

**Amendments and deletions to the 2009 Edition of the International Residential Code**  
**Ordinance #12-020**

**Section 1.02 Adoption of Code**

The International Building Code, 2009 Edition (hereinafter called "I.B.C."); the International Residential Code, 2009 Edition (hereinafter called "I.R.C."); and the International Energy Conservation Code, 2009 Edition (hereinafter called "I.E.C.C."); as published by the International Code Council, Inc. are hereby adopted and designated, together with the deletions, amendments and addenda hereinafter contained, as the Building Code of the City of Arlington, the same as though said I.B.C., I.R.C. and I.E.C.C. were copied at length herein. Copies of the I.B.C., I.R.C. and I.E.C.C. and its Appendices shall be kept on file in the Office of the City Secretary.

The adoption of the 2009 I.R.C. as stated herein except that Section R313 of the 2003 I.R.C., as amended and originally adopted on August 23, 2005 by Ordinance No. 05-068, to read as follows is maintained:

**R313.1 Fire sprinkler system.** All R3 and U occupancies are required to have an approved fire sprinkler system.

**EXCEPTION:** Buildings with an approved fire department access.

Further, Article I, **Section 1.04, Amendments, Additions and Deletions, Subsection (B)**, is hereby amended so that hereafter said subsection shall read as follows:

B. The deletion in the entirety of the following provisions of the I.B.C., I.E.C.C., and I.R.C.:

1. Section 105 I.B.C. and R105 I.R.C., entitled Permits;
2. Delete Section 107 I.B.C. entitled Submittal Documents and 106 I.R.C. entitled Construction Documents.
3. Section 109 I.B.C. and R108 I.R.C. and 107 I.E.C.C, entitled Fees;
4. Section 110 I.B.C. and R109 I.R.C., entitled Inspections; and
5. Section 111 I.B.C. and R110 I.R.C., entitled Certificate of Occupancy.
6. Section 113 I.B.C. and R112 I.R.C. and 109 I.E.C.C, entitled Board of Appeals;
7. Section 114 I.B.C. and R113 I.R.C., entitled Violations;
8. Section 116 I.B.C., entitled Unsafe Structures and Equipment;
9. Section 2503 I.B.C., entitled Inspection;
10. Chapters 34 through 43 I.R.C.

Further, Article I, **Section 1.04, Subsection (D)**, is hereby amended so that hereafter said subsection shall read as follows:

D. The amendment of the following I.R.C. provisions:

1. The amendment of Section R101.1, entitled Title, to read as follows:

**R101.1 Title.** These provisions shall be known as the Residential Code for One- and Two-family Dwellings of the City of Arlington, Texas, and shall be cited as such and will be referred to herein as "this code."

2. The amendment of Section R102.4, entitled Referenced codes and standards., 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 standards shall be considered to reference the amendments as well. Any reference made to NFPA 70, or 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 of a code provision would violate the conditions of the listing of the equipment or appliance, the conditions of the listing and manufacturer's instructions shall apply.

3. The amendment of Section R114, entitled STOP WORK ORDER, to read as follows:

**R114 STOP WORK ORDER**

**R114.1 Stop Work Order.** Whenever any work is being done contrary to the provisions of this Code, the Building Official may order the work stopped by notice in writing served on any persons engaged in the doing or causing such work to be done. Any such person shall forthwith stop such work until:

- a. He or she is authorized by the Building Official to proceed with the work; or
- b. An appeal perfected pursuant to Section 2.06 of Article II has resulted in a waiver of the condition causing the stop order, or a finding that there is no cause for a stop order.

Failure to stop such work, in addition to penalties and remedies elsewhere set forth, shall void any appeal.

4. The amendment of Section R202, entitled Definitions., to revise the definition of "Townhouse" and add the definitions of "Glazing Area", "Reclaimed Water", and "Shall" to read as follows:

**GLAZING AREA.** Total area of the glazed fenestration measured using the rough opening and including sash, curbing or other framing elements that enclose conditioned space. Glazing area includes the area of glazed fenestration assemblies in walls bounding conditioned basements. For doors where the daylight opening area is less than 50 percent of the door area, the glazing area is the daylight opening area. For all other doors, the glazing area is the rough opening area for the door including the door and the frame.

**RECLAIMED WATER** or “Recycled Water” means domestic or municipal wastewater which has been treated to a quality suitable for beneficial use. Reclaimed or recycled water is non-potable water.

**SHALL**, as it applies to an act or duty to be performed by the Building Official pursuant to any section of this Building Code, is discretionary. Its use in all other applications in this Code shall be mandatory.

**TOWNHOUSE.** A single-family dwelling unit constructed in a group of attached units separated by property lines in which each unit extends from foundation to roof and with yard or public way on at least two sides.

5. The amendment of table R301.2(1), entitled Climatic and Geographic Design Criteria, to fill in as follows:

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

SUBJECT TO DAMAGE FROM		
Weathering <sup>a</sup>	Frost line depth <sup>b</sup>	Termite <sup>c</sup>
moderate	6"	very heavy

WINTER DESIGN TEMP <sup>e</sup>	ICE SHIELD UNDER-LAYMENT REQUIRED <sup>h</sup>	FLOOD HAZARDS <sup>g</sup>	AIR FREEZING INDEX <sup>i</sup>	MEAN ANNUAL TEMP <sup>j</sup>
22°F	No	See IBC 1612	150	64.9°F

6. The amendment of Section R301.2.4, Floodplain construction., to read as follows:

**R301.2.4 Construction in flood hazard areas.** Permits for the construction, reconstruction, rehabilitation, addition or other improvements shall be performed in accordance with the provisions of SECTION 1612 FLOOD LOADS of the International Building Code, as amended.

7. The amendment of Section R302.1, entitled Exterior walls., by adding Exception #6, to read as follows:

6. Open metal carport structures may be constructed within zero (0) feet of the property line without fire-resistive or opening projection when the location of such is approved as required by other City ordinances.

8. The amendment of Section R302.2, entitled Townhouses., to read as follows:

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

**Exceptions:** A common 2-hour fire-resistance-rated wall, or one-hour fire resistance rated wall assembly when protected by an approved fire sprinkler system, tested in accordance with ASTM E 119 or UL 263 is permitted for townhouses if such walls do not contain plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. The wall shall be rated for fire exposure from both sides and shall extend to and be tight against exterior walls and the underside of the roof

sheathing. Electrical installations shall be installed in accordance with Chapters 34 through 43. Penetrations of electrical outlet boxes shall be in accordance with Section R302.4.

9. The amendment of Section R302.2.4, entitled Structural independence., to read as follows:

**R302.2.4 Structural independence.** Each individual *townhouse* shall be structurally independent.

**Exceptions:**

1. Foundations supporting *exterior walls* or common walls.
  2. Structural roof and wall sheathing from each unit may fasten to the common wall framing.
  3. Nonstructural wall and roof coverings.
  4. Flashing at termination of roof covering over common wall.
  5. *Townhouses* separated by a common 1- or 2-hour fire-resistance-rated wall as provided in Section R302.2.
10. The addition of Exception #3 to Section R302.3, entitled Two-family dwellings., to read as follows:
    3. Two-family dwelling units that are also divided by a property line through the structure shall be separated as required for townhouses.
  11. The amendment of Section R302.5.2, entitled Duct penetration., to read as follows:

**R302.5.2 Duct penetration.** Ducts in the garage and ducts penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum No. 26 gage (0.48 mm) sheet steel or other approved material and shall have no openings into the garage and shall be protected as required by Section 302.11, Item 4.

12. The amendment of Section R302.5.3, entitled Other penetrations., to read as follows:

**R302.5.3 Other penetrations.** Penetrations through the separation required in Section R302.6 shall be protected as required by Section R302.11, Item 4.

13. The amendment of Section R302.7, entitled Under stair protection., to read as follows:

**R302.7 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 gypsum board or one-hour fire-resistive construction.

14. The amendment of the exceptions to Section R303.3, entitled Bathrooms., 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 (24 L/s) for intermittent ventilation or 20 cfm (10 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, 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.

15. The amendment of SECTION R313, entitled AUTOMATIC FIRE SPRINKLER SYSTEMS, to read as follows:

### **SECTION R313 AUTOMATIC FIRE SPRINKLER SYSTEMS**

**R313.1 Design and installation.** Automatic fire sprinkler systems, when installed and/or repaired, shall comply with Section 903.3 of the 2009 Edition of the International Building Code as adopted.

16. The amendment of Section R315.2, entitled Where required in existing dwellings., to read as follows:

**R315.2 Where required in existing dwellings.** Where work requiring a building permit for an addition or an alteration to an existing structure that has an attached garage or in existing structure within which fuel-fired appliances exist, carbon monoxide alarms shall be provided in accordance with Section R315.1.

17. The addition of Section R315.4, entitled Power source., to read as follows:

**R315.4 Power source.** Carbon monoxide alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for over current protection.

Exception: Hard-wiring of carbon monoxide alarms in existing areas shall not be required where the addition or alterations do not result in the removal of interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available which could provide access for hard wiring and interconnection without the removal of interior finishes.

18. The amendment of SECTION R322, entitled FLOOD RESISTANT CONSTRUCTION, to read as follows:

**SECTION R322  
FLOOD RESISTANT CONSTRUCTION**

**R322.1 General.** Construction in flood hazard areas. Permits for the construction, reconstruction, rehabilitation, addition or other improvements shall be performed in accordance with the provisions of SECTION 1612 FLOOD LOADS of the International Building Code, as amended.

*{The remainder of this Section is deleted in its entirety}*

19. The amendment of Section R401.2, entitled Requirements., to read as follows:

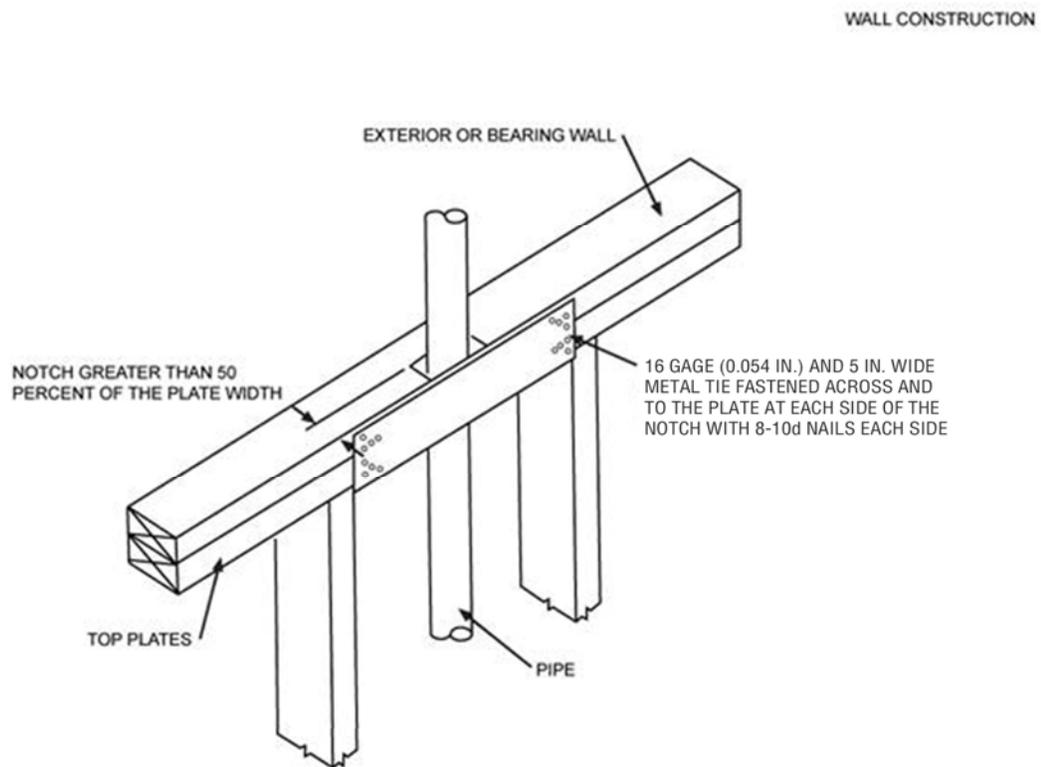
R401.2 Requirements. Foundation construction shall be capable of accommodating all loads according to Section R301 and of transmitting the resulting loads to the supporting soil. Fill soils that support footings and foundations shall be designed, installed and tested in accordance with accepted engineering practice. Gravel fill used as footings for wood and precast concrete foundations shall comply with Section R403.

Foundations for the construction of new 1- and 2-family homes and foundations for additions to existing 1- and 2-family homes shall be designed by an engineer licensed by the State of Texas.

20. The amendment of Section R602.6.1, entitled Drilling and notching of top plate., to read as follows:

**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 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.

21. The amendment of Figure R602.6.1, entitled TOP PLATE FRAMING TO ACCOMMODATE PIPING, to appear as follows:



For SI: 1 inch = 25.4 mm

FIGURE R602.6.1  
TOP PLATE FRAMING TO ACCOMMODATE PIPING

22. The amendment of Section R703.7.4.1, entitled Size and spacing., to add a second paragraph to read as follows:

For 2.67 square feet (0.248 m<sup>2</sup>) of wall area, the following dimensions shall be adhered to:

1. When ties are placed on studs 16" o.c., they shall be spaced no further apart than 24" vertically starting approximately 12" from the foundation.
2. When ties are placed on studs 24" o.c., they shall be spaced no further apart than 16" vertically starting approximately 8" from the foundation.

23. The amendment of Section R902.1, entitled Roofing covering materials., 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. Classes A, B and C roofing required by this section to be listed shall be tested in accordance with UL 790 or ASTM E 108.

Exceptions:

1. Class A roof assemblies include those with coverings of brick, masonry and exposed concrete roof deck.
2. Class A roof assemblies also include ferrous or copper shingles or sheets, metal sheets and shingles, clay or concrete roof tile, or slate installed on noncombustible decks.
3. 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 100 square feet.

24. The deletion of Sections R903.5, R903.5.1 and R903.5.2 in their entireties.

25. The deletion of Figure 903.5, entitled **HAIL EXPOSURE MAP.**

26. The amendment of Section R907.1, entitled General., to add a sentence to read as follows:

All individual replacement shingles or shakes shall comply with Section R902.1.

27. The deletion of Section R907.3 paragraph #4.

28. The amendment of CHAPTER 11, entitled ENERGY EFFICIENCY to read as follows:

## SECTION N1101 GENERAL

**N1101.1 Scope.** This chapter regulates the energy efficiency for the design and construction of buildings regulated by this code.

**Exception:** Portions of the building envelope that do not enclose conditioned space .

**N1101.2 Compliance.** Compliance shall be demonstrated by meeting the requirements of the International Energy Conservation Code.

29. The amendment of Section M1305.1.3, entitled Appliances in attics., to read as follows:

**M1305.1.3 Appliances in attics.** Attics containing appliances requiring access shall be provided with an opening and a clear and unobstructed passageway large enough to allow removal of the largest appliance, but not less than 30 inches (762 mm) high and 22 inches (559 mm) wide and not more than 20 feet (6096 mm) in length when measured along the centerline of the passageway from the opening to the appliance. The passageway shall have continuous, unobstructed solid flooring not less than 24 inches (610 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 with a minimum 300 lb (136 kg) capacity.
3. An access door from an upper floor level.

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 and not less than 6 feet (1829 mm) high and 22 inches (559 mm) wide for its entire length, the passageway shall be not more than 50 feet (15 250 mm) long.

30. The amendment of Section M1305.1.3.1, entitled Electrical requirements., to 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.

31. The amendment of Section M1305.1.4.1, entitled Ground clearance., 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 grade 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.

32. The amendment of Section M1305.1.4.3, entitled Electrical requirements., to 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.

33. The amendment of Section M1307.3.1, entitled Protection from impact., by deleting it in its entirety.

34. The amendment of Section M1411.3, entitled Condensate disposal., to read as follows:

**M1411.3 Condensate disposal.** Condensate from all cooling coils and evaporators shall be conveyed from the drain pan outlet to a sanitary sewer through a trap, by means of a direct or indirect drain. Condensate shall not discharge in a publicly exposed area such as into a street, alley, sidewalk or other areas so as to cause a nuisance.

**Exceptions:**

1. Condensate may discharge directly to a roof drain that connects to an underground storm sewer system,
2. Condensate may discharge directly onto roofs covered with membrane type roof coverings where the condensate will drain to a roof drain that connects to an underground storm sewer system,
3. Condensate may discharge to a landscaped area containing flowers and other bedding plants other than turf. There must be five square feet of landscaped area for each ton of refrigeration, or

4. Condensate may discharge to a French drain consisting of a pit excavated below grade that is not less than 24 inches (610 mm) in any dimension. The pit shall be filled with coarse gravel and the drainpipe shall extend into the pit and be securely anchored. A single drain shall not receive the condensate discharge of more than 10 tons nominal of combined cooling capacity. The pit shall be covered with sod after inspection. The French drain shall not be located so that it will receive direct discharge from a roof or downspout.
  
35. The amendment of Section M1502.4.1, entitled Material and size., to read as follows:  
  
**M1502.4.1 Material and size.** Exhaust ducts shall have a smooth interior finish and shall be constructed of metal a minimum 0.016-inch (0.4mm) thick. The exhaust duct size shall be 4 inches (102 mm) nominal in diameter. The size of duct shall not be reduced along its developed length or at the point of termination.
  
36. The amendment of Section M1502.4.4.1, entitled Specified length., to read as follows:  
  
**M1502.4.4.1 Specified length.** The maximum length of the exhaust duct shall be 35 feet (10668 mm) from the connection to the transition duct from the appliance to the outlet terminal. Where fittings are used, the maximum length of the exhaust duct shall be reduced in accordance with Table M1502.4.4.1.
  
37. The deletion of Section M1502.4.4.2, Manufacturer's instructions.
  
38. The deletion of Section M1502.4.5, Length identification.
  
39. The deletion of the exception to Section M1502.4.6, Exhaust duct required.
  
40. The amendment of Section M2005.2, entitled Prohibited locations., 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.

41. The amendment of Section G2412.5 (401.5), entitled Identification., to add a second paragraph to read as follows:

Both ends of each section of medium pressure corrugated stainless steel tubing (CSST) 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  
½ to 5 psi gas pressure  
Do Not Remove"

42. The amendment of Section G2413.3 (402.3), entitled Sizing., to add an exception to read as follows:

**EXCEPTION:** Corrugated stainless steel tubing (CSST) shall be a minimum of ½".

43. The addition of Section G2415.5.1 (404.5.1), entitled Additional protection of CSST piping., to read as follows:

**G2415.5.1 (404.5.1) Additional protection of CSST piping.** Where Corrugated Stainless Steel Tubing (CSST) piping is installed in exterior wall cavities, insulated wall cavities and/or insulated roof/ceiling assemblies, the CSST piping must be protected for its entire length with flexible metal conduit (per the UL-1 Standard or its equivalent), Schedule 40 steel pipe, or approved strike plates. The additional protection must extend a minimum of 18 inches (457.2 mm) beyond where the CSST piping exits the wall cavities and/or the roof/ceiling assemblies.

44. The amendment of Section G2415.10 (404.10), entitled Minimum burial depth., to read as follows:

**G2415.10 (404.10) Minimum burial depth.** Underground piping systems shall be installed a minimum depth of 18 inches (458 mm) below grade.

45. The amendment of Section G2415.10.1 (404.10.1), entitled Individual outside appliances., by deleting it in its entirety.

46. The amendment of Section G2417.1 (406.1), entitled General., 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 2417.7.5 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.

47. The amendment of Section G2417.4 (406.4), entitled Test pressure measurements., 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 up to 5 psig, diaphragm gauges shall utilize a dial with a set hand, 1/10 pound incrementation and pressure range not to exceed 15 psi. For tests requiring a pressure over 5 psig and up to 10 psig, diaphragm gauges shall utilize a dial with a set hand, a minimum of 2/10 pound incrementation and a pressure range not to exceed 30 psi.

48. The amendment of Section G2417.4.2 (406.4.2), entitled Test duration., to read as follows:

**G2417.4.2 (406.4.2) Test duration.** Test duration shall be held for a length of time satisfactory to the Code Official, but in no case for less than ten (10) minutes.

49. The addition of Section G2420.1.4, entitled Valves in CSST installations., 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.

50. The amendment of Section G2421.1 (410.1), entitled Pressure regulators., to add a second paragraph and an 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.

51. The amendment of Section G2422.1.2.3 (411.1.3.3), entitled Prohibited locations and penetrations., is amended by deleting exception #4.

52. The amendment of Section G2439.5 (613.6), entitled Clothes dryer ducts., to 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.

53. The deletion of Section G2439.5.5.2 (614.6.5.2), entitled Manufacturer's instructions., in its entirety.

54. The deletion of Section G2439.5.6 (614.6.5), entitled Length identification., in its entirety.

55. The deletion of the exception to G2439.5.7 (614.6.6), entitled Exhaust duct required.

56. The amendment of Section P2503.8.2, entitled Testing., to read as follows:

**P2503.8.2 Testing.** Reduced pressure principle backflow preventers, double check valve assemblies, double-detector check valve assemblies and pressure vacuum breaker assemblies shall be tested at the time of installation, immediately after repairs or relocation at regular intervals as required by applicable state or local provisions.

57. The addition of Section P2603.6.1, entitled Sewer depth., to read as follows:

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

58. The amendment of Section P2801.6, entitled Water heaters installed in garages., to add an exception to read 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.

59. The amendment of Section P2803.6.1, entitled Requirements for discharge pipe., by adding item #14 to read as follows:

14. When discharging outside the building, the point of discharge shall be with the end of the pipe not more than two (2) feet (610 mm) nor less than six (6) inches (152 mm) above the ground.

60. The amendment of Section P2902.5.3, entitled Lawn irrigation systems, to read as follows:

**P2902.5.3 Lawn irrigation systems.** The potable water supply system to lawn irrigation systems shall be protected as provided for in the Irrigation Chapter.

61. The amendment of Section P3005.2.6, entitled Base of Stacks., to read as follows:

**P3005.2.6 Upper Terminal.** 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.

62. The deletion of Section P3111, COMBINATION WASTE AND VENT SYSTEM in its entirety.

63. The amendment of Section P3112.2, entitled Vent connection., including the title, to read as follows:

**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.

64. The deletion of Section P3112.3, entitled Vent installation below the fixture flood level rim., in its entirety.
65. The amendment of Appendix G, entitled SWIMMING POOLS, SPAS AND HOT TUBS, to read as follows:

## **APPENDIX G SWIMMING POOLS, SPAS AND HOT TUBS**

### **SECTION AG 101 GENERAL**

**AG 101.1 General.** The provisions of this appendix shall control the design and construction of swimming pools, spas and hot tubs installed in or on the lot of a one- and two-family dwelling.

### **SECTION AG 102 PERMITS AND INSPECTIONS**

**AG 102.1 Permit Required.** A permit shall be required to construct and/or erect a swimming pool. A permit may only be issued to a registrant as set out in Article IV of the Construction Chapter.

**AG 102.2 Submittal required.** An application for a permit to construct and/or erect a swimming pool shall be accompanied by the following:

1. Two (2) site plans indicating the location of the proposed swimming pool and the associated swimming pool decks on the lot that have been stamped by the electrical service provider,
2. Lot grading plans, including surface drain inlets and discharges, for both before and after construction,
3. The plans for pool barrier compliance, and
4. Any additional information that may be required by the Building Official.

**AG 102.3 Inspection required.** After an application for a permit to construct and/or erect a swimming pool has been issued in accordance with Article IV of the Construction Chapter, the following inspections are required as a minimum as applicable:

1. Belly steel inspection,
2. Electrical bonding inspection,
- 2.1. Pool entrapment protection system,
3. Underground electrical inspection,
4. Underground plumbing and gas piping inspection, and
5. Final inspection to include verification of swimming pool barrier compliance (prior to plastering the swimming pool).

**AG 102.4 Lot grading and surface drainage.** The construction and/or erection of a swimming pool may not alter the lot grading or drainage patterns intended by the lot's approved grading plan and/or the subdivision's approved grading and drainage plans. The point of discharge of collected surface drains and rain gutters may not exit onto adjacent properties as a concentrated point of discharge.

**AG 102.5** It shall be unlawful for the registrant to permit or cause the swimming pool to be filled with water before the existence of a lawful swimming pool barrier is inspected and approved.

### **SECTION AG 103 DEFINITIONS**

**AG 103.1 General.** For the purposes of these requirements, the terms used shall be defined as follows and as set forth in Chapter 2.

**ABOVE-GROUND/ON-GROUND POOL.** See "Swimming pool."

**BARRIER.** A fence, wall, building wall or combination thereof which completely surrounds the swimming pool and obstructs access to the swimming pool.

**HOT TUB.** See "Swimming pool."

**IN-GROUND POOL.** See "Swimming pool."

**POOL DECK.** A flat walking surface consisting of wood, stone, brick, concrete or other similar material located within 5 feet (1524 mm) of the water's edge of a swimming pool.

**RESIDENTIAL.** That which is situated on the premises of a detached one- or two-family dwelling or a one-family townhouse not more than three stories in height.

**SELF-CLOSING GATE.** A gate which closes or shuts automatically without the aid of human, electrical, solar or battery power after being opened.

**SELF-CLOSING AND SELF-LATCHING DEVICE.** A device that causes a gate to automatically close and latch without human, electrical, solar or battery power.

**SPA, NONPORTABLE.** See "Swimming pool."

**SPA, PORTABLE.** A nonpermanent structure intended for recreational bathing, in which all controls, water-heating and water-circulating equipment are an integral part of the product.

**SWIMMING POOL.** Any structure intended for swimming or recreational bathing that contains water over 24 inches (610 mm) deep. This includes in-ground, above-ground and on-ground swimming pools, hot tubs and spas.

**SWIMMING POOL, INDOOR.** A swimming pool which is totally contained within a structure and surrounded on all four sides by walls of said structure.

**SWIMMING POOL, OUTDOOR.** Any swimming pool which is not an indoor pool.

## **SECTION AG 104 SWIMMING POOLS**

**AG 104.1** In-ground pools. In-ground pools shall be designed and constructed in conformance with ANSI/NSPI-5 as listed in Section AG108.

**AG 104.2** Above-ground and on-ground pools. Above-ground and on-ground pools shall be designed and constructed in conformance with ANSI/NSPI-4 as listed in Section AG108.

## **SECTION AG 105 SPAS AND HOT TUBS**

**AG 105.1** Permanently installed spas and hot tubs. Permanently installed spas and hot tubs shall be designed and constructed in conformance with ANSI/NSPI-3 as listed in Section AG 108.

**AG 105.2** Portable spas and hot tubs. Portable spas and hot tubs shall be designed and constructed in conformance with ANSI/NSPI-6 as listed in Section AG108.

## **SECTION AG 106 BARRIER REQUIREMENTS**

**AG 106.1** Application. The provisions of this chapter 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.

**AG 106.2** Outdoor swimming pool. An outdoor swimming pool, including an in-ground, above-ground 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 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 above-ground 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).
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.

**EXCEPTION:** When the horizontal members are part of a fence that is at least 6 feet (1829 mm) in height, the horizontal members need not be on the pool side of the barrier.

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.
6. Maximum mesh size for chain link fences shall be a 1.25-inch (32 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 AG 106.2, 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. 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.
  - 8.3. Driveway access gates across a paved or improved surface intended for regular vehicle access shall not be located in a swimming pool barrier.
9. Where a wall of a dwelling serves as part of the barrier one of the following conditions shall be met:
  - 9.1. 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 sound continuously for a minimum of 30 seconds immediately after the door is opened and be capable of being heard throughout the house during normal household activities. The alarm shall automatically reset under all conditions. The alarm system shall be equipped with a manual means, such as touchpad or switch, to temporarily deactivate the alarm for a single opening. Such deactivation shall last for not more than 15 seconds. The deactivation switch(es) shall be located at least 54 inches (1372 mm) above the threshold of the door; or

- 9.2. 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 described above.
10. Where an above-ground 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 AG 106.2, 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.

**AG 106.3** Indoor swimming pool. All walls surrounding an indoor swimming pool shall comply with Section AG 106.2, Item 9.

**AG 106.4** Prohibited locations. Barriers shall be located so as to prohibit permanent structures, equipment or similar objects from being used to climb the barriers.

**AG 106.5** Barrier exceptions. Spas or hot tubs with a safety cover which complies with ASTM F 1346, as listed in Section AG 108, shall be exempt from the provisions of this appendix.

## **SECTION AG 107 ENTRAPMENT PROTECTION FOR SWIMMING POOL AND SPA SUCTION OUTLETS**

**AG 107.1.General.** Suction outlets shall be designed and installed in accordance with ANSI/APSP-7.

## **SECTION AG 108 ABBREVIATIONS**

**AG 108.1** General.

ANSI-American National Standards Institute, 11 West 42nd Street, New York, NY 10036

ASTM-American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103

NSPI-National Spa and Pool Institute, 2111 Eisenhower Avenue,  
Alexandria, VA 22314

**SECTION AG 109  
STANDARDS**

**AG 109.1** General.

**ANSI/NSPI**

ANSI/NSPI-3 Standard for Permanently Installed Residential SpasAG  
105.1

ANSI/NSPI-4 Standard for Above-ground/On-ground Residential  
Swimming Pools. .... AG 104.2

ANSI/NSPI-5 Standard for Residential In-ground Swimming Pools.AG  
104.1

ANSI/NSPI-6 Standard for Residential Portable Spas. ....AG I05.2

**ASME/ANSI**

112.19.8-2007 Suction Fittings for Use in Swimming Pools, Wading Pools,  
Spas, Hot Tubs and Whirlpool Bathing  
Appliances.....AG107.1

ANSI/APSP-7-06 Standard for Suction Entrapment Avoidance in  
Swimming Pools, Wading Pools, Spas, Hot Tubs and Catch  
Basins.....AG 107.1

**ASTM**

ASTM F 1346-91 Standard Performance Specifications for Safety Covers  
and Labeling Requirements for All Covers for Swimming Pools, Spas and  
Hot Tubs. ....AG 105.2, AG I05.5