AMENDMENTS TO THE 2012 INTERNATIONAL RESIDENTIAL CODE

The following sections, paragraphs, and sentences of the *2012 International Residential Code* are hereby amended as follows: Standard type is text from the IRC. Underlined type is text inserted. ~~Lined through type is deleted text from IRC.~~ A double asterisk at the beginning of a section identifies an amendment carried over from the 2009 edition of the code and a triple asterisk identifies a new or revised amendment with the 2012 code.

*****Section R102.4; change to read as follows:***

R102.4 Referenced codes and standards. The *codes*, when specifically adopted, and standards referenced in this *code* shall be considered part of the requirements of this *code* to the prescribed extent of each such reference and as further regulated in Sections R102.4.1 and R102.4.2. Whenever amendments have been adopted to the referenced *codes* and standards, each reference to said *code* and standard shall be considered to reference the amendments as well. Any reference made to NFPA 70 or the *Electrical Code* shall mean the *Electrical Code* as adopted.

(Reason: Legal wording to recognize locally adopted codes and amendments adopted with referenced codes. Note: the former ICC Electrical Code is now Appendix K of the IBC, but no longer called by that name. If adopting in that location, be sure to include language that includes structures under IRC and IBC.)

*****Section R103***

DEPARTMENT OF ~~BUILDING SAFETY~~ PLANNING & DEVELOPMENT SERVICES, BUILDING INSPECTION DIVISION

103.1 Creation of an enforcement agency. The Community Development Department ~~of Building Safety~~, Building Inspections Division, is hereby created and the official in charge thereof shall be known as the Building Official.
(Reason: To correlate the department name with what it is actually called in this city.)

******Section R105.1: amend the section as follows:***

Permits Required. Any owner or authorized agent who intends to construct, enlarge, alter, repair, move, demolish, or change the occupancy of a building or structure, to excavate or change the grade of any property, or to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical or plumbing system, the installation of which is regulated by this code, or to cause any such work to be done, shall first make application to the building official and obtain the required permit.

(Reason: Consistent with previous edition amendment, to provide means to regulate grading affecting other properties.)

***** SectionR105.2: amend item 2 under Building and Electrical as follows:***

Building:

1. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed ~~200~~ 120 square feet (11.15 m2).
2. ~~Fences not over 7 feet high~~.
3. 3– 9. (No change)
10. Decks ~~not exceeding 200 square feet (18.58 m^2) in area,~~ that are not more than 30 inches (762 mm) above *grade* at any point, are not attached to a *dwelling* and do not serve the exit door required by Section R311.4.

***11. Residential foundation repairs performed for the purpose of stabilizing an existing foundation without the removal of any existing concrete, except for the installation of new piers, pilings, or other associated support.

(Reason:No inspections or other services are provided for this type of permit – engineer's letter only)

******Section R105.2 Work exempt from permit; add the following:***

Grading:

1) Grading in an isolated, self-contained area, provided there is no danger to the public, and that such grading will not adversely affect adjoining properties.
2) Excavation for construction of a structure permitted under this code.
3) Cemetery graves.
4) Refuse disposal sites controlled by other regulations.
5) Excavations for water wells, or trenches for utilities.
6) Mining, quarrying, excavating, processing or stockpiling rock, sand, gravel, aggregate or clay controlled by other regulations, provided such operations do not affect the lateral support of, or significantly increase stresses in soil on adjacent properties.
7) Exploratory excavations performed under the direction of a registered professional engineer.

Exemption from the permit requirements of this section shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction.

*****Section R108.6 and R108.7; amend section R108.6 and add R108.7 as follows:***

R108.6 Work commencing before permit issuance. Any person who commences work requiring a permit on a building, structure, electrical, gas, mechanical or plumbing system before obtaining the necessary permits shall be subject to a fee established ~~by the applicable governing authority~~ below ~~that~~ and shall be in addition to the required permit fees.

R108.6.1 Investigation. Whenever work for which a permit is required by this code has been commenced without first obtaining a permit, a special investigation shall be made before a permit may be issued for such work.

R108.6.2 Fee. An investigation fee, in addition to the permit fee, shall be collected whether or not a permit is subsequently issued. The investigation fee shall be equal to the amount of the permit fee required by this code or the city fee schedule as applicable. The payment of such investigation fee shall not exempt the applicant from compliance with all other provisions of either this code or the technical codes nor from penalty prescribed by law.

R108.7 Unauthorized cover up fee.

R108.7.1 Any work concealed without first obtaining the required inspection in violation of section 109 shall be assessed a fee as established by the city fee schedule.

(Reason: These fees are not a fine or penalty but are designed to compensate for additional time necessary to obtain and verify code compliance. Language taken from former Uniform Administrative Code.

*****Section R108.8; add section as follows:***

R108.8 Re-inspection Fee. A fee as established by city council resolution may be charged when:

1. Work called for inspection is incomplete;
2. Building address and/or permit card is not clearly posted;
3. City approved plans are not on the job site available to the inspector;
4. The building is locked or work otherwise not available for inspection when called;
5. Items noted for correction on initial inspection and not corrected upon re-inspection.
6. The original red tag has been removed from the job site and/or,
7. Violations exist on the property including failure to maintain erosion control, trash control or tree protection.

Any re-inspection fees assessed shall be paid before any more inspections are made on that job site.

(Reason: This fee is not a fine or penalty but is designed to compensate for time and trips when inspections are called for when not ready.)

***Section R109.1.3; change to read as follows:**

R109.1.3 Floodplain inspections. For construction permitted in areas prone to flooding as established by Ordinance 641 ~~Table R301.2(1),~~ upon *. . . {bulk of section unchanged} . . .* construction, the building official may ~~shall~~ require submission *. . . {remainder of section unchanged}*.

(Reason: Confirmation of elevation is left to local discretion.)

***Section R110 (R110.1 through R110.5); delete the section.**

(Reason: Issuing CO's for residences is not a common practice in the area.)

***Section R112.2.1 & R112.2.2; delete the sections.**

(Reason: Floodplain provisions are addressed locally.)

***Section R202; change definition of "Townhouse" to read as follows:**
TOWNHOUSE. A single-family dwelling unit constructed in a group of three or more attached units separated by property lines in which each unit extends from foundation to roof and with a *yard* or *public way* on at least two sides.

(Reason: Consistent with terminology commonly used in this region.)

****Table R301.2(1); fill in as follows:**

GROUND SNOW LOAD	WIND DESIGN		SEISMIC DESIGN CATEGORY[f]
	SPEED[d] (mph)	Topographic Effects[k]	
5 lb/ft^2	90 (3-sec-gust)/76 fastest mile	No	A

SUBJECT TO DAMAGE FROM		
Weathering[a]	Frost line depth[b]	Termite[c]
moderate	6"	very heavy

WINTER DESIGN TEMP[e]	ICE BARRIER UNDER-LAYMENT REQUIRED[h]	FLOOD HAZARDS[g]	AIR FREEZING INDEX[i]	MEAN ANNUAL TEMP[j]

22°F	No	local *code*	69°F	64.9°F

{No change to footnotes}

(Reason: To promote regional uniformity.)

Section R302.1; add exception #6 to read as follows:

Exceptions: *{previous exceptions unchanged}*

6. Open non-combustible carport structures may be constructed when also approved within adopted ordinances.

(Reason: Refers to other ordinances, such as zoning ordinances.)

Section R302.2, Exception; change to read as follows:

Exception: A common two-hour fire-resistance-rated wall assembly, or one-hour fire-resistance-rated wall assembly when equipped with a sprinkler system… *{remainder unchanged}*

(Reason: Consistent with regional practice.)

Section R302.2.4, Exception 5; change to read as follows:

Exception: *{previous exceptions unchanged}*

5. Townhouses separated by a common ~~1-hour~~ fire-resistance-rated wall as provided in Section R302.2.

(Reason: Consistent with regional practice.)

Section R302.3; add Exception #3 to read as follows:

Exceptions:

1. *{existing text unchanged}*

2. *{existing text unchanged}*

3. Two-family dwelling units that are also divided by a property line through the structure shall be separated as required for townhouses.

(Reason: Provide guidance for a common construction method in this area. Correlates with amendment to IRC Section R202 Townhouse definition.)

Section R302.5.1; change to read as follows:

R302.5.1 Opening protection. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than 13/8 inches (35 mm) in thickness, solid or honeycomb core steel doors not less than 13/8 inches (35 mm) thick, or 20-minute fire-rated doors ~~equipped with a self-closing device~~.

(Reason: Consistent with common local practice. Absence of data linking self-closing devices to increased safety. Self-closing devices often fail to close the door entirely.)

Section R303.3, Exception; amend to read as follows:

Exception: The glazed areas {remainder unchanged} unless the space contains only a water closet, a lavatory, or water closet and a lavatory may be ventilated with an approved mechanical recirculating fan or similar device designed to remove odors from the air.

(Reason: Consistent with common local practice.)

R303.4 Mechanical Ventilation*; change to read as follows:*

Where the air infiltration rate of a dwelling unit is ~~less than~~ 5 air changes per hour ~~or less~~ 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.

(Reason:See IECC change to performance testing. Whole-house ventilation is recognized as necessary).

Section R315.3, *amend and add exceptions as follows*:

Where required in existing dwellings. Where work requiring a *permit* for an addition or an alteration that 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:

Exceptions:

1. Work involving the exterior surfaces of *dwellings*, such as the replacement of roofing or siding, or the *addition* or replacement of windows or doors, or the *addition* of a porch or deck, are exempt from the requirements of this section.

2. Installation, *alteration* or repairs of plumbing or mechanical systems are exempt from the requirements of this section.

(Reason: Consistent with exceptions in Section R314.3.1)

Section R319.1; change to read as follows:

R321.1 Address numbers. Approved numbers or addresses shall be provided for all new buildings in such a position as to be plainly visible and legible from the street or road fronting the property. See Ordinance # 441 for specific addressing requirements.

(Reason: Call attention to addressing ordinance.)

Section R401.2, amended by adding a new paragraph to read as follows.

Section R401.2. Requirements. *{existing text unchanged} …*
Every foundation and/or footing, or any size addition to an existing post-tension foundation, regulated by this code shall be designed and sealed by a Texas-registered engineer.

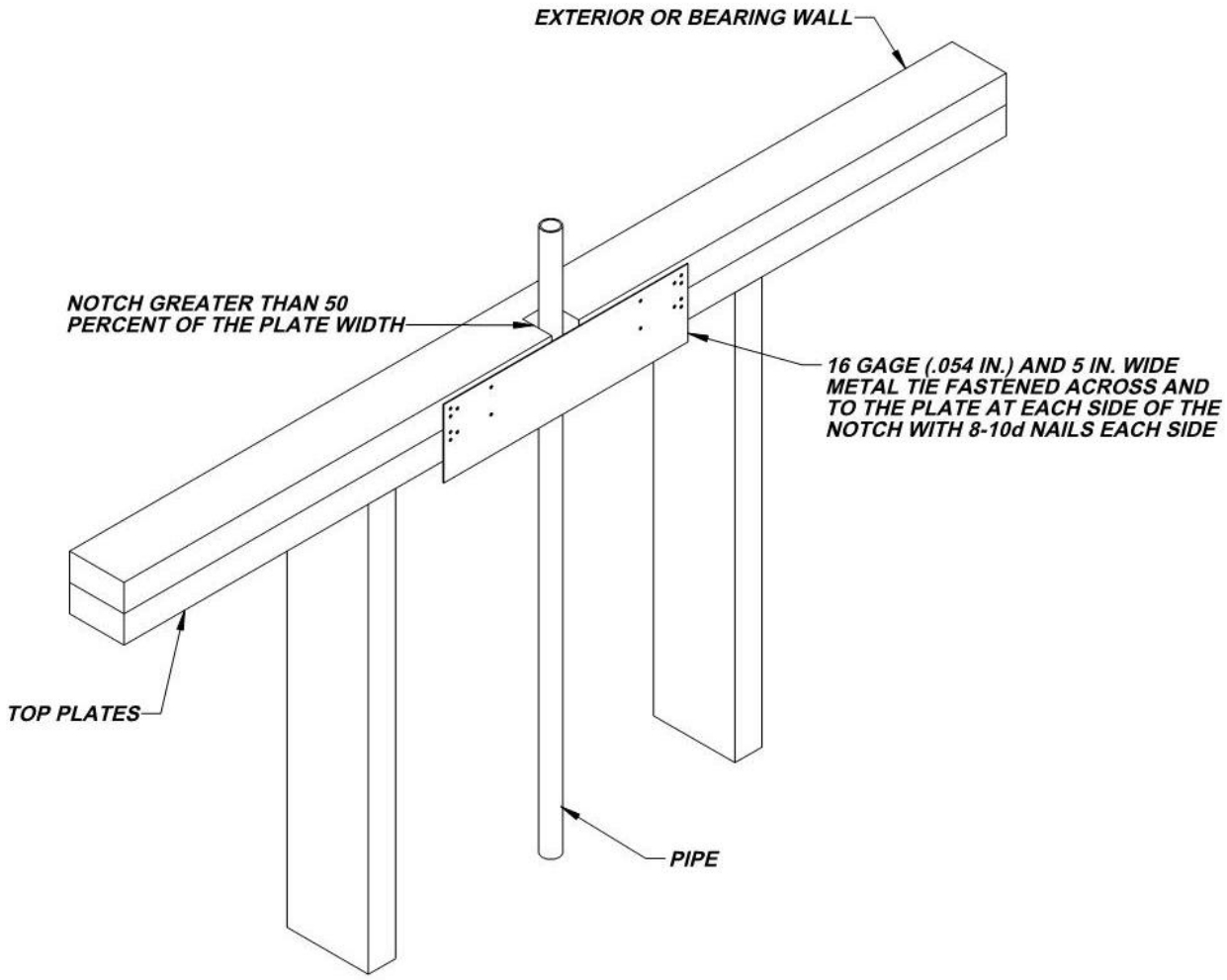
(Reason: reflects regional practice.)

Section 602.6.1; amend the following:

R602.6.1 Drilling and notching of top plate. When piping or ductwork is placed in or partly in an exterior wall or interior load-bearing wall, necessitating cutting, drilling or notching of the top plate by more than 50 percent of its width, a galvanized metal tie not less than 0.054 inch thick (1.37 mm) (16 Ga) and ~~1 ½ inches (38) mm~~ 5 inches (127 mm) wide shall be fastened across and to the plate at each side of the opening with not less than eight 10d (0.148 inch diameter) having a minimum length of 1 ½ inches (38 mm) at each side or equivalent. Fasteners will be offset to prevent splitting of the top plate material. The metal tie must extend a minimum of 6 inches past the opening. See figure R602.6.1. {remainder unchanged}

(Reason: reflects regional practice and to comply with P2603.2.1. Also provides additional assurance of maintaining the integrity of the framing by spreading the nailing pattern.)

***Figure R602.6.1; delete the figure and insert the following figure:**



(Reason: reflects regional practice and to comply with P2603.2.1. Also provides additional assurance of maintaining the integrity of the framing by spreading the nailing pattern.)

***Section R703.7.4.1; add a second paragraph to read as follows:**

In stud framed exterior wall**s**, all ties shall be anchored to studs as follows:

1. When studs are 16 in (407 mm) o.c., stud ties shall be spaced no further apart than 24 in (737 mm) vertically starting approximately 12 in (381 mm) from the foundation; or

2. When studs are 24 in (610 mm) o.c., stud ties shall be spaced no further apart than 16 in (483 mm) vertically starting approximately 8 in (254 mm) from the foundation.

(Reason: Provide easy to install and inspect dimensions to clarify how to anchor and to distinguish "studs" from other types of construction.)

***Section R902.1; Amend and add exception #3 to read as follows:**

R902.1 Roofing covering materials. Roofs shall be covered with materials as set forth in Sections R904 and R905. Class A, B, or C roofing shall be installed ~~in areas designated by law as requiring their use or when the edge of the roof is less than 3 feet from a lot line~~. *{remainder unchanged}*

Exceptions:

1. *{text unchanged}*

2. *{text unchanged}*

3. *{text unchanged}*

4. Non-classified roof coverings shall be permitted on one-story detached *accessory structures* used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed (area defined by jurisdiction).

(Reason: Consistent with regional practice. Language fits better in this section. Aligned the area and description of the building to be consistent with the item #1 to Section R105.2)

***Part IV – Energy Conservation - Chapter 11 [RE] *** insert text to read as follows:**

Residential Provisions for Energy Efficiency

(Reason: To remain consistent with IECC residential provisions.)

****Section N1102.2.2; amend the section to read as follows:**

N1102.2.2 Ceilings without attic spaces. Where Section N1102.1.1 would require insulation levels above R-30 and the design of the roof/ceiling assembly does not allow sufficient space for the required insulation, the minimum required insulation for such roof/ceiling assemblies shall be R-30. This reduction of insulation from the requirements of Section N1102.1.1 shall be limited to 500 square feet (46 m^2) ~~or 20 percent of the total insulated ceiling area, whichever is less~~. This reduction shall not apply to the U -factor alternative approach in Section N1102.1.3 and the total UA alternative in Section N1102.1.4.

(Reason: Retains the current 2009 language to eliminate confusion and limit the area to 500 square feet maximum)

***** Table N1102.1.1 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT; Amend by changing the WOOD FRAME WALL R-VALUE for CLIMATE ZONE 3 to read as follows:**

13

(Reason: Retain the values in the 2009 code.)

****** Table N1102.1.3 EQUIVALENT U-FACTORS; Amend by changing the WOOD FRAME WALL U-FACTOR for CLIMATE ZONE 3 to read as follows:***

<u>0.082</u>

(Reason: Retain the values in the 2009 code.)

******N1102.4.1.2 Testing; Add a last paragraph to read as follows:***

Testing may only be performed by individuals that are certified HERS Raters or Rating Field Inspectors by RESNET or Performance Verification Technicians certified by Texas HERO, or other certifications as may be approved by the building official. The certified individuals must be an independent third-party entity, and may not be employed; or have any financial interest in the company that constructs the structure.

(Reason: The 2012 International Residential Code (IRC) and International Energy Conservation Code (IECC) include enhanced emphasis on envelope infiltration and duct leakage. Significant changes in the residential energy requirements include more frequent requirement of performance testing for leakage. Residential Duct systems must be tested unless all ducts and equipment are located within the conditioned space. Envelope testing is required to demonstrate compliance with maximum allowable leakage rate unless a detailed air barrier and insulation inspection has been performed to field verify component criteria. This language puts the regulatory authority on notice that the testing requires specialized credentials and establishes a conflict of interest baseline).

******Section N1102.4.1.2 Testing; modify the first paragraph to read as follows:***

N1102.4.1.2 Testing. The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 5 air changes per hour in ~~Climate Zones 1 and 2, and 3 air changes per hour in~~ Climate Zone~~s~~ 3 ~~through 8~~. *{Remainder of text unchanged}*

(Reason: The 2012 IECC requires mandatory door blower testing on each dwelling unit. The visual inspection is no longer an option to performance testing. This change will give some time for those builders not currently using a performance approach to adapt construction practices.)

******N1103.2.2 Sealing (Mandatory); Add a last paragraph to read as follows:***

Testing may only be performed by individuals that are certified HERS Raters or Rating Field Inspectors by RESNET or Performance Verification Technicians certified by Texas HERO, or other certifications as may be approved by the building official. The certified individuals must be an independent third-party entity, and may not be employed; or have any financial interest in the company that installed the duct system.

(Reason: The 2012 International Residential Code (IRC) and International Energy Conservation Code (IECC) include enhanced emphasis on envelope infiltration and duct leakage. Significant changes in the residential energy requirements include more frequent requirement of performance testing for leakage. Residential Duct systems must be tested unless all ducts and equipment are located within the conditioned space. Envelope testing is required to demonstrate compliance with maximum allowable leakage rate unless a detailed air barrier and insulation inspection has been performed to field verify component criteria. This language puts the regulatory authority on notice that the testing requires specialized credentials and establishes a conflict of interest baseline).

***** Section N1103.2.2; Amend to read as follows:***

N1103.2.3 Building cavities (Mandatory). Building framing cavities shall not be used as supply ducts ~~and plenums~~. Building framing wall cavities in the exterior thermal envelope shall not be used as return ducts

(Reason: Continue the practice in the regions and to insure that the building thermal envelope is not compromised.)

Section N1105.6.2; add the following sentence to the end of paragraph:

Acceptable performance software simulation tools may include, but are not limited to, REM Rate™, Energy Gauge and IC3. Other performance software programs accredited by RESNET BESTEST and having the ability to provide a report as outlined in N1105.4.2 may also be deemed acceptable performance simulation programs and may be considered by the building official.

(Reason: These performance software tools are accredited by RESNET at the time of recommendation.)

****Section M1305.1.3; change to read as follows:***

M1305.1.3 Appliances in attics. *Attics* containing *appliances* requiring access shall be provided . . . *{bulk of paragraph unchanged} . . .* sides of the *appliance* where access is required. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), or larger and large enough to allow removal of the largest *appliance*. A walkway to an appliance shall be rated as a floor as approved by the building official. As a minimum, for *access* to the attic space, provide one of the following:

1. A permanent stair.

2. A pull down stair with a minimum 300 lb (136 kg) capacity.

3. An *access* door from an upper floor level.

4. ~~*Access* Panel may be used in lieu of items 1, 2, and 3 with prior approval of the code official due to building conditions.~~

Exceptions:

1. The passageway and level service space are not required where the *appliance* can be serviced and removed through the required opening.

2. Where the passageway is unobstructed*…{remaining text unchanged}*

(Reason: To provide a safe means of accessibility to appliances in attics and to allow for different types of construction limitations. Consistent with regional amendment to IFGC and IMC 306.3.)

****Section M2005.2; change to read as follows:***

M2005.2 Prohibited locations. Fuel-fired water heaters shall not be installed in a room used as a storage closet. Water heaters located in a bedroom or bathroom shall be installed in a sealed enclosure so that *combustion air* will not be taken from the living space. Access to such enclosure may be from the bedroom or bathroom when through a solid door, weather-stripped in accordance with the exterior door air

leakage requirements of the *International Energy Conservation Code* and equipped with an *approved* self-closing device. Installation of direct-vent water heaters within an enclosure is not required.
(Reason: Corresponds with the provisions of IFGC Section 303, exception #5.)

***Section G2408.3 (305.5); delete.**

Reason: This provision does not reflect standard practice in this area.)

***Section G2415.2.1 (404.2.1); add a second paragraph to read as follows:**

Both ends of each section of medium pressure gas piping shall identify its operating gas pressure with an *approved* tag. The tags are to be composed of aluminum or stainless steel and the following wording shall be stamped into the tag:

"WARNING
1/2 to 5 psi gas pressure
Do Not Remove"

(Reason: To protect homeowners and plumbers.)

***Section G2415.2.2 (404.2.2); add an exception to read as follows:**

Exception: Corrugated stainless steel tubing (CSST) shall be a minimum of 1/2" (18 EDH).

(Reason: Pipe less than 1/2" has a history in this region of causing whistling.)

***Section G2415.12 (404.12); change to read as follows:**

G2415.12 (404.12) Minimum burial depth. Underground *piping systems* shall be installed a minimum depth of ~~12 inches (305 mm)~~ **18** inches (457 mm) below grade, except as provided for in Section G2415.12.1.

(Reason: To provide increased protection to piping systems.)

****Section G2415.12.1 (404.12.1); change to read as follows:**

G2415.12.1) Individual outside appliances. Individual lines to outside lights, grills or other appliances shall be installed a minimum of ~~8~~ **18** inches (457 mm) below finished grade…. Rest unchanged.

(Reason: To provide increased protection to piping systems.)

****Section G2415.17.2 (404.15.2): add the following sentence:**

Fittings installed under this section must be pre-approved by the *building official*. The submittal of documentation demonstrating compliance with applicable standards shall be required.

(Reason: To verify the gas riser used is approved for this use. The use of improper compression fittings has led to a substantial number of gas leak repairs)

Section G2417.1 (406.1); change to read as follows:

G2417.1 (406.1) General. Prior to acceptance and initial operation, all *piping* installations shall be inspected and *pressure tested* to determine that the materials, design, fabrication, and installation practices comply with the requirements of this *code*. The *permit* holder shall make the applicable tests prescribed in Sections 2417.1.1 through 2417.1.5 to determine compliance with the provisions of this *code*. The *permit* holder shall give reasonable advance notice to the *building official* when the *piping system* is ready for testing. The *equipment*, material, power and labor necessary for the inspections and test shall be furnished by the *permit* holder and the *permit* holder shall be responsible for determining that the work will withstand the test pressure prescribed in the following tests.

(Reason: To utilize language used in the IPC regarding who is responsible for testing procedures.)

Section G2417.4; change to read as follows:

G2417.4 (406.4) Test pressure measurement. Test pressure shall be measured with a manometer or with a pressure-measuring device designed and calibrated to read, record, or indicate a pressure loss caused by leakage during the *pressure test* period. The source of pressure shall be isolated before the *pressure tests* are made. ~~Mechanical gauges~~ Gauges used to measure… *{remainder unchanged}*

(Reason: To require the use of more accurate diaphragm gauges. Spring gauges do not provide accurate measurement below approximately 17 psig.)

Section G2417.4.1; change to read as follows:

G2417.4.1 (406.4.1) Test pressure. The test pressure to be used shall be not less than ~~one and one-half times the proposed maximum working pressure, but not less than~~ 3 psig (20 kPa gauge), or at the discretion of the *Building Official*, the *piping* and *valves* may be tested at a pressure of at least six (6) inches (152 mm) of mercury, measured with a manometer or slope 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*.~~ For tests requiring a pressure of 3 psig, ~~mechanical~~ gauges ~~used to measure test pressures~~ shall utilize a dial with a minimum diaphragm diameter of three and one half inches (3 ½"), a set hand, 1/10 pound incrementation and pressure range not to exceed 6 psi for tests requiring a pressure of 3 psig. For tests requiring a pressure of 10 psig, ~~mechanical~~ diaphragm gauges shall utilize a dial with a minimum diameter of three and one-half inches (3 ½"), a set hand, a minimum of 2/10 pound incrementation and a pressure range not to exceed 20 psi. ~~have a range such that the highest end of the scale is not greater than five times the test pressure.~~

For welded *piping*, and for *piping* carrying gas at pressures in excess of fourteen (14) inches water column pressure (3.48 kPa) (1/2 psi) and less than 200 inches of water column pressure (52.2 kPa) (7.5 psi), the test pressure shall not be less than ten (10) pounds per square inch (69.6 kPa). For *piping* carrying gas at a pressure that exceeds 200 inches of water column (52.2 kPa) (7.5 psi), the test pressure shall be not less than one and one-half times the proposed maximum working pressure.

(Reason: To provide for lesser pressures to coordinate with the use of more accurate diaphragm gauges.)

Section G2417.4.2; change to read as follows:

G2417.4.2 (406.4.2) Test duration. The test duration shall be held for a length of time satisfactory to the *Building Official*, but in no case for ~~be not~~ less than ~~10~~ fifteen (15) minutes. For welded *piping*, and for *piping* carrying gas at pressures in excess of fourteen (14) inches water column pressure (3.48 kPa), the

test duration shall be held for a length of time satisfactory to the *Building Official*, but in no case for less than thirty (30) minutes.

(Reason: To comply with accepted regional practices.)

***Section G2420.1 (406.1); add Section G2420.1.4 to read as follows:**

G2420.1.4 Valves in CSST installations. Shutoff *valves* installed with corrugated stainless steel (CSST) *piping systems* shall be supported with an approved termination fitting, or equivalent support, suitable for the size of the *valves*, of adequate strength and quality, and located at intervals so as to prevent or damp out excessive vibration but in no case greater than 12-inches from the center of the *valve*. Supports shall be installed so as not to interfere with the free expansion and contraction of the system's *piping*, fittings, and *valves* between anchors. All *valves* and supports shall be designed and installed so they will not be disengaged by movement of the supporting *piping*. Shutoff valves shall be required at both the appliance served and at the manifold that serves such appliances.

(Reason: To provide proper security and access to CSST valves. These standards were established in this region in 1999 when CSST was an emerging technology.)

***Section G2420.5.1 (409.5.1); add text to read as follows:**

G2420.5.1 (409.5.1) Located within the same room. The shutoff valve …*{bulk of paragraph unchanged}…* in accordance with the appliance manufacturer's instructions. A secondary shutoff valve must be installed within 3 feet (914 mm) of the firebox if appliance shutoff is located in the firebox.

(Reason: Reflects regional practice and provides an additional measure of safety.)

***Section G2421.1 (410.1); add text and Exception to read as follows:**

G2421.1 (410.1) Pressure regulators. A line *pressure regulator* shall be *… {bulk of paragraph unchanged}… approved* for outdoor installation. Access to *regulators* shall comply with the requirements for access to *appliances* as specified in Section M1305.

Exception: A passageway or level service space is not required when the *regulator* is capable of being serviced and removed through the required *attic* opening.

(Reason: To require adequate access to regulators.)

***Section G2422.1.2.3 (411.1.3.3); delete Exception 1 and Exception 4.**

(Reason: To comply with accepted regional practices.)

***Section G2445.2 (621.2); add Exception to read as follows:**

G2445.2 (621.2) Prohibited use. One or more *unvented room heaters* shall not be used as the sole source of comfort heating in a *dwelling unit*.

Exception: Existing *approved unvented room heaters* may continue to be used in *dwelling units*, in accordance with the *code* provisions in effect when installed, when *approved* by the *Building Official*

unless an unsafe condition is determined to exist as described in *International Fuel Gas Code* Section 108.7 of the Fuel Gas Code.

(Reason: Gives code official discretion

***Section G2448.1.1 (624.1.1); change to read as follows:**

G2448.1.1 (624.1.1) Installation requirements. The requirements for *water heaters* relative to access, sizing, *relief valves*, drain pans and scald protection shall be in accordance with this *code.*

(Reason: To clarify installation requirements. Also corresponds with amendments regarding water heater access.)

***Section P2801.6; add Exception to read as follows:**

Exceptions:

1. Electric Water Heater.

(Reason: To coordinate with Section 2408.2 of the IRC, which recognizes this exception.)

***Section P2902.5.3; change to read as follows:**

P2902.5.3 Lawn irrigation systems. The potable water supply to lawn irrigation systems shall be protected against backflow by an atmospheric-type vacuum breaker, a pressure-type vacuum breaker, a double-check assembly or a reduced pressure principle backflow preventer. A valve shall not be installed downstream from an atmospheric vacuum breaker. Where chemicals are introduced into the system, the potable water supply shall be protected against backflow by a reduced pressure principle backflow preventer.

(Reason: To provide clarity.)

***Section P3005.2.6; change to read as follows:**

P3005.2.6 ~~Base of stacks~~ Upper Terminal. ~~A cleanout shall be provided at the base of each waste or soil stack.~~ Each horizontal drain shall be provided with a cleanout at its upper terminal.

Exception: Cleanouts may be omitted on a horizontal drain less than five (5) feet (1524 mm) in length unless such line is serving sinks or urinals.

(Reason: To eliminate the requirement for excessive cleanouts.)

***Section P3111; delete.**

(Reason: A combination waste and vent system is not approved for use in residential construction.)

***Section P3112.2; delete and replace with the following:**

P3112.2 Installation. Traps for island sinks and similar equipment shall be roughed in above the floor and may be vented by extending the vent as high as possible, but not less than the drainboard height and

then returning it downward and connecting it to the horizontal sink drain immediately downstream from the vertical fixture drain. The return vent shall be connected to the horizontal drain through a wye-branch fitting and shall, in addition, be provided with a foot vent taken off the vertical fixture vent by means of a wye-branch immediately below the floor and extending to the nearest partition and then through the roof to the open air or may be connected to other vents at a point not less than six (6) inches (152 mm) above the flood level rim of the fixtures served. Drainage fittings shall be used on all parts of the vent below the floor level and a minimum slope of one-quarter (1/4) inch per foot (20.9 mm/m) back to the drain shall be maintained. The return bend used under the drainboard shall be a one (1) piece fitting or an assembly of a forty-five (45) degree (0.79 radius), a ninety (90) degree (1.6 radius) and a forty-five (45) degree (0.79 radius) elbow in the order named. Pipe sizing shall be as elsewhere required in this Code. The island sink drain, upstream of the return vent, shall serve no other fixtures. An accessible cleanout shall be installed in the vertical portion of the foot vent.

(Reason: To clarify the installation of island venting and to provide a regional guideline on a standard installation method for this region.)

*****P3114.3; Amend as follows:***

P3114.3 Where permitted. Individual vents, branch vents, circuit vents and stack vents serving kitchen island vents or bar sinks shall be permitted to terminate with a connection to an *air admittance valve*. All other installations shall require prior approval of the Building Official. Individual and branch type air admittance valves shall vent only fixtures that are on the same floor level and connect to a horizontal branch drain.

(Reason: Language with current policy to allow AAV's with advance approval.)

*****Chapters 34 through 43; delete. Replace with the electrical code as adopted.***

(Reason: State law permits only the NEC.)
Note: Chapters 34 through 43 are based on the 2014 National Electrical Code and are included here for reference only. The Electrical Code as adopted by separate ordinance takes precedence over these sections.

*****Appendix G; Change section AG105 as follows:***

*****AG105.1 Application.** The provisions of this appendix shall control the design of barriers for residential swimming pools, spas, and hot tubs. These design controls are intended to provide protection against potential drownings and near-drownings by restricting access to swimming pools, spas, and hot tubs. All swimming pools shall not be filled with water until the pool barrier has been inspected and approved by the *building official*.

*****AG105.2 Outdoor swimming pool.** An outdoor swimming pool, including an in-ground, aboveground or on-ground pool, hot tub or spa shall be provided with a barrier which shall comply with the following:

1. The top of the barrier shall be at least 48 inches (1219 mm) above grade measured on the side of the barrier which faces away from the swimming pool. The maximum vertical clearance between grade and the bottom of the barrier shall be ~~2~~ **4** inches (51 mm) measured on the side of the barrier which faces away from the swimming pool. Where the top of the pool structure is above grade, such as an aboveground pool, the barrier may be at ground level, such as the pool structure, or mounted on top of the pool structure. Where the barrier is mounted on top of the pool structure, the maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall be 4 inches (102 mm).

   Pre-existing fences. The installation of a swimming pool creates the requirement for the barrier fence. Therefore a previously existing fence would not have any status under this

section because the addition of the pool creates the hazard on which the code section is based. The one exception to this general rule is when the fence on one side of the new pool is already a pool enclosure for the adjacent property. That fence segment which is common to another yard with a pool is a legal nonconforming pool enclosure and need not be upgraded. Any other existing fence that is just now becoming a pool enclosure shall comply with this section.

2. Openings in the barrier shall not allow passage of a 4-inch-diameter (102 mm) sphere.

3. Solid barriers which do not have openings, such as a masonry or stone wall, shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.

4. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is less than 45 inches (1143 mm), the horizontal members shall be located on the swimming pool side of the fence. Spacing between vertical members shall not exceed 1.75 inches (44 mm) in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1.75 inches (44 mm) in width.

5. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches (1143 mm) or more, spacing between vertical members shall not exceed 4 inches(102 mm). Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1.75 inches (44 mm) in width.

EXCEPTION: When horizontal members are part of a fence that is at least 6 feet (1830 mm) in height, the horizontal members need not be on the pool side of the barrier and the 45 inch distance between horizontal members does not apply.

6. Maximum mesh size for chain link fences shall be a 2.25-inch (57 mm) square unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to not more than 1.75 inches (44 mm).

7. Where the barrier is composed of diagonal members, such as a lattice fence, the maximum opening formed by the diagonal members shall not be more than 1.75 inches (44 mm).

8. Access gates shall comply with the requirements of Section AG105.2, Items 1 through 7, and shall be equipped to accommodate a locking device. Pedestrian access gates shall open outward away from the pool and shall be self-closing and have a self-latching device. Gates, other than pedestrian access gates, shall ~~have a self-latching device~~ be equipped with lockable hardware or padlocks and shall remain locked at all times when not in use. Where the release mechanism of the self-latching device is located less than 54 inches (1372 mm) from the bottom of the gate, the release mechanism and openings shall comply with the following:

8.1. The release mechanism shall be located on the pool side of the gate at least 3 inches (76 mm) below the top of the gate, and

8.2. The gate and barrier shall have no opening greater than 0.5 inch (12.7 mm) within 18 inches (457 mm) of the release mechanism.

9. Where a wall of a dwelling serves as part of the barrier one of the following conditions shall be met:

9.1. The pool shall be equipped with a powered safety cover in compliance with ASTM F1346; or

9.2. All doors with direct access to the pool through that wall shall be equipped with an alarm which produces an audible warning when the door and its screen, if present, are opened. The

alarm shall be listed and label in accordance with UL 2017. The deactivation switch shall be located at least 54 inches above the threshold of the door or

9.3. Other means of protection, such as self-closing doors with self-latching devices, which are approved by the governing body, shall be acceptable so long as the degree of protection afforded is not less than the protection afforded by Item 9.1 or 9.2 described above.

10. Where an aboveground pool structure is used as a barrier or where the barrier is mounted on top of the pool structure and the means of access is a ladder or steps, then:

10.1. The ladder or steps shall be capable of being secured, locked or removed to prevent access, or

10.2. The ladder or steps shall be surrounded by a barrier which meets the requirements of Section AG105.2, Items 1 through 9. When the ladder or steps are secured, locked or removed, any opening created shall not allow the passage of a 4-inch-diameter (102 mm) sphere.

(Reason: To allow for special conditions while retaining essentially the same degree of safety.)

END OF AMENDMENTS.