

# City of Tucson Amendments to the 2012 International Residential Code

**Table R301.2(1) Climatic and geographic design criteria.** INSERT as follows:

Ground Snow Load	0 psf
Wind Speed	90 mph
Topographic Effects	No
Seismic Design	Category B
Weathering	Negligible
Frost Line Depth	0 in
Termite	Moderate to Heavy
Winter Design Temperature	32 deg
Flood Hazards	NFIP: May, 1983 FIRM: June 16, 2001

**Chapter 1 Scope and Administration.** REVISE chapter by DELETING Section R102 Applicability and Part 2- Administration and Enforcement.

**Section R101.1 Title.** Enter [Name of Jurisdiction] as “City of Tucson”.

**Section R302.1 Exterior Walls.** REVISE section by DELETING text and tables and REPLACING with the following:

Exterior walls with a fire separation distance less than 3 feet (914mm) shall have not less than a one-hour fire-resistive rating with exposure from both sides. Projections shall not extend to a point closer than 2 feet (610 mm) from the line used to determine the fire separation distance. Projections extending into the fire separation distance shall have not less than one-hour fire-resistive construction on the underside. The above provisions shall not apply to walls which are perpendicular to the line used to determine the fire separation distance.

**Exceptions:**

1. Detached garages accessory to a dwelling located within 2 feet of a lot line may have roof eave projections not exceeding 4 inches.
2. Tool and storage sheds, playhouses, ramadas and similar structures exempted from permits 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.

**ADD new section R302.1.1 to read:**

**Section R302.1.1 Openings.** Openings shall not be permitted in the exterior wall of a dwelling with a fire separation distance less than 3 feet. This distance shall be measured perpendicular to the line used to determine the fire separation distance.

**Exception:**

1. Penetrations shall be permitted in walls that are perpendicular to the line used to determine the fire separation distance.
2. Foundation vents installed in compliance with this code are permitted.

**Section R302.2 Townhouses.** REVISE section by substituting “2-hour” for “1-hour” in the first sentence and adding the following sentence at the end of the first paragraph: “Required fire separation rating may be reduced to 1-hour when the dwellings are equipped with an automatic sprinkler system installed in accordance with Section P2904.”

**Section R303.5.1 Intake openings.** REVISE section by ADDING an exception to read:

**Exception:** Replacement of existing evaporative coolers where the building official determines that the replacement does not constitute a high degree of hazard.

**Section R303.9 Required heating.** REVISE section by ADDING an exception to read:

**Exception:** Spaces able to maintain 60°F at a point 3 feet above the floor and 2 feet from exterior walls in all habitable rooms over a 48 hour period as demonstrated by section N1105 Simulated performance alternative.

**Section R309.5 Fire sprinklers.** DELETE section in its entirety.

**Section R313 Automatic Fire Sprinkler Systems.** DELETE section in its entirety.

**Section R802.11.1 Uplift resistance.** REVISE section by DELETING both paragraphs and ADDING the following:

Uplift resistance to minimize microburst effects shall be determined by either method 1 or 2 below:

**1. Design-based wind uplift criteria**

Wind uplift requirements shall be determined by using the design wind value of 110 mph within Table R802.11 for the continuous load path transmitting the uplift forces from the rafter or truss ties to the foundation.

**2. Prescriptive-based wind uplift criteria**

(Please note that the requirements of this section are in addition to those required for the structural connection of wood members).

**2.1. Conventionally-framed wood or cold-formed steel structures**

All bearing wall vertical connections shall be clipped with either approved structural sheathing or approved clips to provide a continuous load path from the joist or truss through the ledger or top plate to the bottom wall plate. Where clips are used, they shall be minimum Simpson H2.5 (A34 at ledger), or equivalent load capacity, of configuration to match connection and spaced at intervals not to exceed 24". At openings, lower cripple studs do not require clipping but king/trimmer studs require double clips at bottom and upper cripples require both full clipping to header as well as header to king stud. All platform framing requires either strapping listed for the purpose or continuous

sheathing over rim joist from stud to stud vertically at each floor level.  
 All non-bearing exterior walls shall be clipped as above except that the spacing may be extended not to exceed every other stud.

**2.2. Masonry or concrete structures**

If lateral design requires larger anchors or more conservative spacing, these may be used in lieu of those called out in this section.

**2.2.1. Roof bearing on wall top plate**

Top plates shall be secured to masonry or concrete walls with minimum 0.5" embedded anchor bolts spaced at intervals not to exceed 48". Each joist or truss shall be clipped to plate at bearing with minimum Simpson H2.5 or equivalent load capacity and of configuration to match connection. Gable end joists or trusses shall also be clipped at intervals not to exceed 48".

**2.2.2. Roof bearing on wall ledger**

Joists or trusses both parallel or perpendicular to a wall ledger shall be secured to masonry or concrete walls with minimum Simpson PA123 purlin anchors or equal with equivalent load capacity listed for the application and embedded into wall per listing at intervals not to exceed 48". Nonbearing roof diaphragm edges shall have the outermost joist or truss likewise anchored to the wall through blocking.

**2.3. Structural steel structures**

Structural steel buildings shall have roof members attached by either welds, bolt or other similarly approved connections at intervals not to exceed 48". Ledger designs shall connect to roof trusses with strapping listed for the purpose at intervals not to exceed 48" on all diaphragm sides. If lateral design requires larger anchors or more conservative spacing, these may be used in lieu of those called out in this section.

**Section N1101.7 (R102.1.1) Above code programs.** REVISE section by ADDING the following at the end of the paragraph:  
 Compliance with the Pima County Net-Zero Energy Standard shall be deemed to comply with this code.

**ADD new section N1101.11.1 (R302.2) to read:**  
**Section N1101.11.1 (R302.2) Exterior design conditions.**

**Table N1101.11.1  
 Exterior Design Conditions**

CONDITION		
Winter	Design Dry Bulb Temp	32°F
Summer	Design Dry Bulb Temp	104°F
	Design Wet Bulb Temp	66°F
Climate zone		2B

**Table N1102.1.3 (R402.1.3) U-Factor alternative.** REVISE the section by ADDING the following to the end of footnote b:

In climate zone 2, an un-insulated earth mass wall with a maximum U-factor of 0.14 shall be deemed in compliance (for computing the U-factor, an R value of 0.3 per inch shall be used for adobe and rammed earth).

**Section N1102.4.1.2 (R402.4.1.2) Testing.** REVISE section by DELETING the third sentence and REPLACING with the following:

Testing shall be conducted by individuals holding current certification for such testing from Residential Energy Services Network (RESNET), Building Performance Institute (BPI) or other *approved* agencies.

**Section M1411.3 Condensate disposal.** REVISE section by ADDING the following at the end of the paragraph:

Condensate disposal shall be allowed to terminate as follows:

1. Into an approved fixture tailpiece, funnel drain, waste air gap fitting, floor sink, slop sink and laundry tray.
2. At or below grade outside the building in an area capable of absorbing the condensate flow without surface drainage.
3. Over roof drains or gutters or downspouts that connect to drainage pipes, provided they terminate at or above grade in an area capable of absorbing the condensate flow without surface drainage.

#### **ADD new Section M1413.2**

**Section M1413.2 Water conservation.** Evaporative cooling systems shall be provided with a recirculating water system. Any bleed off rate used by the system shall be limited to that recommended by the manufacturer. Once-through evaporative cooling systems using potable water shall not be permitted.

#### **ADD a new section P2601.2.1 to read:**

##### **Section P2601.2.1 Gray Water Piping**

1. All new single family and duplex residential dwelling units shall include either a separate multiple pipe outlet or a diverter valve, and outside “stub-out” installation on the clothes washing machine hook-ups, to allow separate discharge of gray water for direct irrigation.
2. All new single family residential dwelling units shall include a building drain or drains for lavatories, showers, and bathtubs, segregated from drains for all other plumbing fixtures, and connected a minimum of three (3) feet from the limits of the foundation, to allow for future installation of a distributed gray water system.
3. All gray water systems shall be designed and operated according to the provisions of the applicable permit authorized by ADEQ under the Arizona Administrative Code, Title 18, Chapter 9.

**Section P2603.5.1 Sewer depth.** INSERT [number] as “12” in both locations.

**Section P2803.6.1 Requirements for discharge pipe.** REVISE section by DELETING item number 2

**Section P2801.5.1 Pan size and drain.** REVISE section by ADDING the following to the end of the second sentence:

A drain shall not be required for replacement water heaters in locations where no previously installed drain is available.

**Section P2902.5.4 Connection to automatic fire sprinkler systems.** REVISE section by DELETING all text therein and REPLACING it with the following:

The potable water supply to automatic fire sprinkler and standpipe systems shall be protected against backflow in accordance with ARS § 41-2168.

**Section P2904.1.1 Required sprinkler locations.** REVISE section by DELETING the first sentence and REPLACING with the following: "Sprinklers are not required within dwelling units. This section serves as a guide for voluntary installation or to allow for a fire separation reduction within sections R302.2 and R302.3."

**Section P3003.2 Prohibited joints.** REVISE section by DELETING the period at the end of item 5 and ADDING ", unless the solvent-cement is listed for the purpose."

**Section P3008.1 Sewage backflow.** REVISE section by DELETING paragraph and ADDING new text to read:

Where the finish floor elevation is less than 12 inches above the elevation of the next upstream manhole cover in the sewer, a backwater valve shall be installed in the building drain or branch of the building drain serving that floor. Floors discharging from above that reference point shall not discharge through the same back water valve.

**Section P3009 Gray water recycling systems.** REVISE section by DELETING sections 3009.11 Drain; 3009.14 Landscape irrigation systems; and all references thereto.

**Section P3201.2 Trap seals and trap seal protection.** REVISE section by DELETING the second sentence and REPLACING it with: "Where a trap seal is subject to loss by evaporation, a trap seal primer valve or a trap seal protection device shall be installed."

**Section 3703.1: Branch circuits for heating.** REVISE section by ADDING a sentence to the end of the paragraph to read:

Evaporative cooler fan and pump motors shall be permitted to be connected to the same branch circuit as central heating.

**ADD new section E3703.7 to read:**

**Section E3703.7 Dishwasher and Garbage Disposer Branch Circuits – Dwelling Units.** In residential occupancies, dishwasher and garbage disposer may be on the same 20-ampere branch circuit.

**ADD new section E3802.8 to read:**

**Section E3802.8 Earthen material wiring method.** Type UF Cable shall be permitted to be used in mortar joints of adobe construction in occupancies where the use of Nonmetallic Sheathed Cable is permitted by this code.

**Adopt Appendix G**

**Appendix G: Swimming Pools, Spas and Hot Tubs.**

**Section AG102 Definitions:**

**Swimming Pool.** REVISE this section by DELETING the paragraph and REPLACING it with the following:

A swimming pool is a body of water intended for swimming, eighteen inches or more in depth at any point and eight feet or more in length or width. A spa is a structure intended for recreational bathing which contains water more than 24 inches deep.

**Adopt Appendix H: Patio Covers.**