

Recommended Amendments to the 2021 International Residential Code

City of Denton, Texas

The following sections, paragraphs, and sentences of the *2021 International Residential Code* are hereby amended as follows: Standard type is text from the IBC. Underlined type is text inserted. ~~Lined through type is deleted text from IBC.~~ A double asterisk (**) at the beginning of a section identifies an amendment carried over from the 2012 edition of the code and a triple asterisk (***) identifies a new or revised amendment with the 2021 code.

****Section R101.1 Title.**

R101.1. Title. These provisions shall be known as the *Residential Code for One- and Two-Family Dwellings* of the [NAME OF JURISDICTION] City of Denton, and shall be cited as such and will be referred to herein as "this code."

(Reason: Standard insertion point: [insert] to assist with local adoption.)

****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. No change.)

****R104.12; add to read as follows:**

R104.12 Contractor Registration. The Building Official shall receive applications from and register contractors according to the rules adopted by the City.

(Reason: Codify policy. No change.)

****R105.2; change to read as follows:**

R105.2 Work exempt from permit. Exemption from permit requirements of this code 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. *Permits* shall not be required for the following.

Building:

1. Other than storm shelters, one-story detached *accessory structures* used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 200 square feet (18.58 m²).

- ~~2. Fences not over 7 feet (2133mm) high.~~

(... remainder unchanged)

(Reason: City of Denton requires fence permit. No change.)

**** R108.2; change to read as follows:**

R108.2 Schedule of permit fees. Schedule of permit fees. Where work requires a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority or ordinance of the City.

(Reason: Preferred language for the other code adoptions. No change.)

**** R108.6; change to read as follows:**

R108.6 Work commencing before permit issuance. Any person who commences any work ~~on a plumbing system before obtaining the necessary permits shall be subject to a fee established by the code official that shall be in addition to the required permit fees requiring a permit on a building, structure, electrical, gas, mechanical or plumbing system before obtaining the necessary permits shall be subject to the required permit fees, as set by the current schedule of fees adopted by ordinance of the City.~~

(Reason: Preferred language for the other code adoptions. No change.)

**** R109.1.2; change to read as follows:**

R109.1.2 Plumbing, mechanical, gas, and electrical systems inspection. Rough inspection of plumbing, mechanical, gas, and electrical systems shall be made prior to covering or concealment, before fixtures or appliances are set or installed, and prior to framing inspection. At time of plumbing rough inspection the underground plumbing will be tested as well.

(Reason: To prevent issues after construction, no change to current policy.)

****R112; delete in entirety and amend to read as follows:**

112 HEALTH AND BUILDING STANDARDS COMMISSION

R112.1 General. In order to hear and decide appeals of orders, decisions or determinations made by the building official, code official, or fire marshal relative to the application and interpretation of the requirements of this Code and all other applicable codes of the City of Denton, there shall be a health and building standards commission.

112.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The health and building standards commission shall not have authority to waive requirements of this code.

(Reason: Local appeals board procedures consistent with Denton Code of Ordinances. No change.)

****TABLE R301.2; change to read as follows:**

TABLE R301.2 CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOAD	WIND DESIGN				SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM				ICE BARRIER UNDERLAYMENT REQUIRED	FLOOD HAZARD	AIR FREEZING INDEX	MEAN ANNUAL TEMP
	Speed	Topographic effects	Special wind debris zone	Wind-borne debris zone		Weathering	Frost line depth	Termite					
5psf	115mph	NO	NO	NO	A	Moderate	6"	Very Heavy		NO	Local Ordinance	150	64.9°

Delete remainder of table Manual J Design Criteria and footnote e and n.

(Reason: To establish the design criteria consistent with NCTCOG by promoting regional uniformity. Manual J is utilized by third party and not part of performed plan reviews. This is a reference table only, not needed. No change.)

****R313; delete in entirety and amend to read as follows:**

R313.1 Automatic Fire Sprinkler Systems.

- An automatic sprinkler shall be installed in all new buildings of noncombustible construction, (Type I a& II) including group R-3, which exceed three stories in height or which have more than ten thousand (10,000) square feet of floor area regardless of fire area, area separation walls, or fire walls.
- An automatic sprinkler system shall be installed in all new buildings of combustible construction, (Type III, IV & V) including Group R-3, which exceed two stories in height or which have more than seven thousand five hundred (7,500) square feet of floor area regardless of fire area, area separation walls, or fire walls.
- The owner(s) of any building shall be required to install an automatic sprinkler system at such time as the owner(s) constructs an addition or enlargement to the building if the total square footage of such addition, when combined with the total square footage of the existing building, exceeds ten thousand (10,000) square feet of noncombustible construction (Type I & II) total floor area, regardless of fire area, area separation walls, or fire walls.
- The owner(s) of any building shall be required to install an automatic sprinkler system at such time as the owner(s) constructs an addition or enlargement to the building if the total square footage of such addition, when combined with the total square footage of the existing building, exceeds seven thousand five hundred (7,500) square feet of combustible construction (Type III, IV & V) total floor area, regardless of fire area, area separation walls, or fire walls.

R313.1.1 Design and installation. Automatic residential fire sprinkler systems shall be designed and installed in accordance with Section P2904 or NFPA 13D.

(Reason: In 2009, the State Legislature enacted SB 1410, amending section 1301.551 subsection I of the occupation code, prohibiting cities from enacting fire sprinkler mandates one-or two-family dwellings only. However, jurisdictions with ordinances that required sprinklers for one or two family dwellings prior to and enforced before January 1, 2009, may remain in place. No change.)

****R315.2.2; amend to read as follows:**

R315.2.2 Alterations, repairs and additions. Where *alterations*, repairs or *additions* requiring a permit occur, or where one or more sleeping rooms are added or created in existing *dwellings*, the individual *dwelling unit* shall be equipped with carbon monoxide alarms located as required for

new dwellings.

Exceptions:

1. Work involving the exterior surfaces of *dwellings*, such as the ~~replacement of roofing or siding, or replacement of windows or doors,~~ or addition of a porch or deck.
2. Installation, alteration or repairs of plumbing systems when all such work occurs on the exterior of dwellings, such as water or sewer lines, or lawn irrigation systems are exempt from the requirements of this section.
3. Installation, alteration or repairs of mechanical systems that are not fuel fired.

(Reason: To provide homeowners with life saving devices, if not already in place.)

****R322.1; add second paragraph to read as follows:**

The City Engineer is designated as the Floodplain Manager. The Floodplain Manager is responsible for determining base flood elevation and associated permitting requirements. Any references within Section R322 Flood-Resistant Construction to the *building official* will have similar meaning as to the Floodplain Manager.

(Reason: Floodplain hazard ordinances may be administered by other departments within the city. No change.)

****R401.2; add to read as follows.**

R401.2 Requirements. Foundation construction shall be capable of accommodating all loads according to Section R301 and of transmitting the resulting loads to the supporting soil. Fill soils that support footings and foundations shall be designed, installed and tested in accordance with accepted engineering practice. Concrete foundations in excess of 400 square feet shall be designed by a registered design professional licensed in the State of Texas.

(Reason: To codify policy and provide for a minimum qualification. No change)

*****Part IV – Energy Conservation: is amended to match the IECC.**

Section N1101.4.1 (R102.1.2) Alternative compliance. A building certified by a national, state, or local accredited energy efficiency program and determined by the Energy Systems Laboratory to be in compliance with the energy efficiency requirements of this section may, at the option of the Code Official, be considered in compliance. The United States Environmental Protection Agency's Energy Star Program certification of energy code equivalency shall be considered in compliance. Regardless of the program or the path to compliance, each 1- and 2-family dwelling shall be tested for air and duct leakage as prescribed in Section R402.4.1.2 (N1102.4.1.2) and R403.3.3 (N1103.3.3) respectively.

****Section N1101.6 (R202) Definitions; add the following definitions:**

DYNAMIC GLAZING. Any fenestration product that has the fully reversible ability to change its performance properties, including U-factor, solar heat gain coefficient (SHGC), or visible transmittance (VT).

PROJECTION FACTOR. The ratio of the horizontal depth of the overhang, eave or permanently attached shading device, divided by the distance measured vertically from the bottom of the fenestration glazing to the underside of the overhang, eave or permanently attached shading device.

****Section N1101.13.5 (R401.2.5) Additional Energy efficiency; deleted in its entirety.**

****Table N1102.1.2 (R402.1.2) Maximum Assembly U-Factors^a and Fenestration Requirements, is deleted in its entirety (Footnotes to remain) and replaced by the following:**

Table N1102.1.2 (R402.1.2) MAXIMUM ASSEMBLY U-FACTORS^a AND FENESTRATION REQUIREMENTS

Climate Zone	Fenestration U-Factor ^d	Skylight U-Factor	Glazed Fenestration SHGC ^{d,e}	Ceiling U-Factor	Wood Frame Wall U-Factor	Mass Wall U-Factor ^b	Floor U-Factor	Basement Wall U-Factor	Crawl Space Wall U-Factor
3	0.32	.55	0.25	0.029	0.060	0.098	0.047	0.091 ^c	0.136

For SI: 1 foot = 304.8 mm.
(Footnotes to remain)

****Table N1102.1.3 (R402.1.3) Insulation Minimum R-Values and Fenestration Requirements by Component^a, is deleted in its entirety and replaced by the following:**

TABLE N1102.1.3 (R402.1.3) INSULATION MINIMUM R-VALUES AND FENESTRATION REQUIREMENTS BY COMPONENT^a

Climate Zone	Fenestration U-Factor ^d	Skylight U-Factor	Glazed Fenestration SHGC ^{d,e}	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall U-Value ^{c,f}	Floor R-Value	Basement Wall R-Value	Slab R-Value ^d & Depth	Crawl Space Wall R-Value
3	0.32	.55	0.25	42	19 or 13+3ci or 0+15	8/13	19	5 ci or 13 ^f	0	5 ci or 13 ^f

For SI: 1 foot = 304.8 mm.
(Footnotes to remain)

****A new Section N1102.4.1.4 (R402.4.1.4) is added, to read as follows:**

N1102.4.1.4 (R402.4.1.4) Sampling options for R2 multifamily dwelling units. For buildings with eight or more testing units that must be tested as required by N1102.4.1.2 or N1102.4.1.3, the greater of seven units or 20 percent of the testing units in the building shall be tested, including a top floor unit, a ground floor unit, a middle floor unit, and a unit with the largest testing unit enclosure area. For each tested unit that exceeds the maximum air leakage rate, an additional three units shall be tested, including a mixture of testing unit types and locations. Where buildings have fewer than eight testing units, each testing unit shall be tested.

****Section N1102.4.6 (R402.4.6) Electrical and communication outlet boxes (air-sealed boxes). is deleted in its entirety and replaced by the following:**

N1102.4.6 (R402.4.6) Electrical and communication outlet boxes (air-sealed boxes). Electrical and communication outlet boxes installed in the building thermal envelope shall be sealed to limit air leakage between conditioned and unconditioned spaces.

*****A new Section N1103.3.8 (R403.3.8) is added, to read as follows:***

N1103.3.8 (R403.3.8) Sampling options for R2 multifamily dwelling units. For buildings with eight or more testing units that must be tested as required by N1103.3.5, the greater of seven units or 20 percent of the testing units in the building shall be tested, including a top floor unit, a ground floor unit, a middle floor unit, and a unit with the largest testing unit floor area. For each tested unit that exceeds the maximum duct leakage rate, an additional three units shall be tested, including a mixture of testing unit types and locations. Where buildings have fewer than eight testing units, each testing unit shall be tested.

*****A new Section N1103.6.4 (R403.6.4) is added, to read as follows:***

N1103.6.4 (R403.6.4) Sampling options for R2 multifamily dwelling units. For buildings with eight or more testing units that must be tested as required by N1103.6.3, the greater of seven units or 20 percent of the testing units in the building shall be tested, including a top floor unit, a ground floor unit, a middle floor unit, and a unit with the largest testing unit floor area. For each tested unit that does not meet the minimum ventilation rate, an additional three units shall be tested, including a mixture of testing unit types and locations. Where buildings have fewer than eight testing units, each testing unit shall be tested.

*****Section N1104.2 (R404.2) Interior Lighting Controls; deleted in its entirety.***

*****N1105.2 (R405.2) Performance-based compliance., is deleted in its entirety and replaced by the following:***

N1105.2 (R405.2) Performance-based compliance. Compliance based on total building performance requires that a proposed design meets all of the following:

1. The requirements of the sections indicated within Table N1105.2 (R405.2).
2. The building thermal envelope greater than or equal to levels of efficiency and solar heat gain coefficients in Table R402.1.1 or R402.1.3 of the 2009 International Energy Conservation Code.
3. An annual energy cost that is less than or equal to the annual energy cost of the 2021 standard reference design or 8% less than the annual energy cost of the 2018 standard reference design. Energy prices shall be taken from a source approved by the code official, such as the Department of Energy, Energy Information Administration's State Energy Data North Central Texas Council of 5 Governments Amendments Approved October 2021. System Prices and Expenditures reports. Code officials shall be permitted to require time-of-use pricing in energy cost calculations.

Exception: The energy use based on source energy expressed in Btu or Btu per square foot of conditioned floor area shall be permitted to be substituted

for the energy cost. The source energy multiplier for electricity shall be 3.16.
The source energy multiplier for fuels other than electricity shall be 1.1.

*****Table N1106.5 R406.5 MAXIMUM ENERGY RATING INDEX; is deleted in its entirety and replaced by the following:***

TABLE N1106.5 (R406.5)¹ MAXIMUM ENERGY RATING INDEX

CLIMATE ZONE	EFFECTIVE DATES	ENERGY RATING INDEX
3	Until August 31, 2022	63
3	September 1, 2022 to August 31, 2025	59
3	September 1, 2025 to August 31, 2028	57
3	September 1, 2028	55

*****Section N1108 (R408) ADDITIONAL EFFICIENCY PACKAGE OPTIONS; deleted in its entirety.***

(Reason: Consistency with the adoption of the 2021 ICC Energy Code by separate ordinance.)

*****M1305.1.2; amend to add the following second paragraph:***

As a minimum, for access to the attic space, one of the following shall be provided:

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.

(Reason: To provide a safe means of accessibility to appliances in attics and to allow for different types of construction limitations. No change.)

******M1411.5; amend to read as follows:***

M1411.5 Auxiliary drain pan. Category IV condensing appliances shall have an auxiliary drain pan where damage to any building component will occur as a result of stoppage in the condensate drainage system or failure of a condensate pump. These pans shall be installed in accordance

with the applicable provisions of Section M1411.3.1 item (1.) and shall also be provided under condensate pumps.

(Reason: Reflects standard practice in this area.)

*****P2603.5.1; amend to read as follows:**

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

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

*****Part VIII – ELECTRICAL: delete in its entirety.**

(Reason: Adopt 2020 National Electrical Code.)

APPENDIX AQ102; amend to modify the following definition:

TINY HOUSE. A dwelling that is ~~400~~ 500 square feet (~~37~~^{m²}) or less in floor area excluding lofts.

(Reason: Match current definition of a tiny home as stated in the Denton Development Code.)

End