Recommended Amendments to the 2003 International Residential Code

North Central Texas Council of Governments region

The following sections, paragraphs, and sentences of the *2003 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 2000 edition of the code and a triple asterisk identifies a new amendment with the 2003 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. 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 ICC *Electrical Code* shall mean the Electrical Code as adopted.

Where differences occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

Exception: Where enforcement . . .*{remainder of exception unchanged.}*. . . .

(Reason: Legal wording to recognize locally adopted codes and amendments adopted with referenced codes.)

***Section R105.2, item #1; change as follows:**

1. One-story detached accessory structures, provided the floor area does not exceed ~~200~~ 120 square feet (~~18.58~~ 11.15 m^2).

(Reason: Change corresponds to unamended IBC Section 105.2.)

***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 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 R110.4); delete.**

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

***Section R112.2.1 & R1112.2.2 delete.**

(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 open space on at least two sides.

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

Section R202; add definition of "Naturally durable wood" as follows:

NATURALLY DURABLE WOOD. The heartwood of the following species with the exception that an occasional piece with corner sapwood is permitted if 90 percent or more of the width of each side on which it occurs is heartwood.

Decay resistant. Redwood, cedars, black locust and black walnut.

Termite resistant. Redwood and Eastern red cedar.

(Reason: To provide a definition that does not appear in the code.)

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

GROUND SNOW LOAD	WIND SPEED[~~e~~d] (mph)	SEISMIC DESIGN CATEGORY[~~g~~h]
5 lb/ft^2	90 (3-sec-gust)/75 fastest mile	A

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

WINTER DESIGN TEMP[~~f~~e]	ICE SHIELD UNDER-LAYMENT REQUIRED[~~i~~h]	FLOOD HAZARDS[~~h~~g]	AIR FREEZING INDEX[~~j~~i]	MEAN ANNUAL TEMP[~~k~~j]
22°F	No	local code	69°F	64.9°F

For SI: 1 pound per square foot = 0.0479 kN/m.0^2, 1 mile per hour = 1.609 km/h.

a. *No revisions.*
b. *No revisions.*
c. *No revisions.*
~~d. The jurisdiction shall fill in this part of the table with "moderate to sever," "slight to moderate," or "none to slight" in accordance with Figure R301.2(7) depending on whether there has been a history of local damage.~~
~~e~~ d. *No further revisions.*
~~f~~ e. *No further revisions.*
~~g~~ f. *No further revisions.*
~~h~~ g. *No further revisions.*
~~i~~ h. *No further revisions.*
~~j~~ i. *No further revisions.*
~~k~~ j. *No further revisions.*

(Reason: To promote regional uniformity. The portion of the table dealing with decay is deleted because the decay protection provisions in R319 and R320 are uniformly applicable.)

******Figure R301.2(7); delete and renumber figures as needed.***

(Reason: Corresponds with the amendment to Table R301.2(1).)

*****Section R302.1; add a second exception as follows:***

Exceptions:

1. Tool and storage sheds, playhouses and similar structures exempted from permits by Section R105.2 are not required to provide wall protection based on location on the lot. Projections beyond the exterior wall shall not extend over the lot line.
2. Open metal carport structures may be constructed within zero (0) feet of the property line without fire-resistive or opening protection when the location of such is approved as required by other adopted ordinances.

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

*****Section R303.3, exception; change to read as follows:***

Exception: The glazed areas shall not be required where artificial light and a mechanical ventilation system, complying with one of the following, are provided.

1. The minimum ventilation rates shall be 50 cfm (23.6 L/s) for intermittent ventilation or 20 cfm (9.4 L/s) for continuous ventilation. Ventilation air from the space shall be exhausted directly to the outside.
2. Bathrooms that contain only a water closet, lavatory or combination thereof 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.)

*****Section R303.8; change to read as follows:***

R303.8 Required heating. ~~When the winter design temperature in Table R301.2(1) is below 60°F (16°C), every~~ Every dwelling unit shall be provided with heating facilities capable of maintaining a minimum room temperature of 68°F (20°C) at a point 3 feet (914 mm) above the floor and 2 feet (610 mm) from exterior walls in all habitable rooms at the design temperature. *{Remainder of section unchanged}*

(Reason: Specifies requirement for this area.)

*****Section R311.2.2; change to read as follows:***

R311.2.2 Under stair protection. Enclosed accessible space under stairs shall have walls, under stair surface and any soffits protected on the enclosed side with 5/8-inch (15.8 mm) fire-rated ~~1/2-inch (12.7 mm)~~ gypsum board or one-hour fire-resistive construction.

(Reason: Represents the standard protection method used in this area.)

***Section R317.1; add a second exception to read as follows:**

Exceptions:
1. *{existing exception unchanged}*
2. 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 R318; delete.***

(Reason: Vapor barriers are not recommended in this region.)

***Sections R319 and R320; change to read as follows:**

Revise Section R319.1 to read as follows:

R319.1 Location required. ~~In areas subject to decay damage as established by Figure R3001.2(7),~~ Protection from decay shall be provided in the following locations ~~shall require~~ by the use of naturally durable wood or ~~an approved species and grade of lumber,~~ wood that is pressure preservatively treated in accordance with AWPA C1, C2, C3, C4, C9, C15, C18, C22, C23, C24, C28, C31, C33, P1, P2, and P3, or ~~decay-resistant heartwood of redwood, black locust, or cedars~~

1. *No revision*.
2. *No revision*.
3. *No revision*.
4. *No revision*.
5. *No revision*.
6. *No revision*.
7. *No revision*.

R319.1.1 Field treatment. Field cut ends, notches and drilled holes of pressure preservatively treated wood shall be retreated in the field in accordance with AWPA M4.

Renumber existing sections R319.1.1 (Ground contact) through R319.1.4 (Wood columns).

Delete Section R320.1 and substitute the following:

R320.1 Subterranean termite control. In areas favorable to termite damage as established by Table R 301.2 (1), methods of protection shall be by one of the following: ~~Chemical soil treatment, pressure preservatively treated wood in accordance with the AWPA standards listed in Section R319.1, naturally termite-resistant wood or physical barriers (such as metal or plastic termite shields),~~ or any combination of these methods.

R 320.1.1 Pressure preservatively treated or naturally durable wood shall be provided as per HUD standards. Pressure perservatively treated wood shall be treated in accordance with the standards cited in R 319.1.

R 320.1.1.1 ~~R320.1.1~~ Quality Mark. Lumber and plywood required to be pressure preservatively treated in accordance with R324.1 shall bear the quality mark of an approved inspection agency which maintains continuing supervision, testing, and inspection over the quality of the product and which has been approved by an

accreditation body which complies with the requirements of the American Lumber Standards Committee treated wood program.

R320.1.1.2 Field treatment. Field cut ends, notches and drilled holes of pressure preservatively treated wood shall be retreated in the field in accordance with AWPA M4.

Revise sections R320.2 through R320.4 as follows:

~~**R320.2**~~ **R320.1.2** ~~**Chemical soil**~~ **Pesticide treatment.** The concentrations, rate of application and treatment methods of the termiticide shall be consistent with ~~and never less than~~ the termiticide label. Pesticide treatment shall be provided using methods approved by the Environmental Protection Agency and the Texas Structural Pest Control Board.

R320.1.3 Physical Barriers. Physical barriers shall be installed as recognized by Texas Structural Pest Control Board.

~~**R320.3 Pressure preservatively treated wood and naturally resistant wood.** Heartwood of redwood and eastern red cedar shall be considered termite resistant. Pressure preservatively treated wood and naturally termite-resistant wood shall not be used as a physical barrier unless a barrier can be inspected for any termite shelter tubes around the inside and outside edges and joints of a barrier.~~

~~**R320.3.1 Field treatment.** Field cut ends, notches and drilled holes of pressure preservatively treated wood shall be retreated in the field in accordance with AWPA M4.~~

~~**R320.4**~~ **R320.2 Foam plastic protection.** *{Remainder of section unchanged.}*

(Reason: To make the IRC decay protection requirements consistent with the IBC and consistent with similar provisions that were contained in the UBC. Reference is added in R320 for treating of field cuts in compliance with AWPA M4. This is consistent with the requirements in R319. However, in practice almost all preservatively treated wood in the local area is southern pine and Section 6 of M4 says that field treatment of softwood species such as southern pine isn't necessary to provide a good service life.

The revisions to R320 are intended to make the section read better and to provide guidance in proper methods of termite protection.)

*****Section R323.1; change to read as follows:***

R323.1 General. Buildings and structures, when permitted to be constructed in flood hazard areas . . . *{bulk of section unchanged} . . .* shall be designed and constructed as required in accordance with the provisions contained in this section or by other local provisions as applicable.

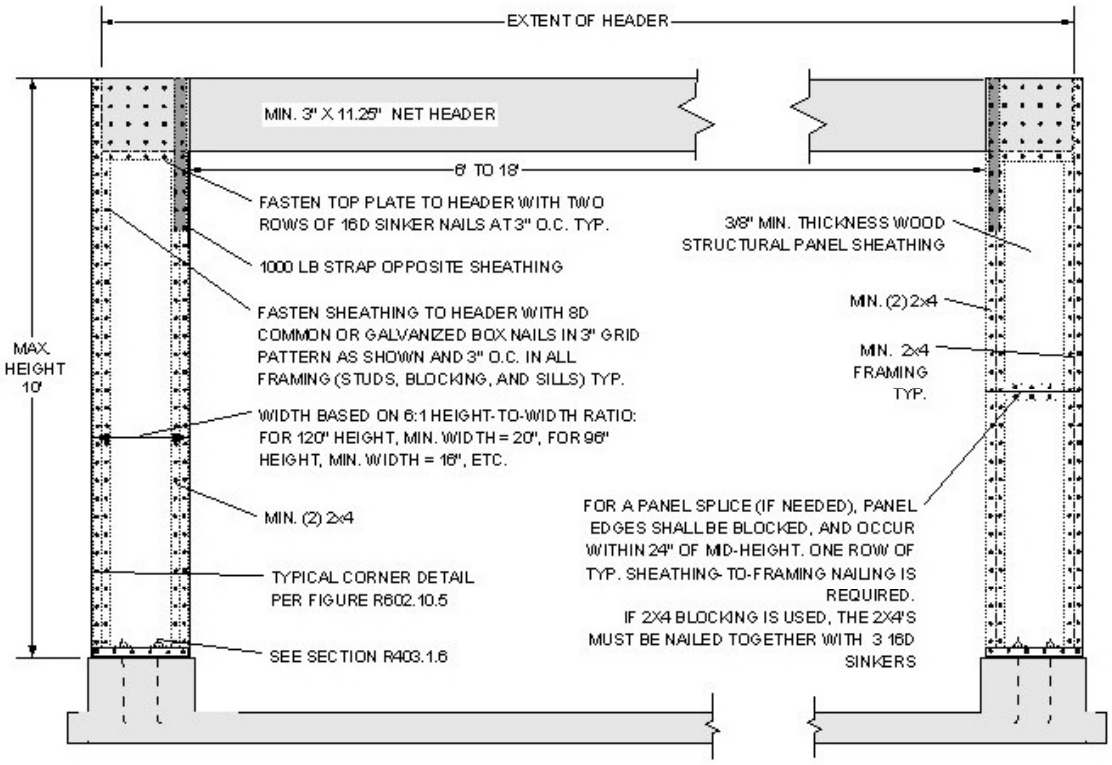
(Reason: Recognize other local provisions.)

******Section R602.10.5; add the following exception and figure:***

Exception: Vertical wall segments in the first of one- or first of two-story buildings next to garage openings shall be permitted to have a 6:1 height-to-width ratio (with height being measured from top of header to sill plate) when constructed in accordance with the following provisions. Each panel shall have a length of not less than 16 inches (406 mm) and a height of not more than 10 feet (3048 mm). Each panel shall be sheathed on one face with a single layer of 3/8-inch-minimum-thickness (9.5 mm) wood structural panel sheathing nailed with 8d common or galvanized box nails in accordance with Figure R602.10.5(2). The wood structural panel sheathing shall extend up over the solid sawn or glued-

laminated header and shall be nailed in accordance with Figure R602.10.5(2). The header shall extend between the inside faces of the first full-length outer studs of each panel. The clear span of the header between the inner studs of each panel shall be not less than six feet (1829 mm) and not more than 18 feet (5486 mm) in length. A strap with an uplift capacity of not less than 1000 pounds (454 kg) shall fasten the header to the side of the inner studs opposite the sheathing. Two anchor bolts shall be installed in accordance with Section R403.1.6, and plate washers shall be a minimum of 2 inches by 2 inches by 3/16 inch (51 mm by 51 mm by 4.88 mm) thick and shall be used on each bolt. This exception is only permitted in Seismic Design Categories A-C.

Figure R602.10.5(2)
GARAGE DOOR BRACED WALL PANEL FOR USE WITH CONTINUOUSLY SHEATHED WALLS



(Reason: To provide an alternate means of compliance.)

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

For 3¼ square feet (0.302 m^2) of wall area, the following dimensions shall be adhered to:

1. When ties are placed on studs 16 in (407 mm) o.c., they shall be spaced no further apart than 29 in (737 mm) vertically starting approximately 15 in (381 mm) from the foundation.
2. When ties are placed on studs 24 in (610 mm) o.c., they shall be spaced no further apart than 19 in (483 mm) vertically starting approximately 10 in (254 mm) from the foundation.

(Reason: Provide easy to install and inspect dimensions for clarity.)

Add Section R902.3 to read as follows:

R902.3 Minimum Roof Class. All roof coverings shall be a minimum Class C. All individual replacement shingles or shakes shall be a minimum Class C.

> **Exception:** Non-classified roof coverings shall be permitted on buildings of U occupancies having not more than 120 sq.ft. of projected roof area. When exceeding 120 sq.ft. of projected roof area, buildings of U occupancies may use non-rated non-combustible coverings.

(Reason: Consistent with local practice.)

Section R907.1; add a sentence to read as follows:

All individual replacement shingles or shakes shall comply with Section R902.3.

(Reason: Consistent with local practice. Correlates with regional amendment to R902.3.)

Section N1101.2; amend as follows:

N1101.2.1 Compliance. Compliance with this chapter shall be demonstrated by meeting ~~the requirements of the applicable sections and tables of this chapter~~ either one of the following:

1. Meeting the requirements of this chapter for buildings with a glazing area that does not exceed 15 percent of the gross area of exterior walls; or
2. Meeting the requirements of this chapter for buildings with a glazing area that is greater than 15 percent but not exceeding 20 percent of the gross area of exterior walls and air conditioning equipment rated 12 SEER or higher;
3. Meeting the requirements of this chapter for buildings with a glazing area that is greater than 20 percent but not exceeding 25 percent of the gross area of exterior walls and air conditioning equipment rated 14 SEER or higher; or
4. Meeting the requirements of the *International Energy Conservation Code* for residential buildings, detached one- and two-family dwellings.

{Remainder of section unchanged}

(Reason: This amendment would increase the number of builders who could use this "simplified prescriptive" approach of the IRC. It accommodates particularly the move-up and luxury homes with large glazing areas. The trade-off with air-conditioning is an option under the IECC systems analysis or REScheck approach, and is brought into this format for convenience only. Other IECC trade-offs would also remain available. The intent is to maintain compatibility with the IECC. The intent would include adjustment of this provision at such future date that the minimum federal equipment standards are raised to achieve equivalent increases in energy savings.)

Add Section N1101.3.4 to read as follows:

N1101.3.4 Exterior basement or slab insulation. When susceptibility to termite damage is classified as "very heavy" according to Table R301.2(1), designs employing basement or slab exterior insulation capable of harboring termites shall not be utilized.

(Reason: Usage of exterior insulation provides access for termites. This amendment does not preclude the use of insulating coatings that do not provide termite access or shelter.)

Section N1102.1; amend as follows:

N1102.1 Thermal performance criteria. The minimum required insulation *R*-value or the area-weighted average maximum required fenestration U-factor (other than opaque doors which are governed by Section N1102.1.3) for each element in the building thermal envelope (fenestration, roof/ceiling, opaque wall, floor, slab edge, crawl space wall and basement wall) shall be in accordance with the criteria in Table N1102.1.

Detached one-and-two family dwellings with greater than ~~15~~ 25-percent glazing area; townhouses with greater than 25-percent glazing area; ~~and any residential building in climates with heating degree days equal to or greater than 13,000~~; shall determine compliance using the building envelope requirements of Chapters 4 or 5 of the *International Energy Conservation Code*.

(Reason: This amendment is compatible with the amendment to Section N1101.2.1, which increases the allowable glazing area and effectively increases the number of builders who can use the "simplified prescriptive" approach of the IRC.)

Replace Table N1102.1 with:

TABLE N1102.1
SIMPLIFIED PRESCRIPTIVE BUILDING ENVELOPE THERMAL COMPONENT CRITERIA
MINIMUM REQUIRED THERMAL PERFORMANCE (*U*-FACTOR AND *R*-VALUE)

MAXIMUM GLAZING *U*-FACTOR [Btu/(hr*ft^2*°F)]	MINIMUM INSULATION *R*-VALUE [(hr*ft^2*°F)/Btu]						
	Ceilings open to Attic Space	Ceiling Joist/Roof Rafter Assembly	Walls	Floors	Basement Walls	Slab perimeter	Crawl space walls
0.65	R-38	R-22	R-13	R-19	R-0	R-0	R-7[a]

a. Crawl space insulation is only required for structures with uninsulated floors.

Use of this table is limited to projects where the cathedral ceiling area is limited to one third or less of the total ceiling area.

(Reason: This amendment is compatible with the previous amendments increasing the number of builders who could use the "simplified prescriptive" approach of the IRC and incorporates the Home Builder Association prescriptive package proposal. The addition of “Ceiling Joist/Roof Rafter Assembly” requirements protect such assemblies from the damage likely to occur if greater amounts of insulation were attempted in such assemblies.)

Section N1102.1.6; delete last sentence of exception.

(Reason: Slab edge insulation is not recommended in this region. Deleting the last sentence of the exception allows the use of the simplified prescriptive method of compliance.)

Section N1102.2; amend as follows:

N1102.2 Maximum solar heat gain coefficient for fenestration products. The area-weighted-average solar heat gain coefficient (SHGC) for glazed fenestration installed in locations with 3,500 or fewer heating degree days shall not exceed 0.40.

Exceptions:

1. Any glazing facing within 45 degrees of true north;
2. Any glazing facing within 45 degrees of true south which is shaded along its full width by a permanent overhang with a projection factor of 0.3 or greater.
3. Any fenestration with permanently attached screens where the screens have a rated shading coefficient of .6 or less.

(Reason: This will allow north facing windows, which do not receive direct solar radiation, to be exempt from the minimum SHGC requirement; provides a simple way for south facing windows to effectively achieve summer shade and still receive some solar heat benefit in winter; and specifically allows use of solar screens to achieve the shading effect.)

******Table N1103.5; amend as follows:***

Cooling Systems	**FLUID TEMP RANGE (^{o}F)**	**INSULATION THICKNESS inches[b]**
Chilled water, refrigerant or brine	40-55	~~.75~~ .5
	Below 40	1.25

{Remainder of table unchanged.}

Amend footnote "b" to read as follows:

b. For piping lengths in excess of five (5) feet (1,524 mm) exposed to outdoor air, increase thickness by 0.5 inch (13 mm).

(Reason: No performance data is available. REM/Rate scoring procedures do not consider refrigerant piping insulation. This amendment will provide a uniform approach and eliminate the requirement of policies by the various jurisdictions.)

*****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} . . .* from the opening to the appliance. The passageway shall have continuous unobstructed solid flooring in accordance with Chapter 5 not less than ~~24~~ 30 inches (~~610~~ 762 mm) wide. A level service space at least 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present along all 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 where such dimensions are not large enough to allow removal of the largest appliance. As a minimum, access to the attic space shall be provided by one of the following:

1. A permanent stair.
2. A pull down stair.
3. An access door from an upper floor level.

Exception: The passageway and level service space are not required where the appliance is capable of being serviced and removed through the required opening.

(Reason: To provide a safe means of accessibility to appliances in attics. Consistent with regional amendments to IMC 306.3 and IFGC 306.3.)

Section M1305.1.3.1; add a sentence to read as follows:

Low voltage wiring of 50 Volts or less shall be installed in a manner to prevent physical damage.

(Reason: To call attention to the need for care while installing lighting wiring in attic.)

Section M1305.1.4.1; change to read as follows:

M1305.1.4.1 Ground clearance. Appliances supported from the ground shall be level and firmly supported on a concrete slab or other approved material extending above the adjoining ground a minimum of 3 inches (76 mm). Appliances suspended from the floor shall have a clearance of not less than 6 inches (152 mm) above the ground.

(Reason: Consistent with current local practice.)

Section M1305.1.4.3; add a sentence to read as follows:

Low voltage wiring of 50 Volts or less shall be installed in a manner to prevent physical damage.

(Reason: To require thermostat wires to be protected from damage.)

Section M1307.3.1; delete.

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

Section M1501.2; delete and replace with the following:

M1501.2 Exhaust duct size. The minimum diameter of the exhaust duct shall be as recommended by the manufacturer, shall be at least the diameter of the appliance outlet and shall be a minimum nominal size of 4 inches (102 mm) in diameter. The size of duct shall not be reduced along its developed length nor at the point of termination.

(Reason: To clarify the size requirement.)

Section M1501.3; change to read as follows:

M1501.3 Length limitation. The maximum length of a clothes dryer exhaust duct shall not exceed 25 feet (7620 mm) from the dryer location to the wall or roof termination with not more than two bends. When extra bends are installed, the maximum length of the duct shall be reduced 2.5 feet (762 mm) for each 45-degree (0.79 rad) bend and 5 feet (1524 mm) for each 90-degree (1.6 rad) bend that occur after the first two bends, measuring in the direction of airflow. The maximum length of the exhaust duct does not include the transition duct.

{Exception is unchanged}

(Reason: To make more consistent with regional practice. Dryer technology has improved to the point where they should be capable of handling this.)

***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. Direct-vent water heaters are not required to be installed within an enclosure.

(Reason: Corresponds with the provisions of IFGC Section 303, exception #5.)

***Section G2408.3; delete.**

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

***Section G2412.5; 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 G2413.3; add an exception to read as follows:**

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

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

***Section G2415.6; change to read as follows:**

G2415.6 (404.6) Piping in solid floors. Piping in solid floors shall be laid in channels in the floor and covered in a manner what will allow access to the piping with a minimum amount of damage to the building. Where such piping is subject to exposure to excessive moisture or corrosive substances, the piping shall be protected in an approved manner. As an alternative to installation in channels, the piping shall be installed in accordance with Section G2415.11 (404.11) ~~a casing of schedule 40 steel, wrought iron, PVC or ABS pipe with tightly sealed ends and joints. Both ends of such casing shall extend not less than 2 inches (51 mm) beyond the point where the pipe emerges from the floor.~~

(Reason: Referencing Section G2415.11 provides CSST piping with outside venting.)

***Section G2415.9; change to read as follows:**

G2415.9 (404.9) Minimum burial depth. Underground piping systems shall be installed a minimum depth of ~~12~~ 18 inches (~~305~~ 458 mm) below grade~~, except as provided for in Section G2415.9.1~~.

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

Section G2415.9.1; delete.

(Reason: Individual lines should also be buried to 18 inches.)

Section G2417.1; 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 2417.7.4 to determine compliance with the provisions of this code. The permit holder shall give reasonable advance notice to the code 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 monometer 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. For tests requiring a pressure of 3 psig, mechanical gauges ~~used to measure test pressures~~ shall utilize a dial with a minimum 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 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.~~

(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~~ 3 psig (20 kPa gauge), or at the discretion of the Code 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 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 Code 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 Code Official, but in no case for less than thirty (30) minutes.

(Reason: To comply with accepted regional practices.)

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.

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

Section G2421.1; add a second paragraph and exception to read as follows:

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 G2439.5; add a sentence to read as follows:

The size of duct shall not be reduced along its developed length nor at the point of termination.

(Reason: To clarify the size requirement.)

Section G2439.5.1; change to read as follows:

G2439.5.1 (614.6.1) Maximum length. The maximum length of a clothes dryer exhaust duct shall not exceed 25 feet (7620 mm) from the dryer location to the outlet terminal with not more than two bends. When extra bends are installed, the maximum length of the duct shall be reduced 2 1/2 feet (762 mm) for each 45-degree (0.79 rad) bend and 5 feet (1524 mm) for each 90-degree (1.6 rad) bend that occur after the first two bends, measuring in the direction of airflow.

{Exception is unchanged}

(Reason: To make more consistent with regional practice. Dryer technology has improved to the point where they should be capable of handling this.)

***Section G2445.2; change 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 heaters may continue to be used in dwelling units, in accordance with the code provisions in effect when installed, when approved by the Code Official unless an unsafe condition is determined to exist as described in *International Fuel Gas Code* Section 108.7.

(Reason: Gives code official discretion.)

***Section G2448.1.1; 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 P2503.5.1, item 1; add a second paragraph to read as follows:**

Shower receptors shall be tested for water tightness by filling with water to the level of the rough threshold. The drain shall be plugged in a manner so that both sides of pans shall be subjected to the test at the point where it is clamped to the drain.

(Reason: To clarify that a water test is required for a shower receptor.)

***Section P2503.7.2; change to read as follows:**

P2503.7.2 Testing. Reduced pressure principle *. . . {bulk of section unchanged} . . .* at the time of installation, immediately after repairs or relocation and at regular intervals as required by applicable state or local provisions ~~least annually~~.

(Reason: Recognize TCEQ or other local testing procedures that must be adhered to.)

****Section P2603.2.1; change to read as follows:**

P2603.2.1 Protection against physical damage. In concealed locations…*{bulk of section unchanged}*…Protective shield plates shall be a minimum of .062-inch-thick (1.6 mm) steel~~,~~ and shall cover the area of the pipe where the member is notched or bored ~~and shall extend a minimum of 2 inches (51 mm) above sole plates and below top plates~~.

(Reason: To remain consistent with common local practice.)

***Section P2603.6.1; delete and replace with the following:**

P2603.6.1 Sewer depth. Building sewers shall be a minimum of 12 inches (304 mm) below grade.

(Reason: Provides sewer depth that is common in this region.)

Section P2709.1; add an exception to read as follows:

Exception: Showers designed to comply with ICC/ANSI A117.1.

(Reason: To provide more specific requirements.)

Section P2801.6; add an exception as follows:

Exception: Elevation of the ignition source is not required for water heaters that are listed as flammable vapor resistant and for installation without elevation.

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

****Section P2902.4.3; changed to read as follows:***

P2902.4.3 Lawn Irrigation Systems. The potable water supply system 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 . . . {*remainder of section unchanged}.*

(Reason: To provide clarity.)

***Table P2904.4.1 & P2904.5; delete "Polybutylene (PB) plastic pipe and tubing".*

***Sections P2904.5.1 and P2904.14; delete reference to "PB" plastic pipe.*

(Reason: Polybutylene pipe is not allowed for use in this region.)

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

P3005.2.6 Upper terminal ~~Base of stacks~~. Each horizontal drain shall be provided with a cleanout at its upper terminal ~~Accessible cleanouts shall be provided near the base of each vertical waste or soil stack. Alternatively, such cleanouts may be installed outside the building within 3 feet (914 mm) of the building wall.~~

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

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

***Section P3103.1; change to read as follows:*

P3103.1 Roof extension. All open vent pipes which extend through a roof shall be terminated at least six (6) inches (152 mm) above the roof ~~or [number] inches above the anticipated snow accumulation~~, except that *. . . {remainder of section unchanged}*.

(Reason: To provide regional guideline on standard installation method for this area.)

******Sections P3105.2; change to read as follows:***

P3105.2 Fixture drains. The total fall in a fixture drain due to pipe slope shall not exceed one pipe diameter, nor shall the vent pipe connection to a fixture drain, except for water closets, be below the weir of the trap ~~except as provided in Section P3105.3~~.

*****Section 3105.3 and Figure P3105.3; delete.***

(Reason: S-trap issues.)

******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.)

******Chapters 33 through 42; delete. Replace with the electrical code as adopted.***

END