, or raceway. The outgoing and return (redundant) vertical risers shall not be run in the same enclosure, vertical shaft, etc.

EXCEPTION: The outgoing and return (redundant) circuit conductors shall be permitted to be run in the same cable assembly, enclosure, or raceway under any of the following conditions:

1. For a distance not to exceed 3 m (10 ft) where the outgoing and return conductors enter or exit the initiating device, notification appliance, or control unit enclosures.
2. Single conduit/raceway drops to individual devices or appliances.
3. Single conduit/raceway drops to multiple devices or appliances installed within a single room not exceeding 92.9 m² (1000 ft²) in area.

6.8.5.1.2

Section 6.8.5.1.2 is revised as follows:

6.8.5.1.2 For fire alarm systems employing automatic fire detectors or waterflow detection devices, at least one fire alarm box shall be provided to initiate a fire alarm signal. This fire alarm box shall be located where required ~~by the authority having jurisdiction~~ either adjacent to the fire alarm control panel or in the fire riser room unless specifically required elsewhere by the AHJ.

EXCEPTION: Fire alarm systems dedicated to elevator recall control and supervisory service as permitted in 6.16.3 or fire sprinkler monitoring systems.

6.9.10.4.2

Section 6.9.10.4.2 is revised by deleting method (5).

6.9.10.4.2 Method 5 – deleted in entirety.

6.9.10.4.3

Section 6.9.10.4.3 is revised by deleting method (5).

6.9.10.4.3 Method 5 – deleted in entirety.

6.10.1.16

Section 6.10.1.16 is revised by deleting method (5).

6.10.1.16 Method 5 – deleted in entirety.

6.16.3.5

Section 6.16.3.5 is revised by deleting the exception as follows:

6.16.3.5 A lobby smoke detector shall be located on the ceiling within 6.4 m (21ft) of the centerline of each elevator door within the elevator bank under control of the detector.

~~**EXCEPTION:** For lobby ceiling configurations exceeding 4.6 m (15 ft) in height or that are other than flat and smooth, detector locations shall be determined in accordance with Chapter 5.~~

7.3.2.4 Voltage Drop Calculations

A new section 7.3.2.4 is added as follows:

7.3.2.4 Voltage Drop Calculations. Voltage drop calculation(s) shall utilize the lump sum calculation methodology. The starting voltage shall be the minimum panel operating voltage (nominally 20.4 VDC). The minimum appliance voltage shall be within the appliances standard operating voltage range per UL 1971 (nominally 16 VDC). Voltage drop shall be calculated by subtracting the voltage used by the circuit from the starting voltage. Circuit current calculations shall use the UL maximum operating current for each appliance.

A7.3.2.4 Voltage Drop Calculations

A new section A7.3.2.4, is added as follows:

A7.3.2.4 Voltage Drop Calculations. A typical lump sum calculation may look like the following:

Circuit Number	Starting Voltage (Vs)	Circuit Current (I = load current, UL max. value)	Circuit Resistance (R = resistance)	Circuit Voltage (Vd=voltage drop)	Voltage at EOL (min 16VDC)
Designated by Designer	Vs=20.4 VDC	I = Value from Load Calculation	$R = \frac{\Omega}{foot} * distance$	Vd = I * R	Veol = Vs - Vd

7.4.1.6

Section 7.4.1.6 is revised as follows:

7.4.1.6 Voice message shall be required to meet the audibility requirements of 7.4.2 (Public Mode Audible Requirements), 7.4.3 (Private Mode Audible Requirements), 7.4.4 (Sleeping Area Requirements), 7.4.5 (Narrow Band Tone Signaling for Exceeding Masked Thresholds), and shall meet the intelligibility requirements of 7.4.1.4.

8.3.4 Indication of Central Station Service

Section 8.3.4 is revised as follows:

8.3.4 Indication of Central Station Service. When required by the authority having jurisdiction, the prime contractor shall conspicuously indicate that the fire alarm system providing service at a protected premises complies with all the requirements of this Code through the use of a systematic follow-up program under the control of the organization that has listed the prime contractor.

Amendment 147, Chapter 47 Motion Picture and Television Production Studio Sound Stages, Production Facilities, and Production Locations.

Chapter 47, Motion Picture and Television Production Studio Sound Stages, Production Facilities, and Production Locations is added as follows:

Chapter 47 Motion Picture and Television Production Studio Sound Stages, Production Facilities, and Production Locations

4701 General

4701.1 Scope. The design, construction, operation, and maintenance of permanent and temporary soundstages, production facilities, as well as use of production locations, used in motion picture and television industry productions shall comply with NFPA 140 – Motion Picture and Television Production Studio Sound Stages, Production Facilities, and Production Locations, and this chapter.

4701.2 Permits. Permits, when required, shall comply with Section 105 and the following:

4701.2.1 General. A permit shall be obtained anytime filming or live broadcasts are done from:

1. Production Facilities, Production Studios, Sound Stages, or
2. Production Locations unless waived by the fire code official.

EXCEPTION: The filming or live broadcasts of news or sporting events.

4701.2.2 Places of Assembly and Live Audiences.

4701.2.2.1 An assembly permit shall be required for seating arrangements of all live audience stages.

4701.2.2.2 An assembly permit shall be required for Assembly occupancies with an occupant load of 50 or more.

4701.2.3 Additional Permits. A separate permit(s) shall be required for the use of the following:

1. Pyrotechnic special effects.
2. Open flame use.
3. Use of flammable or combustible liquids and gases.
4. Welding.
5. The presence of motor vehicles within a soundstage or production facility.
6. Use of aircraft.
7. Tents or Membrane structures. See Section 105.7.13.

4702 Definitions

4702.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meaning shown herein.

Approved Production Facility. An existing building, portion of a building, or group of buildings renovated, modified, or reconstructed for use by the entertainment industry and approved by the fire code official for the purposes of motion picture, television, or commercial production.

Motion Picture Production Studio. See Production Studio.

Occupancy Classification

Live Audience Stages. Production facilities or locations, sound stages, and production studios with live audience stages, shall be classified as a Group A Division 1 Occupancies in accordance with the *International Building Code*.

All Other Stages. Production facilities, sound stages, and production facilities without live audience stages shall be classified as a Group F, Division 1 Occupancies in accordance with the *International Building Code*.

Platform. The raised area within a building used for the presentation of music, plays, or other entertainment.

Production Location. Any site other than a soundstage or approved production facility used for the purpose of motion picture, television, or commercial production.

Production Studio. A building, a portion of a building, or a group of buildings designed and constructed for use by the entertainment industry for the purpose of motion picture, television, or commercial productions, or broadcasting television programs utilizing a soundstage.

Set. A structure built or assembled for the purpose of motion picture, television, or commercial productions.

Soundstage. A building or a portion of a building, usually insulated from outside noise and natural light, used by the entertainment industry for the purpose of motion picture, television, or commercial productions.

TV Production Studio. See *Production Studio*.

4703 Housekeeping

4703.1 All Studios, Sound Stages, Production Facilities and Locations shall maintain proper housekeeping in accordance with sections 304 and 315.

4704 Fire Safety Officers

4704.1 Pyrotechnics. Standby fire safety officers shall be required for all productions where pyrotechnic special effects are used.

4704.2 Other Hazards. Where permits are required by this Code, the need for standby fire safety officers shall be determined by the Fire code official on a case-by-case basis.

4704.3 Fire Department Standby. At the discretion of the Fire code official, due to the use of pyrotechnics or other hazards, fire department personal and apparatus may be required to standby at no cost to the fire department.

4705 Places of Assembly

4705.1 General. The grouping or gathering of more than 50 people within one room or area shall be considered a place of assembly. This includes areas used for the staging of "extras", cast and crew members, or viewing audiences.

4705.2 Exiting. Exiting for places of assembly and live audiences shall comply with Chapter 10.

4705.3 Temporary Places of Assembly. Special "one-time" events such as preview parties; or the "one-time" filming of, or use of, a large audience shall comply with section 4705.3.1 through 4705.3.3.

4705.3.1 Permit for a Place of Assembly is required from the fire code official.

4705.3.2 An exiting plan is established for an anticipated "maximum number of occupants", and approved by the fire code official.

4705.3.3 A Fire Safety Officer shall be provided. The Fire Safety Officer shall have the authority to deny entry when the "maximum number of occupants" established in section 4705.3.2 is exceeded.

4706 Production Locations

4706.1 General. Production Locations shall meet the requirements of this chapter where applicable.

4706.2 Vacant Buildings, Warehouses. The use of vacant buildings or warehouses for a production location shall meet the requirements of section 4706.2 and 4706.4 through 4706.6

4706.2.1 Buildings with Interior Sets. Buildings where interior sets or stages are constructed shall meet the following.

1. Interior sets and stages are only permitted to be constructed in sprinklered buildings.
2. In buildings protected by an automatic sprinkler system, but fail to meet the minimum sprinkler design requirements of NFPA 140, shall be protected by heat detectors installed in accordance with requirements of section 4707.2.2

4706.2.2 Exiting. The building shall have adequate exiting and meet the appropriate exiting requirements for the intended use by the production company. In all cases an aisle along the interior perimeter of the building shall be maintained with a minimum width of 4 ft. (1.22 m.) and a height of 7 ft (2.13 m.).

4706.3 On-Site, Occupied Buildings. The filming or broadcasting "on-location" or in occupied buildings shall be in accordance with sections 4706.3 through 4706.6

4706.3.1 Exiting. Exiting systems for occupied buildings shall not be obstructed by equipment, cabling, sets, or props.

4706.3.1.1 With the permission of the Fire code official, the requirements of section 4706.3.1 may be waived if the filming or broadcasting is taking place when the building, or portion thereof, is closed to the public, with no live audience, during the filming.

4706.4 Electrical. The existing building's electrical system shall not be used to supplement lighting and power systems used by the production company unless specifically approved and permitted by the Fire code official and Building Department.

4706.4.1 Electrical power connections made to the site electrical service shall be made by a licensed electrician under an electrical permit from the Building Department.

4706.4.2 Portable power cables shall be positioned to allow for emergency egress as approved by the Fire code official.

4706.4.3 Auxiliary power cables supplied from mobile generators or adjacent buildings shall not be permitted to be routed through fire-rated windows and doors.

4706.4.3.1 With the permission of the Fire code official, the requirements of section 4706.4.3.1 may be waived if standby fire personnel or other approved safeguards are provided during such periods.

4706.5 Structural Loading. Sets, scenery, rigging, and other equipment shall not impact the structural integrity of existing buildings. Additional loads applied onto the building shall require approval from the Fire code official. At the request of the Fire code official, an engineering analysis from a licensed structural engineer shall be provided at no cost to the Fire code official.

4706.6 Fire Department Access. The parking or staging of production equipment and vehicles on- and off-site shall be approved by the Fire code official. Fire department access shall be maintained at all times in accordance with the fire code.

4606.7 Combustible Waste Materials. Combustible waste material creating a fire hazard shall not be allowed to accumulate and shall be in accordance with Section 304.

4707 Fire Protection

4707.1 Sprinkler Systems. An approved automatic sprinkler system shall be installed in accordance with Chapter 9 and NFPA 140.

4707.1.1 Sprinkler Obstructions. All interior solid-ceiling sets over 600 ft² (557m²) in area, and platforms over 600 ft² (557m²) which exceed 3 ft. (.91 m.) in height, shall be protected by automatic sprinklers unless one of the following conditions are satisfied.

1. Heat detectors are installed in accordance with section 4707.2.2.
2. Solid-ceilings or horizontal set pieces over 600 ft² (557m²) in area may be designed to allow the ceilings to be positioned (vertically) to allow for the operation of the automatic fire sprinkler system after filming has been completed for the day.

4707.2 Fire Alarm System

4707.2.1 Fire Alarm Panels. Fire Alarm panels shall be utilized in accordance with their listing. Panels may be temporarily supported by sets, platforms, or pedestals, for temporary sets which will be erected for less than 180 days.

4707.2.1.1 Fire alarm panel shall be connected to an approved listed central, proprietary, or remote station service, or a local alarm which will give an audible signal to a constantly attended location such as a security post.

4707.2.2 Heat Detectors. Heat detectors require by this chapter shall be defined as a portable system as it is intended to be reinstalled when platforms or sets are changed, and after filming has been completed for the day.

4707.2.2.1 Heat Detectors shall be secured to standard outlet boxes, which may be temporarily supported by sets, platforms, or pedestals.

4707.2.2.2 Detectors shall not exceed 30 ft. (9.14 m.) on center spacing or as required by the manufacture's installation instructions.

4707.2.3 Wiring. Wiring for temporary (less than 180 days) or portable fire alarm systems do not have to meet the requirements of NEC 300-1 as revised locally.

APPENDIX B – Fire-Flow Requirements for Buildings.

Appendix B – Fire-Flow Requirements for Buildings is adopted and section B105.2 is revised as follows:

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

~~**EXCEPTIONS:** A reduction in required fire flow of up to 75 percent, as approved, is allowed when the building is provided with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2. The resulting fire flow shall not be less than 1,500 gallons per minute (95678 L/min) for the prescribed duration as specified in table B105.1.~~

1. When a building is provided with an approved automatic sprinkler system throughout, a reduction in the required fire flow of 50% is permitted.
2. A reduction in the required fire flow of 25% is permitted in buildings with: floors used for human occupancy more than 3 stories in height or more than 55 feet above the lowest level of fire apparatus access; OR containing high piled combustible storage; OR flammable/combustible liquids in excess of the exempt amount; OR hazardous materials in excess of the exempt amount.
3. The resulting fire flow for all buildings shall not be less than 1,500 gallons per minute.

APPENDIX F – Hazard Ranking.

Appendix F – Hazard Ranking is adopted in it's entirety.

APPENDIX H – Emergency Access Gates and Barriers (See Section 503.6)

A new Appendix H – Emergency access gates is added and adopted as follows:

SECTION 1 – SCOPE

Where a new gate or barrier is installed on a fire access roadway, the installation shall comply with the specifications of Appendix H and section 503.6.

SECTION 2 - DEFINITIONS

For the purposes of Appendix H, certain terms are defined as follows:

GATES AND BARRIERS – shall mean a gate, crossbar, door or other obstructive device which is utilized for the purpose of restricting, controlling or obstructing entry or exit by motor vehicles or pedestrians to or from a private roadway and which is not manned on a twenty-four hour, seven day per week basis by a person capable of providing immediate access to a police or fire safety vehicle or person.

PRIVATE STREET OR ROADWAY – shall mean any roadway (not dedicated as public right-of-way) that is owned and maintained by abutting property owners, or association of property owners that is utilized for the purpose of providing vehicular or pedestrian access to a subdivision, apartment complex, condominiums or other residential development or wild land, excluding off-street parking areas, driveways, and driveways to off-street parking areas.

PRIVATE DRIVEWAY – is a private way for vehicular travel that provides access from an off-street parking area to a public or private drive.

ULTIMATE EDGE OF RIGHT-OF-WAY - is the line furthest from the centerline of the street that has been approved by the County of Clark, Nevada and recorded on the parcel map for existing or future street improvements.

SECTION 3 – PERMIT

A Fire Department permit is required to install a gate(s) or gate operator(s), which obstructs a fire department access road.

3.1 Appropriate building permits shall be obtained from the Building Department for the applicable scope of work. A general building permit will be required, and an electrical permit will be required for electrically operated gates.

SECTION 4 – SUBMITTALS

4.1 Plans. Two sets of plans and specifications for fire apparatus access road gates shall be submitted for review and approval prior to construction. The plans and specification shall indicate or showing the following information where applicable:

- a. Approved Civil plans shall be included in the submittal. The civil plans shall be approved by the Fire code official, Planning, and Public Works, through the civil plan review process.
- b. Installing contractor(s) shall stamp their respective plans for the installation of the gate(s).
- c. All structural plans and calculations for gates over 6 ft. (1.83 m.) in height shall bear the stamp of a structural engineer.
- d. Contractor's company name, address, phone number and contact person.
- e. Assessors Parcel Number (located on the property owners tax bill);
- f. Proposed fence, pedestrian gates, vehicle gates;
- g. Existing vehicular access;
- h. Proposed location of Knox key switch/Knox box(s);
- i. The exact physical street address of the gated entry, or property, as assigned by the Planning Dept.
- j. Location of pavement detection loops.

4.2 Product specifications shall be provided that include:

- a. Method of operation;
- b. UL listing numbers of equipment used and;
- c. Manufacturers specifications sheets for all equipment.

4.3 Plan review and inspection fees – will be collected per each agency's approved fee schedule.

SECTION 5 – MINIMUM REQUIREMENTS

5.2 Vehicle Gates – See Attached Layouts

5.2 Design Requirements

All gates shall be UL 325 compliant;

Gates shall not be installed within a required turning radius of a fire access roadway; Access for single- and bi-direction traffic shall be unobstructed 20 ft. (6.1 m.) wide and 13.5 ft. (4.1 m.) high.

1. Swinging gates for single direction traffic shall swing in the direction of vehicle travel.
2. Swing gates for bi-directional traffic shall swing into the property being entered;
3. Gated entry designs shall be in accordance with Clark County Area Standard Drawing #222A.
4. All gates shall be accessible from the driving lane nearest the edge of the street by turning radii of at least 28ft. (18.5 m.) inside and 52 ft. (15.85 m.) outside.
5. After passing through a gate, the nearest curb of any cross street shall be no less than 40 feet;
6. Private driveways serving one single-family residence on moderate and heavily traveled streets shall:
 - a. Meet the setback requirements of this appendix. If existing conditions prevent gate installation with 40 ft. (12.2 ft.) of clearance to the face of the gate, a letter documenting an acceptable alternative that would facilitate emergency ingress without endangering emergency response personnel and apparatus will be required for review and approval by the Fire code official.
 - b. Meet the operational requirements of electrically operated gates.

5.3 Operation of Gates

1. All gates shall be electrically operated for entry and exit by an approved fire department method:
 - a. Key override switch (Knox); and
 - b. Radio operated controller (Click 2 Enter or other approved equipment).

EXCEPTION: Radio controlled exit may be waived by installation of a "Free exit" loop.
2. Gates requiring radio-controlled exit shall be provided with an approved 2 in. (50.8 mm) by 2 in. (50.8 mm), green, reflective marker visible to the exiting traffic. It shall be located in the center of the exit gate.
3. Electrically operated gates shall fail to the open position when the power is off. They shall remain open until power is restored.
4. Knox Company authorization forms are required for orders of key switches, boxes and padlocks. The forms may be obtained by calling the Fire code official or items can be ordered via the Internet at www.knoxbox.com.

5.4 Manual gates, barriers, or Crash-Gates may be approved on a case-by-case basis for nighttime security of business property, or gated communities.

- a. They shall be constructed in a manner that reflects good construction practices acceptable to the Fire code official.
- b. They shall be accessible by means of an approved fire department padlock (Knox) or by the installation of an approved key box (Knox).
- c. Approved manual gates or barriers across emergency access roadways shall be provided with an 18-gauge metal sign in the center of and on both sides of the gate that shall read, "FIRE LANE – NO PARKING". Letters shall be red on a white background and be a minimum of 3 in. (76 mm) high with a ½ in. (12.7 mm) stroke.
- d. Gates to close off a fire lane behind strip malls/stores in order to minimize illegal dumping and vandalism shall be approved with (Knox) padlock access.

5.5 Prohibitions

- a. No gate shall be installed where access requires the use of a proximity reader or card, unless a "turn-out" is provided for its use;
- b. Direction-limiting devices, such as fixed tire spikes, are prohibited;
- c. The total number of vehicle access control devices or systems, through which emergency vehicles must pass to reach any address shall not exceed one.
- d. No commercial property owner shall install fences and gates where more than one gate must be opened in order to reach within 150 ft. (46 m.) of the rear portion of any building.

5.6 Pedestrian Gates. All vehicle gates obstructing pedestrian access to a public way (street) shall have an approved pedestrian gate installed within 10 ft. (3.05 m.) of the vehicle gate.

1. Gates shall be handicap accessible and comply with exit door requirements of the building code as adopted by the City of Henderson.
 - a. An approved key box (Knox) shall be installed at least 4 ft. (1.22 m.) above grade on the outside of the gate. It shall be provided with a key to open the pedestrian gate.
 - b. No pedestrian gate shall be located in the median between two vehicle gates.
EXCEPTION: Private driveways serving one single-family residence are exempt from this requirement.

5.7 Maintenance. Emergency access gates and barriers shall be maintained and may include:

- a. Batteries required for operation of the system during power failure;
- b. Lubrication of moving parts and hinges per manufacturer's specifications, and;
- c. Any subsequent attention required to maintain the original list of frequencies for emergency operation of the gate in the controller, if applicable.

SECTION 6 – INSTALLATION APPROVAL

6.1 The fire authority having jurisdiction shall inspect all gates for proper installation and operation prior to activation or use.

SECTION 7 – ADDITIONAL REQUIREMENTS

7.1 Because of the delays caused by vehicle access control devices or systems, additional fire protection requirements may be applied based on other access limitations, such as narrow or winding streets or dead-end streets without an approved turnaround available for fire apparatus.

7.2 Other than the obstruction and the reduced width controlled within this standard, no other requirement of the fire authority having jurisdiction shall be adversely affected by the placement of any vehicle access control device or system in any required fire apparatus access road.

7.3 Fire department approval does not waive any requirement by other authorities having jurisdiction.