2012 NORTHERN NEVADA AMENDMENTS

2012 INTERNATIONAL BUILDING CODE

2012 INTERNATIONAL RESIDENTIAL CODE

2012 INTERNATIONAL MECHANICAL CODE

2012 INTERNATIONAL FUEL GAS CODE

2012 UNIFORM MECHANICAL CODE

2012 UNIFORM PLUMBING CODE

2011 NATIONAL ELECTRICAL CODE

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PREFACE

This document comprises the Northern Nevada Amendments to the following codes:

2012 International Building Code as published by the International Code Council.

2012 International Residential Code as published by the International Code Council.

2012 International Mechanical Code as published by the International Code Council.

2112 International Fuel Gas Code as published by the International Code Council.

2012 Uniform Mechanical Code as published by the International Association of Plumbing and Mechanical Officials.

2012 Uniform Plumbing Code as published by the International Association of Plumbing and Mechanical Officials.

2011 National Electrical Code as published by the National Fire Protection Association.

It was created by the organizations listed on the cover page with the support of the Northern Nevada Chapter of the International Code Council as a document to be adopted by reference. These provisions are not code unless adopted and codified by governmental jurisdictions. This document is available to be adopted as code by any jurisdiction without permission or approval from the organizations listed.

To obtain copies of this document, please contact the Northern Nevada Chapter of the International Code Council at PO Box 2481 Reno, NV 89505 or visit nnicc.org.

Note: Deleted language has been ~~stricken through~~.

Added language has been <u>underlined</u>.

Where space allows the entire section is shown for context.

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2012 International Building Code

Section 202 Definitions.

Amend Section 202 to include the following definitions:

International Electrical Code. The Electrical Code, whether the National Electrical Code or the International Electrical Code, as amended and adopted by the local jurisdiction.

International Mechanical Code. The Mechanical Code, whether the Uniform Mechanical Code or the International Mechanical Code as amended and adopted by the local jurisdiction.

International Plumbing Code. The Plumbing Code, whether the Uniform Plumbing Code or the International Plumbing Code, as amended and adopted by the local jurisdiction.

International Fuel Gas Code. The Fuel Gas Code, whether NFPA 54 or the International Fuel Gas Code, as amended and adopted by the local jurisdiction.

Amend Section 202 to read as follows:

HIGH-RISE BUILDING. A building with an occupied floor located more than ~~75~~ 55 feet (~~22 860~~ 16 764 mm) above the lowest level of fire department vehicle access.

Section 305.2 Group E, Day Care Facilities

Amend section 305.2 to read as follows:

305.2 Group E, day care facilities. This group includes buildings and structures or portions thereof occupied by more than ~~five~~ six children older than 2 1/2 years of age who receive educational, supervision or *personal care services* for fewer than 24 hours per day.

305.2.1 Within places of religious worship. Rooms and spaces within *places of religious worship* providing such day care during religious functions shall be classified as part of the primary occupancy.

305.2.2 ~~Five~~ Six or fewer children. A facility having ~~five~~ six or fewer children receiving such day care shall be classified as part of the primary occupancy.

305.2.3 ~~Five~~ Six or fewer children in a dwelling unit. A facility such as the above within a *dwelling unit* and having ~~five~~ six or fewer children receiving such day care shall be classified as a Group R-3 occupancy or shall comply with the *International Residential Code*.

Section 308.3 Institutional, Group I-1

Add new subsection to 308.3:

308.3 Institutional Group I-1. This occupancy shall include buildings, structures or portions thereof for more than 16 persons who reside on a 24 hour basis in a supervised environment and receive *custodial care*. The persons receiving care are capable of self preservation. This group shall include, but not be limited to, the following:
Alcohol and drug centers
Assisted living facilities
Congregate care facilities
Convalescent facilities
Group homes
Halfway houses
Residential board and *custodial care* facilities
Social rehabilitation facilities

308.3.1 Five or fewer persons receiving care. A facility such as the above with five or fewer persons receiving such care shall be classified as Group R-3 or shall comply with the *International Residential Code* provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 or with Section P2904 of the *International Residential Code*.

308.3.2 Six to sixteen persons receiving care. A facility such as above, housing not fewer than six and not more than 16 persons receiving such care, shall be classified as Group R-4.

308.3.3 Board of Health. All portions of a care facility which houses patients or residents which is classified by the State Board of Health as 'Category 2,' and which has an occupant load of more than 10 residents, is classified as an 'I-1' occupancy classification.

Section 308.6 Institutional Group I-4, Day Care Facilities

Amend section to 308.6 to read as follows:

308.6 Institutional Group I-4, day care facilities. This group shall include buildings and structures occupied by more than ~~five~~ six persons of any age who receive *custodial care* for fewer than 24 hours per day by persons other than parents or guardians, relatives by blood, marriage or adoption, and in a place other than the home of the person cared for. This group shall include, but not be limited to, the following:
Adult day care
Child day care

308.6.1 Classification as Group E. A child day care facility that provides care for more than ~~five~~ six but no more than 100 children 21/2 years or less of age, where the rooms in which the children are cared for are located on a *level of exit discharge* serving such rooms and each of these child care rooms has an *exit* door directly to the exterior, shall be classified as Group E.

308.6.2 Within a place of religious worship. Rooms and spaces within *places of religious worship* providing such care during religious functions shall be classified as part of the primary occupancy.

308.6.3 ~~Five~~ Six or fewer persons receiving care. A facility having ~~five~~ six or fewer persons receiving *custodial care* shall be classified as part of the primary occupancy.

308.6.4 ~~Five~~ Six or fewer persons receiving care in a dwelling unit. A facility such as the above within a *dwelling unit* and having ~~five~~ six or fewer persons receiving *custodial care* shall be classified as a Group R-3 occupancy or shall comply with the *International Residential Code.*

Section 310.3 Residential Group R-1

Amend 310.3 to read as follows:

310.3 Residential Group R-1. Residential occupancies containing *sleeping units* where the occupants are primarily *transient* in nature, including:
Boarding houses (*transient*) with more than 10 occupants
Brothels
Congregate living facilities (*transient)* with more than 10 occupants
Hotels (*transient*)
Motels (*transient*)

Section 311.2 Moderate-hazard storage, Group S-1

Amend section 311.2 to read as follows:

311.2 Moderate-hazard storage, Group S-1. Buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following:

Aerosols, Levels 2 and 3
Aircraft hangar (storage and repair)
Bags: cloth, burlap and paper
Bamboos and rattan
Baskets
Belting: canvas and leather
Books and paper in rolls or packs
Boots and shoes
Buttons, including cloth covered, pearl or bone
Cardboard and cardboard boxes
Clothing, woolen wearing apparel
Cordage
~~Dry boat storage (indoor)~~
Furniture
Furs

Glues, mucilage, pastes and size
Grains
Horns and combs, other than celluloid
Leather
Linoleum
Lumber
Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in Table 307.1(1) (see Section 406.8)
Photo engravings
Resilient flooring
Self-serve storage (mini-storage)
Silks
Soaps
Sugar
Tires, bulk storage of

Section 403.5.4 Smokeproof Enclosures

Amend section 403.5.4 to read as follows:

403.5.4 Smokeproof enclosures. Every required exit stairway serving floors more than ~~75~~ 55 feet (~~22 860~~ 16 764 mm) above the lowest level of fire department vehicle access shall be a smokeproof enclosure in accordance with Sections 909.20 and 1022.10.

Section 906 Portable Fire Extinguishers

Delete entire section.

Section 910.1 General (Smoke and Heat Removal)

Amend 910.1 to read as follows:

910.1 General. Where required by this code or otherwise installed, smoke and heat vents or mechanical smoke exhaust systems and draft curtains shall conform to the requirements of this section.

Exceptions:

1. Frozen food warehouses used solely for storage of Class I and II commodities where protected by an approved automatic sprinkler system.
2. ~~Where areas of buildings are equipped with early suppression fast response (ESFR) sprinklers, automatic smoke and heat vents shall not be required within these areas.~~ Automatic smoke and heat vents are not required within areas of buildings equipped with early suppression fast-response (ESFR) sprinklers unless the area of a Group F-1 or S-1 occupancy protected with the ESFR sprinklers has an exit access travel distance of more than 250 feet (76 200 mm).

Section 910.3.2.2 Sprinklered Buildings

Amend section 910.3.2.2 to read as follows and add subsections 910.3.2.2.1 thru 910.3.2.2.3:

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 operate automatically~~ in accordance with Sections 910.3.2.2.1 through 910.3.2.2.3.

910.3.2.2.1 Automatic operation. Smoke and heat vents shall be designed to operate automatically.

910.3.2.2.2 Control mode sprinkler system. Smoke and heat vents installed in areas of buildings with a control mode sprinkler system shall have operating elements with a higher temperature classification than the automatic fire sprinklers in accordance with NFPA 13.

910.3.2.2.3 Early suppression fast-response (ESFR) sprinkler system. Smoke and heat vents installed in areas of buildings with early suppression fast-response (ESFR) sprinklers shall be equipped with a standard-response operating mechanism with a minimum temperature rating of 360ºF (182ºC) or 100ºF (56ºC) above the operating temperature of the sprinklers, whichever is higher.

Table 1016.2 Exit Access Travel Distance

Amend Table 1016.2 to read as follows:

TABLE 1016.2
EXIT ACCESS TRAVEL DISTANCE[a]

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E, F-1, M, R, S-1	200	250[b]
I-1	Not Permitted	250[c]
B	200	300[c]
F-2, S-2, U	300	400[c]
H-1	Not Permitted	75[c]
H-2	Not Permitted	100[c]
H-3	Not Permitted	150[c]
H-4	Not Permitted	175[c]
H-5	Not Permitted	200[c]
I-2, I-3, I-4	Not Permitted	200[c]

For SI: 1 foot = 304.8 mm.

a. See the following sections for modifications to exit access travel distance requirements:
Section 402.8: For the distance limitation in malls.
Section 404.9: For the distance limitation through an atrium space.
Section 407.4: For the distance limitation in Group I-2.
Sections 408.6.1 and 408.8.1: For the distance limitations in Group I-3.
Section 411.4: For the distance limitation in Special Amusement Buildings.
Section 1015.4: For the distance limitation in refrigeration machinery rooms.

Section 1015.5: For the distance limitation in refrigerated rooms and spaces.
Section 1016.4: For increased limitation in Groups F-1 and S-1.
Section 1021.2: For buildings with one exit.
Section 1028.7: For increased limitation in assembly seating.
Section 1028.7: For increased limitation for assembly open-air seating.
Section 3103.4: For temporary structures.
Section 3104.9: For pedestrian walkways.

b. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems in accordance with Section 903.3.1.2 are permitted.

c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1

Section 1016.4 Group F-1 and S-1 Increase

Add new section 1016.4 to 1016:

1016.4 Group F-1 and S-1 increase. The maximum exit access travel distance shall be 400 feet (122 m) in Group F-1 or S-1 occupancies where all of the following are met:

1. The portion of the building classified as Group F-1 or S-1 is limited to one story in height, and
2. The minimum height from the finished floor to the bottom of the ceiling or roof slab or deck is 24 feet (7315 mm), and
3. The building is equipped throughout with an automatic fire sprinkler system in accordance with Section 903.3.1.1.

Section 1503.7 Snow Shedding and Impact Areas

Add new section 1503.7 to section 1503.

1503.7 Snow shedding and impact areas. Snow shedding onto adjacent properties is prohibited. Snow shed impact areas shall be designed to contain shedding snow from structures and prevent snow from encroaching onto adjacent properties when ground snow loads exceed 154 p_g when located in Washoe County or Carson City, or exceeds 69 p_g when located in Storey County. The roof and eaves of all structures shall be designed so that snow shed impact areas will not occur in or on required exits, parking areas, driveways, LPG storage tanks, walkways, and public areas.

Exception: The snow shed impact area may be reduced provided an engineered snow restraint system, designed in accordance with this code, is incorporated into the roof design and the roof drainage system.

Section 1608.2 Ground snow loads.

Amend section 1608.2 to read as follows:

1608.2 Ground snow loads. The ground snow loads to be used in determining the design snow loads for roofs shall be determined in accordance with Table 1608.2.1, ASCE 7 or Figure 1608.2 for the contiguous United States and Table 1608.2 for Alaska. Site specific case studies shall be

made in areas designated "CS" in Figure 1608.2. Ground snow loads for sites at elevations above the limits indicated in Figure 1608.2 and for all sites within the CS areas shall be *approved*. Ground snow load determination for such sites shall be based on an extreme value statistical analysis of data available in the vicinity of the site using a value with a 2-percent annual probability of being exceeded (50-year mean recurrence interval). Snow loads are zero for Hawaii, except in mountainous regions as approved by the building official.

Table 1608.2.1 Ground Snow Loads p_g, For Northern Nevada Locations.

Add Table 1608.2.1 to section 1608.2.

Table 1608.2.1

GROUND SNOW LOADS p_g, FOR NORTHERN NEVADA LOCATIONS.

	WEST of U.S. Hwy 395 Sierra slope Carson, Douglas, Washoe, Reno	EAST of U.S. Hwy 395 Carson, Douglas, Washoe Counties, Reno & Sparks	Lyon County	Storey County	All Nevada Counties Lake Tahoe Basin
Elevation In Feet	p_g (Pounds Per Square Foot)	p_g (Pounds Per Square foot)	p_g (Pounds Per Square foot)	p_g (Pounds Per Square foot)	p_g (Pounds Per Square foot)
4500	30	30	10	10	
5000	30	30	30	10	
5100	41	31	31	10	
5200	52	33	33	10	
5300	64	34	34	10	
5400	75	35	35	10	
5500	86	37	37	50	
6000	142	43	43	70	220
6500	171	43	43	90	235
7000	200	57	57	90	250
7500	215	57	57	90	265
8000	229	86	86	90	280
8500	243	86	86	90	295
9000	271	114	114	114	330
9500	300	142	142	142	390
10000	357	142	142	142	420

1. Drift load design in the 30-psf zones may utilize ASCE 7 -05 table C7-1 ground snow values.
2. The final roof design loads shall not be less than 20 psf after all reductions are factored, except for Lyon County.
3. Intermediate values may be interpolated by proportion.

Section 1609.3 Basic wind speed.

Amend section 1609.3 to read as follows:

1609.3 Basic wind speed. The ultimate design wind speed, V_{ult}, in mph, for the determination of the wind loads shall be determined by Figures 1609A, 1609B and 1609C. The ultimate design wind speed, V_{ult}, for use in the design of Risk Category II buildings and structures shall be obtained from Figure 1609A. The ultimate design wind speed, V_{ult}, for use in the design risk of Category III and IV buildings and structures shall be obtained from Figure 1609B. The ultimate design wind speed, V_{ult}, for use in the design of Risk Category I buildings and structures shall be obtained from Figure 1609C. The ultimate design wind speed V_{ult}, for the special wind regions indicated near mountainous terrain and near gorges shall be in accordance with local jurisdiction requirements. The ultimate design wind speeds, V_{ult}, determined by the local jurisdiction shall be in accordance with section 26.5.1 of ASCE 7.

In non-hurricane-prone regions, when ultimate design wind speed, V_{ult}, is estimated from regional climate data, the ultimate design wind speed, V_{ult}, shall be determined in accordance with Section 26.5.3 of ASCE 7.

Minimum basic wind speed for risk category II shall be 130 mph V_{ult}, for the Cities of Reno and Sparks and for the Counties of Carson, Douglas and Washoe. Minimum basic wind speed for risk category II shall be 115 mph V_{ult}, for Lyon and Storey Counties.
Minimum basic wind speed for risk category III & IV shall be 140 mph V_{ult}, for the Cities of Reno and Sparks and for the Counties of Carson, Douglas and Washoe. Minimum basic wind speed for risk category III & IV shall be 120 mph V_{ult}, for Lyon and Storey Counties.
Minimum basic wind speed for risk category I shall be 120 mph V_{ult}, for the Cities of Reno and Sparks and for the Counties of Carson, Douglas and Washoe. Minimum basic wind speed for risk category I shall be 105 mph V_{ult}, for Lyon and Storey Counties. No altitude density reduction shall be taken.

Section 1704.2 Special Inspections

Amend section 1704.2 to read as follows:

1704.2 Special inspections. Where application is made for construction as described in this section, the owner or the *registered design professional in responsible charge* acting as the owner's agent shall employ one or more *approved agencies* to perform inspections during construction on the types of work listed under Section 1705. These inspections are in addition to the inspections identified in Section 110.

Exceptions:
1. *Special inspections* are not required for construction of a minor nature or as warranted by conditions in the jurisdiction as *approved* by the *building official*.
2. Unless otherwise required by the *building official*, *special inspections* are not required for Group R-3 occupancies as applicable in section 101.2 and Group U occupancies that are accessory to a residential occupancy including, but not limited to, those listed in Section 312.1.

3. Special inspections are not required for portions of structures designed and constructed in accordance with the cold-formed steel light-frame construction provisions of Section 2211.7 or the conventional light-frame construction provisions of Section 2308

Section 1803.2 Investigations Required

Amend section 1803.2 to read as follows:

1803.2 Investigations required. Geotechnical investigations shall be conducted in accordance with Sections 1803.3 through 1803.5.

> **Exception:** The *building official* ~~shall be permitted to waive the requirement for~~ need not require a geotechnical investigation where satisfactory data from adjacent areas is provided by a licensed design professional ~~available~~ that demonstrates an investigation is not necessary for any of the conditions in Sections 1803.5.1 through 1803.5.6 and Sections 1803.5.10 and 1803.5.11.

Section 1803.6 Reporting

Amend section 1803.6 to read as follows:

1803.6 Reporting. Where geotechnical investigations are required, a written report of the investigation shall be submitted to the building official by the owner or authorized agent at the time of permit application. The geotechnical report shall include, but need not be limited to, the following information:
1. A plot showing the location of the soil investigations
2. A complete record of the soil boring and penetration test logs and soil samples.
3. A record of the soil profile.
4. Elevation of the water table, if encountered.
5. Recommendations for foundation type and design criteria, including but not limited to: bearing capacity of natural or compacted soil; provisions to mitigate the effects of expansive soils; mitigation of the effects of liquefaction, differential settlement, and varying soil strength; and the effects of adjacent loads
6. Expected total and differential settlement.
7. Deep foundation information in accordance with Section 1803.5.5.
8. Special design and construction provisions for foundations of structures founded on expansive soils, as necessary.
9. Compacted fill material properties and testing in accordance with Section 1803.5.8.
10. Controlled low-strength material properties and testing in accordance with Section 1803.5.9.
11. Where required by 1803.5.11, investigation of liquefaction hazards shall be performed in accordance with "Guidelines for Evaluating Liquefaction Hazards in Nevada;" investigation of hazards associated with surface displacement due to faulting or seismically induced lateral spreading or lateral flow shall be performed in accordance with "Guidelines for Evaluating Potential Surface Fault Rupture/Land Subsidence Hazards in Nevada."

Section 1808.6.1 Foundations

Amend section 1808.6.1 to read as follows:

1808.6.1 Foundations. Footings or foundations placed on or within the active zone of expansive soils shall be designed to resist differential volume changes and to prevent structural damage to the supported structure. Deflection and racking of the supported structure shall be limited to that which will not interfere with the usability and serviceability of the structure. Foundations placed below where volume change occurs or below expansive soil shall comply with the following provisions:
1. Foundations extending into or penetrating expansive soils shall be designed to prevent uplift of the supported structure.
2. Foundations penetrating expansive soils shall be designed to resist forces exerted on the foundation due to soil volume changes or shall be isolated from the expansive soil.

Post-tensioned slabs shall not be utilized in place of frost depth footing design unless super structure deflection and differential movement calculations are provided. The deflection calculations would need to show that the maximum combined frost and expansive soil heaving, as localized at slab edges, with resultant non-uniformly distributed deflections, as well as whole slab deflections would not result in super structure racking or excessive truss, roof or wall frame movement.

Section 1807.2.1.1 Rockery Retaining Walls

Add new subsection 1807.2.1.1 to 1807.2.1:

1807.2.1.1 Rockery retaining walls. Rockery retaining walls or rockery soil stabilization walls shall not be subject to surcharges, such as building foundations, adjacent retaining structures, slopes or vehicle surcharge. Rockery walls over four feet in height shall be engineered and shall have special inspection. The special inspection shall verify all of the specified items listed below. Wall height is determined by differential height of adjacent grades. Structures adjacent to rockery wall shall be set back a minimum distance equal to the height of the wall. Drainage shall be provided behind all engineered rockery walls. A global stability analysis shall be performed for all rockery walls that are terraced, or greater than eight feet in height. The Engineer shall specify on the Construction documents:
1. Type and quality of rock
2. Unit weight, if design exceeds 155 pcf
3. Rock size in approximate diameter
4. Rock placement
5. Voids greater than 3” shall be filled.
6. Drainage swale and system
7. Embedment
8. Wall face slope (batter (6V: 1H recommended))
9. Mechanically stabilized earth, if specified

Section 1809.5 Frost Protection

Amend section 1809.5 to read as follows:

1809.5 Frost protection. Except where otherwise protected from frost, foundations and other permanent supports of buildings and structures shall be protected from frost by one or more of the following methods:
1. Extending below the frost line of the locality. Frost depth for Carson, Douglas, Storey & Washoe Counties and the Cities of Reno and Sparks shall be twenty-four inch deep (24"). Lyon County shall have an 18" frost depth;
2. Constructing in accordance with ASCE 32; or
3. Erecting on solid rock.

Exception: Free-standing buildings meeting all of the following conditions shall not be required to be protected:
1. Assigned to *Risk Category* I, in accordance with Section 1604.5;
2. Area of 600 square feet (56 m2) or less for lightframe construction or 400 square feet (37 m2) or less for other than light-frame construction; and
3. Eave height of 10 feet (3048 mm) or less.

Shallow foundations shall not bear on frozen soil unless such frozen condition is of a permanent character.

Section 2901.1 Scope

Amend section 2901.1 to read as follows:

2901.1 Scope. The provisions of this chapter and the International Plumbing Code shall govern the erection, installation, alteration, repairs, relocation, replacement, addition to, use or maintenance of plumbing equipment or systems. Toilet and bathing rooms shall be constructed in accordance with Section 1210. Plumbing systems and equipment shall be constructed, installed and maintained in accordance with the International Plumbing Code. ~~Private sewage disposal systems shall conform to the International Private Sewage Disposal Code.~~

Section 2902.1 Minimum Number of Fixtures

Amend section 2902.1 to read as follows:

2902.1 Minimum number of fixtures. Plumbing fixtures shall be provided for the type of occupancy and in the minimum number shown in Table 2902.1. Types of occupancies not shown in Table 2902.1 shall be considered individually by the *building official*. The number of occupants shall be determined by this code. Occupancy classification shall be determined in accordance with Chapter 3. Suitable toilet facilities shall be provided and maintained in a sanitary condition for the use of workers during construction.

Table 2902.1 Minimum Number of Required Plumbing Fixtures

Amend Table 2902.1 to read as follows:

[P] TABLE 2902.1

MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES[a]

(See Sections 2902.2 and 2902.3)

No.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS [h] ~~(URINALS SEE SECTION 419.2 OF THE INTERNATIONAL PLUMBING CODE)~~		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAINS [e, f] ~~(SEE SECTION 410.1 OF THE INTERNATIONAL PLUMBING CODE~~	OTHER
				MALE	FEMALE	MALE	FEMALE			
1	Assembly	A-1[d]	Theaters and other buildings for the performing arts and motion pictures	1 per 125	1 per 65	1 per 200		—	1 per 500	1 service sink
		A-2[d]	Nightclubs, bars, taverns, dance halls and buildings for similar purposes	1 per 40	1 per 40	1 per 75		—	1 per 500	1 service sink
			Restaurants, banquet halls and food courts	1 per 75	1 per 75	1 per 200		—	1 per 500	1 service sink
		A-3[d]	Auditoriums without permanent seating, art galleries, exhibition halls, museums, lecture halls, libraries, arcades and gymnasiums	1 per 125	1 per 65	1 per 200		—	1 per 500	1 service sink
			Passenger terminals and transportation facilities	1 per 500	1 per 500	1 per 750		—	1 per 1,000	1 service sink
			Places of worship and other religious services	1 per 150	1 per 75	1 per 200		—	1 per 1,000	1 service sink
1	Assembly (continued)	A-4	Coliseums, arenas, skating rinks, pools and tennis courts for indoor sporting events and activities	1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500	1 per 40 for the first 1,520 and 1 per 60 for the remainder exceeding 1,520	1 per 200	1 per 150	—	1 per 1,000	1 service sink
		A-5	Stadiums, amusement parks, bleachers and grandstands for outdoor sporting events and activities	1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500	1 per 40 for the first 1,520 and 1 per 60 for the remainder exceeding 1,520	1 per 200	1 per 150	—	1 per 1,000	1 service sink

(continued)

MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES [a]

No.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS [h] (URINALS SEE SECTION 419.2 OF THE INTERNATIONAL PLUMBING CODE)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAINS [e,f] (SEE SECTION 410.1 OF THE INTERNATIONAL PLUMBING CODE)	OTHER
				MALE	FEMALE	MALE	FEMALE			
2	Business	B	Buildings for the transaction of business, professional services, other services involving merchandise, office buildings, banks, light industrial and similar uses	1 per 25 for the first 50 and 1per 50 for the remainder exceeding 50		1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80		—	1 per 100	1 service sink
3	Educational	E	Educational facilities	1 per 50		1 per 50		—	1 per 100	1 service sink
4	Factory and industrial	F-1 and F-2	Structures in which occupants are engaged in work fabricating, assembly or processing of products or materials	1 per 100		1 per 100		~~See Section 411 of the *International Plumbing Code*~~	1 per 400	1 service sink
5	Institutional	I-1	Residential care	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
		I-2	Hospitals, ambulatory nursing home patients [b]	1 per room[c]		1 per room[c]		1 per 15	1 per 100	1 service sink
			Employees, other than residential care [b]	1 per 25		1 per 35		—	1 per 100	—
			Visitors, other than residential care	1 per 75		1 per 100		—	1 per 500	—
		I-3	Prisons [b]	1 per cell		1 per cell		1 per 15	1 per 100	1 service sink
		I-3	Reformatories, detention centers and correctional centers [b]	1 per 15		1 per 15		1 per 15	1 per 100	1 service sink
			Employees[b]	1 per 25		1 per 35		—	1 per 100	1 service sink
		I-4	Adult day care and child care	1 per 15		1 per 15		—	1 per 100	1 service sink
6	Mercantile	M	Retail stores, service stations, shops, salesrooms, markets and shopping centers	1 per 500		1 per 750		—	1 per 1,000	1 service sink
7	Residential	R-1	Hotels, motels, boarding houses (transient)	1 per sleeping unit		1 per sleeping unit		1 per sleeping unit	—	1 service sink
		R-2	Dormitories, fraternities, sororities and boarding house (not transient)	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
		R-2	Apartment house	1 per dwelling unit		1 per dwelling unit		1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per 20 dwelling units

(continued)

MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES [a]

No.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS [h] ~~(URINALS SEE SECTION 419.2 OF THE INTERNATIONAL PLUMBING CODE)~~		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAINS[e,f] ~~(SEE SECTION 410.1 OF THE INTERNATIONAL PLUMBING CODE)~~	OTHER
				MALE	FEMALE	MALE	FEMALE			
7	Residential	R-3	One- and two-family dwellings	1 per dwelling unit		1 per 10		1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per 20 dwelling units
		R-3	Congregate living facilities with 16 or fewer persons	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
		R-4	Residential care/assisted living facilities	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
8	Storage	S-1 S-2	Structures for the storage of goods, warehouses, storehouses and freight depots, low and moderate hazard	1 per 100		1 per 100		~~See Section 411 of the *International Plumbing Code*~~	1 per 1,000	1 service sink

a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by this code.
b. Toilet facilities for employees shall be separate from facilities for inmates or patients.
c. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient rooms shall be permitted where such room is provided with direct access from each patient room and with provisions for privacy.
d. The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.
e. The minimum number of required drinking fountains shall comply with Table 2902.1 and Chapter 11.
f. Drinking fountains are not required for an occupant load of ~~15~~ 30 or fewer.
g. For business and mercantile occupancies with an occupant load of ~~15~~ 30 or fewer, service sinks shall not be required.
h. In each bathroom or toilet room, urinals shall not be substituted for more than 67 percent of the required water closets in assembly and educational *occupancies.* Urinals shall not be substituted for more than 50 percent of the required water closets in all other *occupancies.*

Section 3102.7 Engineering Design

Amend section 3102.7 to read as follows:

3102.7 Engineering design. The structure shall be designed and constructed to sustain dead loads; loads due to tension or inflation; live loads including wind, snow, flood and seismic loads and in accordance with Chapter 16.

> **Exception:** Membrane structures intended to be in place for 30 days or less may be engineered to risk category I loads provided the installation and use are per the manufacturer's recommendations.

Section 3401.6 Alternative Compliance

Amend section 3401.6 to read as follows:

3401.6 Alternative compliance. Work performed in accordance with the International Existing Building Code shall be deemed to comply with the provisions of this chapter. This Section applies only when the Authority Having Jurisdiction adopts the International Existing Building Code.

Section I105.2 Footings

Amend section I104.2 Footings to read as follows:

I105.2 Footings. ~~In areas with a frost depth of zero, a~~ An unenclosed patio cover that projects 14 feet or less from the main structure shall be permitted to be supported on a concrete slab on grade without footings, provided the slab conforms to the provisions of Chapter 19 of this code, is not less than 31/2 inches (89 mm) thick and further provided that the columns do not support loads in excess of 750 pounds (3.36 kN) per column.

2012 International Residential Code

Section R202 Definitions.

Amend Section R202 to include the following definitions:

International Electrical Code. The Electrical Code, whether the National Electrical Code or the International Electrical Code, as amended and adopted by the local jurisdiction.
International Mechanical Code. The Mechanical Code, whether the Uniform Mechanical Code or the International Mechanical Code as amended and adopted by the local jurisdiction.
International Plumbing Code. The Plumbing Code, whether the Uniform Plumbing Code or the International Plumbing Code, as amended and adopted by the local jurisdiction.
International Fuel Gas Code. The Fuel Gas Code, whether NFPA 54 or the International Fuel Gas Code, as amended and adopted by the local jurisdiction.

Amend Section R202 to read as follows:

Whole-House Mechanical Ventilation System. An exhaust system, supply system, or combination thereof that is designed to mechanically exchange indoor air for outdoor air when operating continuously or through a programmed intermittent schedule to satisfy the whole-house ventilation rate. ~~For definition applicable in Chapter 11, See Section N1101.9.~~

Table R301.2 (1)

Amend Table R301.2 (1) to read as follows:

TABLE R301.2(1)
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOADS	WIND DESIGN		SEISMIC DESIGN CATEGORY[f]	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP[e]	ICE BARRIER UNDERLAYMENT REQUIRED[h]	FLOOD HAZARDS[g]	AIR FREEZING INDEX[i]	MEAN ANNUAL TEMP[j]
	Speed[d] (mph)	Topographic effects[k]		Weathering[a]	Frost line depth[b]	Termite[c]					
SEE IBC Table 1608.2.1	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	**SEE IBC 1809.5**	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX

For SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.447 m/s.
a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index (i.e., "negligible," "moderate" or "severe") for concrete as determined from the Weathering Probability Map [Figure R301.2(3)]. The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652.
b. The frost line depth may require deeper footings than indicated in Figure R403.1(1). The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.
c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.
d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(4)A]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.
e. The outdoor design dry-bulb temperature shall be selected from the columns of 971/2-percent values for winter from Appendix D of the *International Plumbing Code*. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local weather experience as determined by the building official.
f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.

g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the Flood Insurance Study and (c) the panel numbers and dates of all currently effective FIRMs and FBFMs or other flood hazard map adopted by the authority having jurisdiction, as amended.
h. In accordance with Sections R905.2.7.1, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall fill in this part of the table with "NO."
i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99 percent) value on the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)" at www.ncdc.noaa.gov/fpsf.html.
j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)" at www.ncdc.noaa.gov/fpsf.html.
k. In accordance with Section R301.2.1.5, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall indicate "NO" in this part of the table.

Section R302.2 Townhouses

Amend Section R302.2 to read as follows:

R302.2 Townhouses. Each *townhouse* shall be considered a separate building and shall be separated by fire-resistance rated wall assemblies meeting the requirements of Section R302.1 for exterior walls.

Exceptions:
1. A common 2-hour fire-resistance-rated wall assembly tested in accordance with ASTM E 119 or UL 263 is permitted for townhouses if such walls do not contain plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. Electrical installations shall be installed in accordance with Chapters 33 through 42. Penetrations of electrical outlet boxes shall be in accordance with Section R302.4.
2. Where the building is equipped throughout with an *automatic sprinkler system,* a common 1-hour fire-resistance-rated wall assembly tested in accordance with ASTM E 119 or UL 263 is permitted for townhouses if such walls do not contain plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. The wall shall be rated for fire exposure from both sides and shall extend to and be tight against exterior walls and the underside of the roof sheathing. Electrical installations shall be installed in accordance with Chapters 34 through 43. Penetrations of electrical outlet boxes shall be in accordance with Section R302.4.

Section R302.2.4 Structural Independence

Amend Section R302.2.4 to read as follows:

R302.2.4 Structural independence. Each individual *townhouse* shall be structurally independent.
Exceptions:
1. Foundations supporting *exterior walls* or common walls.
2. Structural roof and wall sheathing from each unit may fasten to the common wall framing.
3. Nonstructural wall and roof coverings.
4. Flashing at termination of roof covering over common wall.
5. *Townhouses* separated by a common ~~1 hour~~ fireresistance-rated wall as provided in Section R302.2.

Section R303.4 Mechanical Ventilation

Delete section R303.4.

~~**R303.4 Mechanical ventilation.** Where the air infiltration rate of a dwelling unit is less than 5 air changes per hour when tested with a blower door at a pressure of 0.2 inch w.c (50 Pa) in accordance with Section N1102.4.1.2, the dwelling unit shall be provided with whole-house mechanical ventilation in accordance with Section M1507.3.~~

Section R313.1 Townhouse Automatic Fire Sprinkler Systems

Delete entire section.

~~**R313.1 Townhouse automatic fire sprinkler systems.** An automatic residential fire sprinkler system shall be installed in townhouses.~~
~~Exception: An automatic residential fire sprinkler system shall not be required when additions or alterations are made to existing townhouses that do not have an automatic residential fire sprinkler system installed.~~
~~**R313.1.1 Design and installation.** Automatic residential fire sprinkler systems for townhouses shall be designed and installed in accordance with Section P2904.~~

Section R313.2 One- and two-family Dwellings Automatic Fire Systems

Delete entire section.

~~**R313.2 One- and two-family dwellings automatic fire systems.** An automatic residential fire sprinkler system shall be installed in one- and two-family dwellings.~~
~~Exception: An automatic residential fire sprinkler system shall not be required for additions or alterations to existing buildings that are not already provided with an automatic residential sprinkler system.~~

~~**R313.2.1 Design and installation.** Automatic residential fire sprinkler systems shall be designed and installed in accordance with Section P2904 or NFPA 13D.~~

Section R315.1 Carbon Monoxide Alarms

Amend Section R315.1 to read as follows:

R315.1 Carbon monoxide alarms. For new construction, an approved carbon monoxide alarm shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms in *dwelling units* within which fuel-fired *appliances* are installed and in dwelling units that have attached garages with a communicating opening.

Section R315.3 Where Required in Existing Dwellings

Amend Section R315.3 to read as follows:

R315.3 Where required in existing dwellings. Where work requiring a *permit* occurs in existing *dwellings,* ~~that have attached garages or in existing dwellings within which fuel-fired *appliances* exist~~, carbon monoxide alarms shall be provided in accordance with Section R315.1 for the following:
1. Mechanical or gas work requiring a *permit* in which fuel-fired *appliances* are being replaced or installed.
2. Addition and/or renovation of attached garages with communicating openings requiring building permit.

Section R903.5 Snow Shedding and Impact Areas

Add new section R903.5 to Section R903:

R903.5 Snow shedding and impact areas. Snow shedding onto adjacent properties is prohibited. Snow shed impact areas shall be designed to contain shedding snow from structures and prevent snow from encroaching onto adjacent properties exceed 154 p_g when located in Washoe County or Carson City, or exceeds 69 p_g when located in Storey County.. The roof and eaves of all structures shall be designed so that snow shed impact areas will not occur in or on required exits, parking areas, driveways, LPG storage tanks, walkways, and public areas.

> **Exception:** The snow shed impact area may be reduced provided an engineered snow restraint system, designed in accordance with this code, is incorporated into the roof design and the roof drainage system.

Chapter 11 Energy Efficiency

Delete entire chapter.

Section M1503.4 Makeup Air Required

Amend Section M1503.4 to read as follows:

M1503.4 Makeup air required. Exhaust hood systems capable of exhausting in excess of ~~400~~ 600 cubic feet per minute (~~0.19~~ 0.28 m3/s) shall be provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system.

Section M1901.3 Prohibited Location

Amend Section M1901.3 to read as follows:

M1901.3 Prohibited location. Cooking appliances designed, tested, listed and labeled for use in commercial occupancies shall not be installed within dwelling units or within any area where domestic cooking operations occur. Unless approved by the Building official.

Section G2404.1.1 LP-Gas Installations

Add new subsection G2404.1.1 to G2404.1:

G2404.1.1 (301.1.2) LP-Gas Installations. Whenever there is a conflict between this code and NFPA 54 and NFPA 58 as adopted by the Nevada LP-Gas Board for LP-Gas installations, the adopted codes of the Nevada LP-Gas Board shall govern.

Section G2404.11 Snow Hazard

Add new section G2404.11 to G2404:

G2404.11 (301.16) Snow hazard. On any new gas installation or reconnecting the gas service of an existing installation, gas meters above 5000 feet in elevation in Storey County or 6225 feet in elevation in Carson City and Washoe County must be protected from falling, sliding and accumulating of snow, unless the gas meter is installed in a protected location such as under an engineered deck, roof or shed. Engineered decks, roofs, or sheds shall be enclosed on all sides when used to protect gas meters on the snow shedding sides of a structure as approved by the gas utility.

Section G2417.4.1 Test Pressure

Amend Section G2417.4.1 to read as follows:

G2417.4.1 (406.4.1) Test pressure. The test pressure to be used shall be no less than 1-1/2 times the proposed maximum working pressure, but not less than ~~3~~ 25 psig (~~20~~ 172.4 kPa gauge), irrespective of design pressure. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the *piping* greater than 50 percent of the specified minimum yield strength of the pipe. This test shall be made before any fixtures, appliances or shut-off valves have been attached and before being concealed.

Section G2417.4.2 Test Duration

Amend Section G2417.4.2 to read as follows:

G2417.2 (406.4.2 Test duration). Test duration shall be not less than ~~10 minutes~~ 30 minutes.

Section G2417.6.2 Turning Gas On

Amend Section G2417.6.2 to read as follows and add new subsections G2417.6.2.1 thru G2417.6.2.3:

G2417.6.2 (406.6.2) Turning gas on. During the process of turning gas on into a system of new gas *piping* or into a system or portion of a gas system that has been restored after an interruption of service, the entire system shall be inspected to determine that there are no open fittings or ends and that all valves at unused outlets are closed and plugged or capped. In the City of Fernley, City of Reno, City of Sparks, Storey County and Washoe County, a manometer test shall be made

after all valves , unions, connectors and piping to the appliances are complete. A pressure test shall be made with the use of a manometer gauge measuring inches of water column. With all valves including gas cock and gas control valves in the open position, a pressure of at least eleven (11) to fifteen (15)inches of water column shall be measured for at least fifteen (15) minutes, with no perceptible drop in pressure.

G2417.6.2.1 (405.6.2.1) For medium pressure gas systems: Where the appliance is rated for seven (7) to eleven (11) inches of water column, a manometer test of eleven (11) to fifteen (15) inches of water column will be conducted between the pressure regulating valve and the appliance and shall be measured for at least fifteen (15) minutes with no perceptible drop in pressure.

G2417.6.2.2 (406.2.2) For appliances or equipment requiring pounds of gas pressure: A pressure test using a pressure gauge measuring in one tenth (1/10) increments shall be conducted on the gas train of that appliance or equipment. The pressure shall be equal to the appliance's normal operating pressure for a period of thirty (30) minutes with no perceptible drop in pressure.

G2417.6.2.3 (406.2.3) Manometer testing. Manometer testing shall be performed by a person holding a valid Washoe County manometer tester card for which the number is to be provided at the time of request for inspection. A visual manometer test to be witnessed by the authority having jurisdiction may be allowed by the Building Official. A manometer test does not need to be reported when the serving gas utility performs a manometer or clock test prior to providing service.

Section P2503.5.1 Rough Plumbing

Amend Section P2503.5.1 to read as follows:

P2503.5.1 Rough plumbing. DWV systems shall be tested on completion of the rough piping installation by water or ~~for piping systems other than plastic,~~ by air with no evidence of leakage. Either test shall be applied to the drainage system in its entirety or in sections after rough piping has been installed, as follows:
1. Water test. Each section shall be filled with water to a point not less than 10 feet (3048 mm) above the highest fitting connection in that section, or to the highest point in the completed system. Water shall be held in the section under test for a period of 15 minutes. The system shall prove leak free by visual inspection.
2. Air test. The portion under test shall be maintained at a gauge pressure of 5 pounds per square inch (psi) (34 kPa) or 10 inches of mercury column (34 kPa). This pressure shall be held without introduction of additional air for a period of 15 minutes.

Section P2603.5.1 Sewer Depth

Amend Section P2603.5.1 to read as follows:

P2603.5.1 Sewer depth. *Building sewers* that connect to private sewage disposal systems shall be ~~a~~ not less than **twelve (12)** inches (305 mm) below finished *grade* at the point of septic tank connection. *Building sewers* shall be not less than **twelve (12)** inches (305 mm) below *grade*.

Section P3002.2 Building Sewer

Add new subsection P3002.2.1 to P3002.2:

P3002.2 Building sewer. Building sewer piping shall be as shown in Table P3002.2. Forced main sewer piping shall conform to one of the standards for ABS plastic pipe, copper or copper-alloy tubing, PVC plastic pipe or pressure-rated pipe listed in Table P3002.2.

P3002.2.1 Building sewer. In no event shall building sewer be less than four (4) inches in diameter.

Section P3004.1 DWV System Load

Amend Section P3004.1 to read as follows:

P3004.1 DWV system load. The load on DWV-system piping shall be computed in terms of drainage fixture unit (dfu) values in accordance with Table P3004.1. Minimum building sewer size shall be four (4) inches in diameter.

Section E3601.6.2 Service Disconnect Location

*Amend Section **E3601.6.2** to read as follows:*

E3601.6.2 Service disconnect location. The service disconnecting means shall be installed at a readily accessible location ~~either~~ outside of a building or structure ~~inside~~ nearest the point of entrance of the service conductors. ~~Service disconnecting means shall not be installed in bathrooms. Each occupant shall have access to the disconnect serving the dwelling unit in which they reside~~. The disconnecting means may be located independent of the building or structure served, in direct line of sight, but not to exceed thirty (30) feet.

Exception: The service disconnecting means may be installed within a building when an external remote shunt trip switch is provided. All shunt trip switches shall be located at seven feet (7') above finish grade at a location approved by the fire department. All shunt trip switches shall be located within a twelve inch (12") equilateral triangle, red in color.

Section E3705.6.1 Edison Fuses

Add new subsection E3705.6.1 to E3705.6:

E3705.6.1 Edison Fuses. Plug fuses of the Edison-based shall be used only for replacement in existing installations where there is no evidence of overfusing or tampering. In any existing building where alterations or additions are made to any of the premises wiring, all fuse holders shall be made to comply with the requirements for a Type S fuse holder through the installation of a tamper proof (rejection type) base.

Section E3902.13 Arc-fault Circuit Interrupter Protection for Branch Circuit Extensions or Modifications.

Delete Section E3902.13.

~~**E3902.13 Arc-fault circuit interrupter protection for branch circuit extensions or modifications.** Where branch circuit wiring is modified, replaced or extended in any of the areas specified in Section E3902.12, the branch circuit shall be protected by one of the following:~~

1. ~~A combination-type AFCI located at the origin of the branch circuit.~~
2. ~~An outlet branch-circuit type AFCI located at the first receptacle out of the existing branch circuit.~~

Section E3908.18 Bonding Other Enclosures

*Amend Section **E3908.18** to read as follows:*

E3908.18 Bonding other enclosures. Metal raceways, cable armor, cable sheath, enclosures, frames, fittings and other metal noncurrent-carrying parts that serve as grounding conductors, with or without the use of supplementary equipment grounding conductors, shall be effectively bonded where necessary to ensure electrical continuity and the capacity to conduct safely any fault current likely to be imposed on them. Any nonconductive paint, enamel and similar coating shall be removed at threads, contact points and contact surfaces, or connections shall be made by means of fittings designed so as to make such removal unnecessary. The Authority Having Jurisdiction shall require a supplementary grounding conductor where a metallic raceway is subject to damage or is likely to be disturbed.

FPN: An example of 'subject to damage' might be a surface mounted conduit along a traffic path in a warehouse. An example of 'likely to be disturbed' might be conduit across a rooftop, where re-roofing operations will require the conduit to be removed.

Section AH105.2 Footings

Amend Section AH105.2 to read as follows:

AH105.2 Footings. ~~In areas with a frostline depth of zero as specified in Table R301.2(1),~~ An unenclosed patio cover shall be permitted to be supported on a slab on grade without footings, provided the slab conforms to the provisions of Section R506, is not less than 3.5 inches (89 mm) thick and the columns do not support live and dead loads in excess of 750 pounds (3.34 kN) per column.

2012 International Mechanical Code

Section 401.2 Ventilation Required

Amend Section 401.2 to read as follows:

401.2 Ventilation required. Every occupied space shall be ventilated by natural means in accordance with Section 402 or by mechanical means in accordance with Section 403. ~~Where the air infiltration rate in a dwelling unit is less than 5 air changes per hour when tested with a blower door at a pressure of 0.2 inch water column (50 Pa) in accordance with Section 402.4.1.2 of the *International Energy Conservation Code*, the dwelling unit shall be ventilated by mechanical means in accordance with Section 403~~.

Section 505.2 Makeup Air Required

Amend Section 505.2 to read as follows:

505.2 Makeup air required. Exhaust hood systems capable of exhausting in excess of ~~400~~ 600 cfm (~~0.19~~ 0.28 m3/s) shall be provided with *makeup air* at a rate approximately equal to the *exhaust air* rate. Such *makeup air* systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system.

Section 508.1.2 Evaporative Cooling Systems Used As Makeup Air

Add new subsection 508.1.2 to 508.1:

508.1 Makeup air. *Makeup air* shall be supplied during the operation of commercial kitchen exhaust systems that are provided for *commercial cooking appliances*. The amount of *makeup air* supplied to the building from all sources shall be approximately equal to the amount of *exhaust air* for all exhaust systems for the building. The *makeup air* shall not reduce the effectiveness of the exhaust system. *Makeup air* shall be provided by gravity or mechanical means or both. Mechanical *makeup air* systems shall be automatically controlled to start and operate simultaneously with the exhaust system. *Makeup air* intake opening locations shall comply with Section 401.4.

508.1.1 Makeup air temperature. The temperature differential between *makeup air* and the air in the conditioned space shall not exceed 10ºF (6ºC) except where the added heating and cooling loads of the *makeup air* do not exceed the capacity of the HVAC system.

508.1.2 Evaporative Cooling Systems Used As Makeup Air. Evaporative coolers shall not be used for make-up air units on commercial kitchen hoods and kitchen ventilation systems.

Exception: Evaporative cooling systems that are a listed assembly with tempered air for kitchen make-up air systems.

Section 603.2 Duct Sizing

Amend Section 603.2 to read as follows:

603.2 Duct sizing. Ducts installed within a single *dwelling unit* shall be sized in accordance with ACCA Manual ~~D~~ S based on building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculations methodologies or other *approved* methods. Ducts installed within all other buildings shall be sized in accordance with the ASHRAE *Handbook of Fundamentals* or other equivalent computation procedure.

2012 International Fuel Gas Code

Section 301.1.2 LP-Gas Installations

Add new subsection 301.1.2 to section 301.1:

301.1 Scope. This chapter shall govern the approval and installation of all *equipment* and appliances that comprise parts of the installations regulated by this code in accordance with Section 101.2.

301.1.1 Other fuels. The requirements for combustion and dilution air for gas-fired appliances shall be governed by Section 304. The requirements for combustion and dilution air for appliances operating with fuels other than fuel gas shall be regulated by the *International Mechanical Code*.

301.1.2 LP-Gas Installations. Whenever there is a conflict between this code and NFPA 54 and NFPA 58 as adopted by the Nevada LP-Gas Board for LP-Gas installations, the adopted codes of the Nevada LP-Gas Board shall govern.

Section 301.16 Snow Hazard

Add new section 301.16 to 301:

301.16 Snow hazard. On any new gas installation or reconnecting the gas service of an existing installation, gas meters above 5000 feet in elevation in Storey County or 6225 feet in elevation in Carson City and Washoe County must be protected from falling, sliding and accumulating of snow, unless the gas meter is installed in a protected location such as under an engineered deck, roof, or shed. Engineered decks, roofs, or sheds shall be enclosed on all sides when used to protect gas meters on the snow shedding sides of a structure as approved by the gas utility.

Section 406.4.1 Test Pressure

Amend section 406.4.1 to read as follows:

406.4.1 Test pressure. The test pressure to be used shall be no less than 1-1/2 times the proposed maximum working pressure, but not less than ~~3~~ 25 psig (~~20~~ 172.4 kPa gauge), irrespective of design pressure. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the *piping* greater than 50 percent of the specified minimum yield strength of the pipe. This test shall be made before any fixtures, appliances or shut-off valves have been attached and before being concealed.

Section 406.4.2 Test Duration

*Amend section 406.4.2 to read as follows:***406.4.2 Test duration.** Test duration shall be not less than 30 minutes ~~1/2 hour for each 500 cubic feet (14 m3) of pipe volume or fraction thereof When~~ testing a system having a volume less than 10 cubic feet (0.28 m3) or a system in a

~~singlefamily dwelling, the test duration shall be not less than 10 minutes. The duration of the test shall not be required to exceed 24 hours.~~

Section 406.6.2 Before Turning Gas On

Amend Section 406.6.2 to read as follows and add new subsections 405.6.2.1 thru 405.6.2.3:

406.6.2 Before turning gas on. During the process of turning gas on into a system of new gas *piping* or into a system or portion of a gas system that has been restored after an interruption of service, the entire system shall be inspected to determine that there are no open fittings or ends and that all valves at unused outlets are closed and plugged or capped. In the City of Fernley, City of Reno, City of Sparks, Storey County and Washoe County, a manometer test shall be made after all valves , unions, connectors and piping to the appliances are complete. A pressure test shall be made with the use of a manometer gauge measuring inches of water column. With all valves including gas cock and gas control valves in the open position, a pressure of at least eleven (11) to fifteen (15)inches of water column shall be measured for at least fifteen (15) minutes, with no perceptible drop in pressure.

405.6.2.1 For medium pressure gas systems: Where the appliance is rated for seven (7) to eleven (11) inches of water column, a manometer test of eleven (11) to fifteen (15) inches of water column will be conducted between the pressure regulating valve and the appliance and shall be measured for at least fifteen (15) minutes with no perceptible drop in pressure.

406.2.2 For appliances or equipment requiring pounds of gas pressure: A pressure test using a pressure gauge measuring in one tenth (1/10) increments shall be conducted on the gas train of that appliance or equipment. The pressure shall be equal to the appliance's normal operating pressure for a period of thirty (30) minutes with no perceptible drop in pressure.

406.2.3 Manometer testing. Manometer testing shall be performed by a person holding a valid Washoe County manometer tester card for which the number is to be provided at the time of request for inspection. A visual manometer test to be witnessed by the authority having jurisdiction may be allowed by the Building Official. A manometer test does not need to be reported when the serving gas utility performs a manometer or clock test prior to providing service.

2012 Uniform Mechanical Code

Section 304.1 General

Add new subsections 304.1.1 and 304.1.2 to section 304.1:

304.1 General. Equipment and appliances shall be accessible for inspection, service, repair, and replacement without removing permanent construction. Clearance shall be maintained to:

(1) Clean heating surfaces.
(2) Replace filters, blowers, motors, burners, controls, and vent connections.
(3) Lubricate moving parts.
(4) Adjust and clean burners, pilots, and the proper functioning of explosion vents, where provided. [NFPA 54:9.2.1] Unless otherwise specified, not less than 30 inches (762 mm) in depth, width, and height of working space shall be provided.

Exception: Unit heaters and room heaters shall be permitted to be installed with an 18 inches (457 mm) minimum depth working space. A platform shall not be required for unit heaters or room heaters. The operating instructions shall be attached to the appliance where they are capable of being read easily.

304.1.1 Working Space. Unless otherwise specified, not less than 30 inches (762 mm) in depth, width, and height of working space shall be provided.

304.1.2 Platforms. Where the installations of equipment or appliances are at an elevation of more than 30 inches (762 mm) above grade, a level platform shall be provided.

Section 304.2.4 Guards

Add new section 304.2.4 to 304.2:

304.2.4 Guards. Guards shall be installed where the installation of equipment or appliances are at an elevation of more than 30 inches (762 mm) above grade and the appliance or equipment is located within 10 feet (3048 mm) of a roof edge of a platform. The guards shall be not less than 42 inches (1067 mm) in height and shall extend not less than 30 inches (762 mm) beyond the end of the equipment or appliance. Openings between guards shall prevent the passage of a 21 inch (533 mm) diameter sphere.

Section 323.0 Installation of Gaseous Hydrogen Systems

Add new section to Chapter 3:

323.0 Installation of Gaseous Hydrogen Systems. All Hydrogen systems shall comply with NFPA 2 Chapter 13 Hydrogen Technology Code, Building Code, and the Fire Code.

Section 403.7 Exhaust Ventilation

Add new subsections 403.7.1, 403.7.1.1 and 403.7.1.2 to 403.7

403.7 Exhaust Ventilation. Exhaust airflow shall be provided in accordance with the requirements in Table 403.7. Exhaust makeup air shall be permitted to be a combination of outdoor air, recirculated air, and transfer air.

403.7.1 Alternative Exhaust Ventilation for Enclosed Parking Garages. Mechanical ventilation systems for enclosed parking garages shall be permitted to operate intermittently where the system is designed to operate automatically upon detection of vehicle operation or presence of occupants by approved automatic detection devices.

403.7.1.1 Minimum Exhaust Rate. Ventilation systems shall be capable of providing 14,000 cfm (6607.3 L/s) of exhaust air for each operating vehicle. The number of operating vehicles shall be determined based on 2.5 percent of the parking spaces and not less than one vehicle.

403.7.1.2 Automatic Carbon Monoxide Sensing Devices. Automatic carbon monoxide sensing devices shall be permitted to be employed to modulate the ventilation system to maintain a maximum average concentration of carbon monoxide of 50 parts per million during an eight-hour period, with a concentration of not more than 200 parts per million for a period not exceeding one hour. Automatic carbon monoxide sensing devices installed to modulated parking garages ventilation systems shall be approved.

Table 403.7 Minimum Exhaust Rates

Amend Table 403.7 note 7:

Notes: 7 ~~Exhaust rate is not required for enclosed parking garages having a floor area of 1000 square feet (92.9 m²) or less and used for the storage of five or less motorized vehicles~~. Exhaust is not required if two or more sides comprise walls that are at least 50% open to the outside.

Section 504.3.1.2 Length Limitations

Amend section 504.3.1.2 to read as follows:

504.3.1.2 Length Limitations. ~~Unless otherwise permitted or required by the dryer manufacture's installation instructions and approved by the Authority Having Jurisdiction, domestic dryer moisture exhaust ducts shall not exceed a total combined horizontal and vertical length of fourteen (14) feet (4267 mm), including two (2) 90 degree (1.57 rad) elbows. Two (2) feet (610 mm) shall be deducted for each 90 degree (1.57 rad) elbow in excess of two.~~ The maximum length of a clothes dryer exhaust duct shall not exceed 35 feet (10 668 mm) from the dryer location to the wall or roof termination. The maximum length of the duct shall be reduced 2.5 (762 mm) for each 45-degree (0.8 rad) bend and 5 feet (1524 mm) for each 90-degree (1.6 rad) bend. The maximum length of the exhaust duct does not include the transition duct.

Exceptions:
1. Where the make and model of the clothes dryer to be installed is known and the manufacture's installation instructions for the clothes dryer are provided to the Authority Having Jurisdiction, the maximum length of the exhaust duct, including any transition duct, shall be permitted to be in accordance with the dryer manufacture's installation instructions.

2. Where large-radius 45-degree (0.8 rad) and 90-degree (1.6 rad) bends are installed, determination of the equivalent length of clothes dryer exhaust duct for each bend by engineering calculation in accordance with ASHRAE Fundamentals Handbook shall be permitted.

Section 505.3 Makeup Air

Amend section 505.3 to read as follows:

505.3 Makeup Air. Makeup air shall be provided to replenish air exhausted by the ventilator system. Exhaust hood systems capable of exhausting in excess of 600 cfm (0.28 m3/s) shall be provided with *makeup air* at a rate approximately equal to the *exhaust air* rate. Such *makeup air* systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system. Makeup air intakes shall be located so as to avoid recirculation of contaminated air within enclosures.

Section 508.5.5 Evaporative Cooling Systems

Add new subsection 508.5.5 to section 508.5:

508.5.5 Evaporative Cooling Systems. Evaporative cooling systems will comply with this chapter. Evaporative coolers shall not be used for make-up air units on commercial kitchen hoods and kitchen ventilation systems.

Exception: Evaporative cooling systems that are a listed assembly with tempered air for kitchen make-up air systems.

Section 511.2.4 Performance Test

Add new subsection 511.2.4 to 511.2:

511.2 Airflow. The air velocity through a duct shall be not less than 500 feet per minute (ft/min) (2.54 m/s) and not exceed 2500 ft/min (12.7 m/s).

511.2.1 Exceptions. Transition duct sections that do not exceed 3 feet (914 mm) in length and do not contain grease traps shall be permitted to be connected to hoods and exhaust fans that do not meet this velocity. [NFPA 96:8.2.1.2]

511.2.2 Exhaust-Air Volumes. Exhaust air volumes for hoods shall be of sufficient level to provide for capture and removal of grease-laden cooking vapors. Test data, performance tests approved by the Authority Having Jurisdiction, or both, shall be provided, displayed, or both, upon request.

Exception: Lower exhaust air volumes shall be permitted during no-load cooking conditions, provided they are sufficient to capture and remove flue gases and residual vapors from cooking equipment. [NFPA 96:8.2.2]

511.2.3 Operation. A hood exhaust fan(s) shall continue to operate after the extinguishing system has been activated, unless fan shutdown is required by a listed component of the ventilation system or by the design of the extinguishing system. The hood exhaust fan shall not be required to start upon activation of the extinguishing system where the exhaust fan and cooking equipment served by the fan have previously been shut down. [NFPA 96:8.2.3]

511.2.4 Performance Test. Upon completion and before final approval of the installation of a ventilation system serving commercial food heat-processing equipment, a performance test shall be performed to verify the rate of airflow and proper operation as specified in this chapter or manufacturer's listing. The permittee shall furnish the necessary test equipment and devices required to perform the tests and shall provide the jurisdiction with an accurate, completed, and signed test report. The report shall be on a form containing equivalent information. At the discretion of the Authority Having Jurisdiction, the performance test may be required to be witnessed by the Authority Having Jurisdiction, or performed by an approved third party testing agency.

Section 603.7 Plastic Ducts and Fittings

Add new section 603.7 to section 603.0:

603.7 Plastic ducts and fittings. Plastic ducts shall be constructed of PVC having a minimum pipe stiffness of 8 psi (55kPa) at 5-percent deflection when tested in accordance with ASTM D 2412. Plastic duct fittings shall be constructed of either PVC or high-density polyethylene. Plastic duct fittings shall be utilized in underground installations only. The maximum design temperature for systems utilizing plastic duct and fittings shall be 150°F (66°C).

Section 604.1 General (Insulation of Ducts)

Amend section 604.1 to read as follows:

604.1 General. Supply-air ducts, return air-ducts, and plenum of a heating or cooling system shall be insulated to achieve the minimum thermal (R) value in accordance with ~~SMACNA HVAC Duct Construction Standards Metal and Flexible.~~ the 2009 International Energy Conservation Code Section 403.2.1 for residential and 503.2.7 for commercial.

~~**Exceptions:**~~
~~(1) Factory-installed plenums, casings, or ductwork furnished as a part of HVAC equipment tested and rated in accordance with approved energy efficiency standards.~~
~~(2) Ducts or plenums located in conditioned spaces where heat gain or heat loss will not increase energy use.~~
~~(3) For runouts less than 10 feet (3048 mm) in length to air terminals or air outlets, the rated R value of insulation need not exceed R-3.5 (R-0.6).~~
~~(4) Backs of air outlets and outlet plenums exposed to unconditioned or indirectly conditioned spaces with face areas exceeding 5 square feet (0.5 m²) need not exceed R-2 (R-0.4); those 5 square feet (0.5 m²) or smaller need not be insulated.~~
~~(5) Ducts and plenums used exclusively for evaporative cooling systems.~~

Section 609.0 Performance Test for Automatic Shutoffs

Add new section 609.0 to Chapter 6:

609.0 Performance Test for Automatic Shutoffs. Upon completion and before final approval of the air-moving system, provide with the required smoke detectors, a performance test shall be performed to verify compliance of detector installation to manufacturer's instructions and system compatibility as specified in this chapter. The permittee shall furnish the necessary test equipment and devices required to perform the tests and shall provide the jurisdiction with an accurate, completed, and signed test report. The report shall provide the jurisdiction a form containing equivalent information. At the discretion of the Authority Having Jurisdiction, the performance test may be required to be witnessed by the Authority Having Jurisdiction, or performed by an approved third party testing agency.

Section 936.0 Sauna Heaters

Add new section 936.0 to chapter 9:

936.0 Sauna Heaters.

936.1 General. Sauna heaters shall be listed and installed in accordance with the manufacturer's installation instructions. Approved guards or barriers shall be installed to prevent accidental contact with the sauna heater. Ventilation shall be provided in accordance with its listing and combustion air for gas-fired sauna heaters shall comply with chapter 7.

Section 1105.2 Volume of Occupied Space

Amend section 1105.2 to read as follows and add new subsections 1105.2.1 thru 1105.2.4:

1105.2 ~~Volume of Occupied Space~~ Refrigerant Concentration Limit. The quantity concentration of refrigerant in a ~~single~~ complete discharge of an independent circuit of ~~a~~ high-probability systems shall not exceed the amounts shown in Table 1102.2. ~~based on t~~ The volume of the ~~smallest, enclosed,~~ occupied space shall be determined in accordance with Section 1105.2.1 through 1105.2.3. ~~The volume of the smallest, enclosed, occupied space shall be used to determine the permissible quantity of refrigerant in a system that is located in, serves, or passes through such space. In accordance to this section, occupied space shall include those rooms that are occupied occasionally for short periods of tie such as storage rooms, equipment rooms other than refrigeration machinery rooms, or a room which is capable of being entered with a door that is capable of being closed after entry~~

Exceptions:

(1) Listed equipment containing no more than 6.6 pounds (3kg) of refrigerant, regardless of the refrigerant safety classification provided the equipment is installed in accordance with its listing and the manufacturer's installation instructions.

(2) Listed equipment for use in laboratories with more than 100 square feet (9.29m²) of space per person, regardless or the refrigerant safety classification, provided that the equipment is installed in accordance with its listing and the manufacturer's installation instructions.
(3) Institutional occupancies where in accordance with Section 1105.6. [ASHRAE 15:7.2]
~~(1) Where the airflow to an enclosed space served by a portion of an air duct system cannot be shut off or reduced below one quarter of its maximum, the cubical contents of the entire space served by that portion of the air duct system shall be used to determine the permissible quantity of refrigerant in the system.~~
~~(2)~~ (4) ~~Refrigerated process or storage areas that comply~~ Industrial occupancies and refrigerated rooms where in accordance with ~~the requirements of~~ Section 1105.3.

1105.2.1 Volume Calculations. The volume used to convert from refrigerant concentration limits to refrigerating systems quantity limits for refrigerants in Section 1105.2 shall be based on the volume of space to which refrigerant dispersed in the event of a refrigerant leak. [ASHRAE 15:7.3]

1105.2.2 Nonconnecting Spaces. Where a refrigerating system or part thereof is located in one or more enclosed occupied spaces that do not connect through permanent openings of HVAC ducts, the volume of the smallest occupied space shall be used to determine the refrigerant quantity limit in the system. Where different stories and floor levels connect through an open atrium mezzanine arrangement, the volume to be used in calculating the refrigerant quality limit shall be determined by multiplying the floor area of the lowest space by 8.2 feet (2499mm). [ASHRAE 15:7.3.1] Where the air flow to an enclosed space served by a portion of an air-duct system cannot be shut off or reduced below one-quarter of its maximum, the cubical contents of the entire space served by that portion of the air-duct system shall be used to determine the permissible quantity of refrigerant in the system.

1105.2.3 Plenums. Where the space above a suspended ceiling is not a part of the air supply or return system, it shall not be included in calculating the refrigerant quantity limit of the system. [ASHRAE 15:7.3.2.2]

1105.4 Institutional Occupancies. The amount of refrigerant shown in Table 11.2.2 shall be reduced by 50 percent for areas of institutional occupancies. The amount of Group A2, B2, A3, and B3 refrigerants shall not exceed 550 pounds (249.5kg) in occupied areas and machinery rooms of institutional occupancies [ASHRAE 15:7.2.1]

Section 1105.3 Industrial Occupancies and Refrigerated Rooms

Amend section 1105.3 to read as follows:

1105.3 ~~Refrigerated Process and Storage Areas~~ Industrial Occupancies and Refrigerated Rooms. Refrigerant quantities ~~in evaporators and piping~~ within rooms or spaces used ~~exclusively for processing or storage of materials under refrigerated conditions~~ in industrial occupancies and refrigerated rooms shall not be limited~~, provided that existing is provided~~ where in accordance

with the ~~building code and in accordance with section 1105.3.1 through Section 1105.3.3~~ following:

(1) ~~**1105.3.2 Sealed.** The refrigerated room or space is sealed from other portions of the building by vapor-tight construction and tight-fitting gasketed doors~~ The space containing the machinery is separated from other occupancies or spaces by tight construction with tight-fitting doors.
~~**Exception:** Adjoining refrigerated rooms.~~
(2) Access is restricted to authorized personnel.
(3) The floor area per occupant is not less than 100 square feet (9.29m²).
Exception: The floor area shall not apply where the space is provided with egress directly to the outdoors or into approved building exits.
(4) ~~**1105.3.1 Refrigerant room.** The refrigerated room or space is equipped with a refrigerant vapor detection and alarm system that is in accordance with Section 1121.0.~~ Refrigerant detectors are installed with the sensing location and alarm level in accordance with section 1107.4.
(5) Open flames and surfaces exceeding 800°F (427°C) shall not be permitted where a Group A2, B2, A3, or B3 refrigerant, other than where ammonia is used.
(6) ~~**1105.3.3 Lower Flammability Limit.** Where the quantity of a Group A2, B2, A3, or B3 refrigerant, other than an ammonia, in an independent circuit will exceed 25 percent of the lower flammabilitly limit where released to the surrounding room, the following shall be provided:
(1) Electrical equipment shall comply with the requirements of the electrical code for Class I, Division 2.
(2) The refrigerant vapor detection system required by Section 1105.3.1 shall automatically de energize electrical power within the space at vapor concentrations at or above 25 percent of the lower flammability limit:~~ Electrical equipment shall comply with Class I, Division 2 of NFPA 70 where the quantity of a Group A2, B2, A3, or B3 refrigerant, other than ammonia in an independent circuit, exceeds 25 percent of the lower flammability limit (LFL) upon release to the space based on the volume in accordance with Section 1105.2
(7) Refrigerant containing parts in systems exceeding 100 horsepower (74.6 kW) compressor drive power.
Exceptions:
(1)Evaporators used for refrigeration or dehumidification.
(2) Condensers used for heating. [ASHRAE 15:7.2.2]

Section 1105.4.3 Mixing

Add new subsection 1105.4.3 to 1105.4:

1105.4.3 Mixing. Refrigerants, including refrigerant blends, with different designations as in accordance with Table 1102.2 shall not be a mixed system.

Exception: Addition of a second refrigerant is permitted where specified by the equipment manufacture to improve oil return at low temperatures. The refrigerant and amount added shall be in accordance with the manufactures instructions. [ASHRAE 15:7.5.1.7]

Section 1302.1 Installation

Amend 1302.1 to read as follows:

1302.1 Installation. The regulations of this chapter shall govern the installation of fuel gas piping in or in connection with a building, structure or within the property lines of premises up to 5 pounds-force per square inch (psi) (34 kPa), other than service pipe. Fuel oil piping systems shall be installed in accordance with NFPA 31. Whenever there is a conflict between this code and NFPA 54 and NFPA 58 as adopted by the Nevada LP-Gas Board for LP-Gas installations, the adopted codes of the Nevada LP-Gas Board shall govern.

Section 1316.9 Test Pressure

Amend section 1316.9 to read as follows:

1316.9 Test Pressure. This inspection shall include an air, CO_2, or nitrogen pressure test, at which time the gas piping shall stand a pressure of not less than ~~10~~ 25 psi (~~69~~ 172.4 kPa) gauge pressure. Test pressures shall be held for a length of time satisfactory to the Authority Having Jurisdiction but in no case less than ~~15~~ 30Minutes with no perceptible drop in pressure.

Section 1316.11.1 Turning Gas On

Amend section 1316.11.1 to read as follows and add subsections 1316.1.1 thru 1316.11.4:

1316.11.1 Turning Gas On. During the process of turning gas on into a system of new gas piping or into a system or portion of a gas system that has been restored after an interruption of service, the entire system shall be inspected to determine that there are no open fittings or ends and that the valves at unused outlets are closed and plugged or capped. [NFPA 54:8.2.2]

1316.11.1.1 During the process of turning gas on into a system of new gas *piping* or into a system or portion of a gas system that has been restored after an interruption of service; in the City of Fernley, City of Reno, City of Sparks, Storey County and Washoe County a manometer test shall be made after all valves , unions, connectors and piping to the appliances are complete. A pressure test shall be made with the use of a manometer gauge measuring inches of water column. With all valves including gas cock and gas control valves in the open position, a pressure of at least eleven (11) to fifteen (15)inches of water column shall be measured for at least fifteen (15) minutes, with no perceptible drop in pressure.

1316.11.1.2 For medium pressure gas systems: Where the appliance is rated for seven (7) to eleven (11) inches of water column, a manometer test of eleven (11) to fifteen (15) inches of water column will be conducted between the pressure regulating valve and the appliance and shall be measured for at least fifteen (15) minutes with no perceptible drop in pressure.

1316.11.1.3 For appliances or equipment requiring pounds of gas pressure: A pressure test using a pressure gauge measuring in one tenth (1/10) increments shall be conducted on the gas train of that appliance or equipment. The pressure shall be equal to the appliance's normal operating pressure for a period of thirty (30) minutes with no perceptible drop in pressure.

1316.11.1.4 Manometer testing. Manometer testing shall be performed by a person holding a valid Washoe County manometer tester card for which the number is to be provided at the time of request for inspection. A visual manometer test to be witnessed by the authority having jurisdiction may be allowed by the Building Official. A manometer test does not need to be reported when the serving gas utility performs a manometer or clock test prior to providing service.

2012 Uniform Plumbing Code

Section 205.0 Combustible Material

Amend section 205.0 to read as follows:

205.0 Definitions. Combustible Material. ~~As pertaining to materials adjacent to or in contact with heat-producing appliances, vent connectors, gas vents, chimneys, steam and hot water pipes, and warm air ducts, shall be materials made of or surfaces with wood, compressed paper, plant fibers, or other materials that are capable of being ignited and burned. Such material shall be considered combustible even though flame-proofed, fire retardant treated, or plastered. [NFPA 54:3.3.6.3]~~ Any material not defined as noncombustible material.

Section 216.0 Non Combustible Materials

Add new definition to section 216.0:

216.0 Definitions. Non Combustible Materials. Materials that, when tested in accordance with ASTM E 136, have at least three of four specimens tested meeting all of the following criteria:
1. The recorded temperature of the surface and interior thermocouples shall not at any time during the test rise more than 54ºF (30ºC) above the furnace temperature at the beginning of the test.
2. There shall not be flaming from the specimen after the first 30 seconds.
3. If the weight loss of the specimen during testing exceeds 50 percent, the recorded temperature of the surface and interior thermocouples shall not at any time during the test rise above the furnace air temperature at the beginning of the test, and there shall not be flaming of the specimen.

Section 218.0 Penetration Firestop System

Delete Penetration Firestop System from 218.0 definitions.

218.0 Definitions. ~~Penetration Firestop System. A specific assemblage of field-assembled materials, or a factory made device, which has been tested to a standard test method and, where installed properly on penetrating piping materials, is capable of maintaining the fire-resistance rating of assemblies penetrated.~~

Section 222.0 T Rating

Delete T Rating from 222.0 definitions.

222.0 Definitions. ~~T Rating. The time period that the penetration firestop system, including the penetrating item, limits the maximum temperature rise of 325° (163°C)above its initial temperature through the penetration on the nonfire side, where tested in accordance with ASTM E 814 or UL 1479.~~

Section 312.7 Fire-Resistant Construction

Amend section 312.7 to read as follows:

312.7 Fire-Resistant Construction. Piping penetrations of fire-resistance-rated walls, partitions, floors, floor/ceiling assemblies, roof/ceiling assemblies, or shaft enclosures shall be protected in accordance with the requirements of the building code. ~~and Chapter 15, "Firestop Protection."~~

Section 422.0 Minimum Number of Required Fixtures

Delete section 422.0 in its entirety.

~~Section 422.0, Minimum Number of Required Fixtures. Delete Section 422.0 in its entirety.~~

Table 422.1 Minimum Plumbing Facilities

Delete Table 422.1 in its entirety.

Section 609.1 Installation

Amend section 609.1 to read as follows:

609.1 Installation. Water piping shall be adequately supported in accordance with Table 313.1. Burred ends shall be reamed to the full bore of the pipe or tube. Changes in direction shall be made by the appropriate use of fittings, except that changes in direction in copper tubing shall be permitted to be made with bends, provided that such bends are made with bending equipment that does not deform or create a loss in the cross-sectional area of the tubing. Changes in direction are allowed with flexible pipe and tubing without fittings in accordance with the manufacturer's instructions. Provisions shall be made for expansion in hot water piping. Piping, equipment, appurtenances, and devices shall be installed in a workmanlike manner in accordance with the provisions and intent of the code. Building supply yard piping shall be not less than ~~12~~ 6 inches (~~305~~ 152 mm) below the average local frost depth. The cover shall be not less than 12 inches (305 mm) below finish grade.

Section 712.1 Media

Amend section 712.1 to read as follows:
712.1 Media. The piping of the plumbing, drainage and venting systems shall be tested with water or air ~~except that plastic piping shall not be tested with air~~. The authority Having Jurisdiction shall be permitted to require the removal of cleanouts, etc., to ascertain whether the pressure has reached all parts of the system. After the plumbing fixtures have been set and their traps filled with water, they shall be submitted to a final test.

Section 717.1 General (Size of Building Sewers)

Amend section 717.1 to read As follows:

717.1 General. The minimum size of a building sewer shall be determined on the basis of the total number of fixture units drained by such sewer, in accordance with Table 717.1. No building sewer shall be smaller than the building drain~~.~~ or less than four (4) inches in diameter.
For alternate methods of sizing building sewers, see Appendix C.

Section 723.1 General (Building Sewer Test)

Amend section 723.1 to read As follows:

723.1 General. Building sewers shall be tested by plugging the end of the building sewer at its points of connection with the public sewer or private sewage disposal system and completely filling the building sewer with water from the lowest to highest point thereof, or by approved equivalent low-pressure air test. ~~Plastic DWV piping systems shall not be tested by the air test method.~~ The building sewer shall be watertight.

Section 1109.2 Methods of Testing Storm Drainage Systems

Amend section 1109.2 to read as follows:

1109.2 Methods of Testing Storm Drainage Systems. Except for outside leaders and perforated or open-jointed drain tile, the piping of storm drain systems shall be tested upon completion of the rough piping installation by water or air~~, except that plastic pipe shall not be tested with air,~~ and proved tight. The Authority Having Jurisdiction shall be permitted to require the removal of cleanout plugs to ascertain whether the pressure has reached parts of the system. One of the following test methods shall be used in accordance with Section 1109.2.1 through Section 1109.2.3.

Section 1202.1 Installation

Amend section 1202.1 to read as follows:

1202.1 Installation. The regulations of this chapter shall govern the installation of fuel gas piping in or in connection with a building, structure or within the property lines of premises up to 5 pounds-force per square inch (34 kPa), other than service pipe. Fuel oil piping systems shall be installed in accordance with NFPA31. Whenever there is a conflict between this code and NFPA 54 and NFPA 58 as adopted by the Nevada LP-Gas Board for LP-Gas installations, the adopted codes of the Nevada LP-Gas Board shall govern.

Section 1208.6.1.3 Snow Hazard

Add new subsection 1208.6.1.3 to section 1208.6.1:

1208.6.1.3 Snow hazard. On any new gas installation or reconnecting the gas service of an existing installation, gas meters above 5000 feet in elevation in Storey County or 6225 feet in elevation in Carson City and Washoe County must be protected from falling, sliding and accumulating of snow, unless the gas meter is installed in a protected location such as under an

engineered deck, roof, or shed. Engineered decks, roofs, or sheds shall be enclosed on all sides when used to protect gas meters on the snow shedding sides of a structure as approved by the gas utility.

Section 1213.3 Test Pressure

Amend section 1213.3 to read as follows:

1213.3 Test Pressure. This inspection shall include an air, CO2, or nitrogen pressure test, at which time the gas piping shall stand a pressure of not less than ~~10~~ 25 psi (~~69~~ 172.4 kPa) gauge pressure. Test pressures shall be held for a length of time satisfactory to the Authority Having Jurisdiction, but in no case less than ~~15~~ 30 minutes with no perceptible drop in pressure. For welded piping, and for piping carrying gas at pressures in excess of 14 inches water column pressure (3.5 kPa), the test pressure shall be not less than 60 psi (414 kPa) and shall be continued for a length of time satisfactory to the Authority Having Jurisdiction, but in no case for less than 30 minutes. These tests shall be made using air, CO2, or nitrogen pressure and shall be made in the presence of the Authority Having Jurisdiction. Necessary apparatus for conducting tests shall be furnished by the permit holder. Test gauges used in conducting tests shall be in accordance with Section 318.0.

Section 1213.5.1 Turning Gas On

Amend section 1213.5.1 to read as follows and add subsections 1213.5.1.1 thru 1213.5.1.4:

1213.5.1 Turning Gas On. During the process of turning gas on into a system of new gas piping or into a system or portion of a gas system that has been restored after an interruption of service, the entire system shall be inspected to determine that there are no open fittings or ends and that the valves at unused outlets are closed and plugged or capped. [NFPA 54:8.2.2]

1213.5.1.1 During the process of turning gas on into a system of new gas *piping* or into a system or portion of a gas system that has been restored after an interruption of service; in the City of Fernley, City of Reno, City of Sparks, Storey County and Washoe County a manometer test shall be made after all valves, unions, connectors and piping to the appliances are complete. A pressure test shall be made with the use of a manometer gauge measuring inches of water column. With all valves including gas cock and gas control valves in the open position, a pressure of at least eleven (11) to fifteen (15)inches of water column shall be measured for at least fifteen (15) minutes, with no perceptible drop in pressure.

1213.5.1.2 For medium pressure gas systems: Where the appliance is rated for seven (7) to eleven (11) inches of water column, a manometer test of eleven (11) to fifteen (15) inches of water column will be conducted between the pressure regulating valve and the appliance and shall be measured for at least fifteen (15) minutes with no perceptible drop in pressure.

1213.5.1.3 For appliances or equipment requiring pounds of gas pressure: A pressure test using a pressure gauge measuring in one tenth (1/10) increments shall be conducted on the gas train of that appliance or equipment. The pressure shall be equal to the appliance's normal operating pressure for a period of thirty (30) minutes with no perceptible drop in pressure.

1213.5.1.4 Manometer testing. Manometer testing shall be performed by a person holding a valid Washoe County manometer tester card for which the number is to be provided at the time of

request for inspection. A visual manometer test to be witnessed by the authority having jurisdiction may be allowed by the Building Official. A manometer test does not need to be reported when the serving gas utility performs a manometer or clock test prior to providing service.

Chapter 15 Firestop Protection

Delete Chapter 15 in its entirety.

2011 National Electrical Code

Article 210.12 (B) Branch Circuit Extensions or Modifications

Delete Article 210.12(B)

~~**210.12(B) Branch Circuit Extensions or Modifications** – Dwelling Units. In any of the areas specified in 210.12 (A), where branch-circuit wiring is modified, replaced, or extended, the branch circuit shall be protected by one of the following:~~

~~(1) A listed combination-type AFCI located at the origin of the branch circuit~~

~~(2) A listed outlet branch-circuit type AFCI located at the first receptacle outlet of the existing branch circuit~~

Article 225.32 Location

Amend Article 225.32 to read as follows:

225.32 Location. The disconnection shall be installed ~~either inside or~~ attached to the outside of the building or structure served or where the conductors pass through the building or structure. The disconnecting means shall be at a readily accessible location nearest the point of entrance of the conductors. For the purpose of this section, the requirements in 230.6 shall be permitted to be utilized.

Exception No. 1: For installations under single management, where documented safe switching procedures are established and maintained for disconnection and where the installation is monitored by qualified individuals, the disconnected means shall be permitted to be located elsewhere on the premises.

Exception No. 2: For buildings or other structures qualified under the provisions of Article 685, the disconnecting means shall be permitted to be located elsewhere on the premises.

Exception No. 3: For towers or poles used as lighting standards, the disconnecting means shall be permitted to be located elsewhere on the premises.

Exception No. 4: For poles or similar structure used only for support of signs installed in accordance with Article 600, the disconnecting means shall be permitted to be located elsewhere on the premises.

Exception No. 5: The disconnecting means may be located independent of the building or structure served, in direct line of sight, but not to exceed thirty feet (30').

Exception No. 6: The service disconnecting means may be installed within a building when an external remote shunt trip switch is provided. All shunt trip switches shall be located at seven feet (7') above finish grade at a location approved by the fire department. All shunt trip switches shall be located within a twelve inch (12") equilateral triangle, red in color.

Article 230.70(A)(1) Readily Accessible Location

Amend Article 230.70(A)(1) to read as follows:

230.70(A)(1) Readily Accessible Location. The service disconnection means shall be installed outside of a building or other structure at a readily accessible location nearest the point of entrance of the service conductors. The disconnecting means may be located independent of the building or structure served, in direct line of sight, but not to exceed thirty feet (30'). ~~at a readily accessible location either outside of a building or structure or inside nearest the point of entrance of the service conductors.~~

Exception: The service disconnecting means may be installed within a building when an external remote shunt trip switch is provided. All shunt trip switches shall be located at seven feet (7') above finish grade at a location approved by the fire department. All shunt trip switches shall be located within a twelve inch (12") equilateral triangle, red in color.

Article 240.51(B) Replacement Only

Amend Article 240.51(B) to read as follows:

240.51(B) Replacement Only. Plug fuses of the Edison-based shall be used only for replacement in existing installations where there is no evidence of overfusing or tampering. In any existing building where alterations or additions are made to any of the premises wiring, all fuse holders shall comply with Section 240.54.

Article 250.96(A) General

Amend Article 250.96(A) to read as follows:

250.96(A) General Metal raceways, cable trays, cable armor, cable sheath, enclosures, frames, fittings, and other metal non-current-carrying parts that are to serve as ground conductors, with or without the use of supplementary equipment grounding conductors, shall be effectively bonded where necessary to ensure electrical continuity and the capacity to conduct safely any fault current likely to be imposed on them. Any nonconductive paint, enamel, or similar coating shall be removed at threads, contact points, and contact surfaces or be connected by means of fittings designed so as to make such removal unnecessary. The Authority Having Jurisdiction shall require a supplementary grounding conductor where a metallic raceway is subject to damage or likely to be disturbed.

FPN: An example of 'subject to damage' might be a surface mounted conduit along a traffic path in a warehouse. An example of 'likely to be disturbed' might be conduit across a rooftop, where re-roofing operations will require the conduit to be removed.

Article 314.17(C) Non Metallic Boxes and Conduit Bodies

Amend Article 314.17(C) to read as follows:

314.17(C) Nonmetallic Boxes and Conduit Bodies. Nonmetallic boxes and conduit bodies shall be suitable for the lowest temperature-rated conductor entering the box. Where nonmetallic boxes and conduit bodies are used with messenger support wiring, open wiring on insulators, or concealed knob-and-tube wiring, the conductors shall enter the boxes through individual holes. Where flexible tubing is used to enclose the conductors, the tubing shall extend from the last insulated support to not less than 6 mm (1/4 in.) inside the box and beyond any cable clamp. Where nonmetallic-sheathed cable or multiconductor Type UF cable is used, the sheath shall extend not less than 6 mm (1/4 in.) inside the box and beyond any cable clamp. In all instances, all permitted wiring methods shall be secure to the boxes.

Exception: Where nonmetallic-sheathed cable or multiconductor Type UF cable is used with ~~single gang~~ boxes ~~not larger than a nominal size 57mm x 100 mm (2 ¼ in. x 4 in.)~~ mounted in walls or ceilings, and where the cable is fastened within 200 mm (8 in.) of the box measured along the sheath and the sheath extends through a cable knockout not less than 6 mm. (1/4 in.) securing the cable to the box shall not be required. Multiple cables entries shall be permitted in a single cable knockout opening.

APPENDIX

International Residential Code
Table R301.2(1) Climate and Geographic Design Criteria

Carson City:

GROUND SNOW LOAD	WIND SPEED (MPH)	SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM				WINTER DESIGN TEMP	ICE SHIELD UNDER-LAYMENT REQUIRED	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP
			Weathering	Frost Line Depth	Termite	Decay					
SEE IBC Table 1608.2.1	100	E	Severe	24"	Moderate To Heavy	None To Slight	10° F	Yes Above 5500'	Varies. See Engineering Department	500	50° F

City of Fernley:

GROUND SNOW LOAD	WIND SPEED (MPH)	SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM				WINTER DESIGN TEMP	ICE SHIELD UNDER-LAYMENT REQUIRED	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP	Radon Potential Zone
			Weathering	Frost Line Depth	Termite	Decay						
SEE IBC Table 1608.2.1	90	D1	Severe	18"	Moderate To Heavy	None To Slight	10° F	None Required	(a) 06/04/2003 (b) 11/20/1998 FIRM	594	49.4° F	Moderate Zone 3

City of Reno:

GROUND SNOW LOAD	WIND SPEED (MPH)	SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM				WINTER DESIGN TEMP	ICE SHIELD UNDER-LAYMENT REQUIRED	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP
			Weathering	Frost Line Depth	Termite	Decay					
SEE IBC Table 1608.2.1	100	D2	Severe	24"	Moderate To Heavy	None To Slight	10° F	Yes Above 5300'	See RMC 18.12.1701	594	49.4° F

City of Sparks:

GROUND SNOW LOAD	WIND SPEED (MPH)	SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM				WINTER DESIGN TEMP	ICE SHIELD UNDER-LAYMENT REQUIRED	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP
			Weathering	Frost Line Depth	Termite	Decay					
SEE IBC Table 1608.2.1	100	D2	Severe	24"	Moderate To Heavy	None to Slight	7° F	None Required	See SMC 15.11	594	49.4° F

Lyon County:

GROUND SNOW LOAD	WIND SPEED (MPH)	SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM				WINTER DESIGN TEMP	ICE SHIELD UNDER-LAYMENT REQUIRED	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP
			Weathering	Frost Line Depth	Termite	Decay					
SEE IBC Table 1608.2.1	90	D2	Severe	18”	Moderate To Heavy	None To Slight	10° F	None Required	Lyon Co. Title 12	500	50° F

Storey County:

GROUND SNOW LOAD	WIND SPEED (MPH)	SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM				WINTER DESIGN TEMP	ICE SHIELD UNDER-LAYMENT REQUIRED	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP
			Weathering	Frost Line Depth	Termite	Decay					
SEE IBC Table 1608.2.1	100	D2	Severe	24”	Moderate To Heavy	None To Slight	10°F	Yes Above 5500’	Yes See SCC 15.20	594	49.4

Washoe County:

GROUND SNOW LOAD	WIND SPEED (MPH)	SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM				WINTER DESIGN TEMP	ICE SHIELD UNDER-LAYMENT REQUIRED	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP
			Weathering	Frost Line Depth	Termite	Decay					
SEE IBC Table 1608.2.1	100	D2	Severe	24”	Moderate To Heavy	None To Slight	10° F	Yes Above 5300’	See WCC Chapter 110	594	49.4° F