2020 Advanced Florida Building Code: Significant Changes to the 7th Edition - RESIDENTIAL – Internet

Florida Board of Professional Engineers Approved Course No. 0010328 / Florida Building Commission Approved Course No. 991.0

4 PDH Hour

This course is divided into 2 sections

- Section 1 Highlighted Significant Changes to 7th Edition (2020) Florida Building Code, RESIDENTIAL (FBCR)

- Section 2 Course exam composed of 32 questions intended to advance your current understanding of the significant code changes and how it relates to your role as a Professional Engineer.

A test is provided to assess your comprehension of the course material – 32 questions have been chosen from each of the above sections. You will need to answer at least 23 out of 32 questions correctly (>70%) in order to pass the overall course. You can review the course material and re-take the test if needed.

You are required to review each section of the course in its entirety. Because this course information is part of your Professional Licensure requirements it is important that your knowledge of the course contents and your ability to pass the test is based on your individual efforts.

Course Description:

This course is intended to introduce Professional Engineers to the significant changes to the 7th Edition (2020) Florida Building Code, RESIDENTAIL (FBCR). The purpose of this course is to highlight changes in the building code and to assist in identifying specific code changes that have occurred and the reasoning and discussion behind the change.

How to reach Us …

If you have any questions regarding this course or any of the content contained herein you are encouraged to contact us at Easy-PDH.com. Our normal business hours are Monday through Friday, 10:00 AM to 4:00 PM; any inquiries will be answered within 2 days or less. Contact us by:

EMAIL: bajohnstonpe@aol.com
Phone: 888-418-2844 (toll free)
FAX: 813-909-8643

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Here's How the Course Works…

What do you want To do?	LOOK For This!
 **Search for Test Questions and the relevant review section**	 Q1 **Search the PDF for: Q1 for Question 1, Q2 for Question 2, Q3 for Question 3, Etc…** **(Look for the icon on the left to keep you ON Target!)**

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Britian Arthur Johnston PE (50603)
Johnston Service Corp
CA No. 30074
11909 Riverhills Drive, Tampa FL 33617
Email: bajohnstonpe@aol.com
Toll Free: 888-418-2844 FAX: 813-909-8643

32 TEST QUESTIONS

Q1: Balanced Ventilation is achieved by having an exhaust flow rate within what percentage of the total mechanical supply airflow rate:

(A) 25%
(B) 20%
(C) 15%
(D) 10%

Q2: To be considered a Vertical Fenestration, a fixed window must be installed in a wall at less than:

(A) 10 degrees from vertical
(B) 10 degrees from horizontal
(C) 15 degrees from vertical
(D) 15 degrees from horizontal

Q3: A water control component in a water supply system, when at maximum flow, does not cause a restriction in flow through the component's through-flow area is called a:

(A) full-open valve
(B) full-throttle valve
(C) full-area valve
(D) full-flow valve

Q4: Ready Access for a piece of equipment is defined as:

(A) can be directly reached
(B) requires no removal of a panel or door
(C) requires minimal effort to remove a panel or door
(D) a and b

Q5: Glazing in the landing area of stairs is considered to be in a HAZARDOUS LOCATION if the glazing is LESS THAN how many inches above the landing:

(A) 36 inches
(B) 48 inches
(C) 60 inches
(D) 72 inches

Q6: If you were designing a floor-ceiling assembly including the installation of insulating materials, the insulating materials must exhibit a flame spread index not to exceed:

(A) 250
(B) 150
(C) 25
(D) 2.50

Q7: A permanently affixed ladder or steps is required if an Area Well has a vertical depth greater than:

(A) 36 inches
(B) 42 inches
(C) 44 inches
(D) 48 inches

Q8: Under FBCR (2020) Pool equipment can be located below the required base flood elevation provided the equipment:

(A) is elevated to the extent practical
(B) is anchored to resist flotation and flood force
(C) is supported by branch circuits having ground-fault circuit-interrupter protection
(D) all of the above

Q9: A Stationary storage battery system shall be listed and labeled for residential use in accordance with UL 9540 unless the capacity is:

(A) > 15 kWh
(B) > 10 kWh
(C) > 5 kWh
(D) < 1 kWh

Q10: You are designing an unvented crawl space and do not want to install ventilation openings. The crawl space floor area is 2000 square feet. How much moisture removal is required each day in terms of sizing a dehumidification system:

(A) 140 pints per day
(B) 280 pints per day
(C) 140 liters per day
(D) 280 liters per day

Q11: Which section of FBCR (2020) Chapter 5, FLOORS, would be best for referencing the design of an exterior deck:

(A) R504
(B) R505
(C) R506
(D) R507

Q12: Which is the ANSI standard referenced in the FBCR (2020) for structural glued laminated timbers:

(A) ANSI 171
(B) ANSI 117
(C) ANSI 711
(D) ANSI 1171

Q13: In Chapter 7 FBCR (2020) use of No. 15 asphalt felt is an approved water-resistive barrier. Where joints occur, felt shall be lapped not less than:

(A) 6 inches
(B) 9 inches
(C) 12 inches
(D) 15 inches

Q14: Section R703, EXTERIOR COVERING, FBCR (2020) outlines requirements for installation of Masonry veneer. Anchorage of Masonry veneer to supporting wall studs is accomplished by:

(A) FRP ties
(B) corrosion-resistant metal ties
(C) use of approved adhesive
(D) all of the above

Q15: You are designing a roof per FBCR (2020) with an Exposure C, 150 MPH design. What is the MINIMUM thickness of wood structural panel roof sheathing using a 24 inch OC truss spacing:

(A) 7/16 inch
(B) 15/32 inch
(C) 19/32 inch
(D) 23/32 inch

Q16: A new clarification for FBCR (2020) requires ventilation openings in enclosed attics formed where ceilings are applied directly to the underside of roof rafters to be protected against the entry of:

(A) rain
(B) birds
(C) rodents
(D) all of the above

Q17: Per Chapter 9 FBCR (2020), Rooftop mounted photovoltaic systems shall be designed for wind loads in accordance with:

(A) ASCE 7
(B) ASCE 16
(C) NFPA 70
(D) FFPC

Q18: For FBCR (2020), the thermal resistivity of insulation required for Refrigerant vapor lines on Heating and Cooling equipment was revised:

(A) from R-6 to R-4
(B) from R-4 to R-6
(C) from R-4 to R-3
(D) from R-3 to R-4

Q19: You are considering installing a clothes dryer exhaust horizontally beneath a slab. Per FBCR (2020) options are available:

(A) 4 inch nominal diameter 36 gauge metal
(B) 4 inch nominal diameter 28 gauge metal
(C) 4 inch nominal diameter Schedule 40 PVC
(D) all of the above

Q20: You are designing a range hood exhaust system for a single-family dwelling per FBCR (2020) and want to avoid consideration for make-up air. In this you should:

(A) keep the exhaust rate in excess of 1000 cfm
(B) keep the exhaust rate at or below 400 cfm
(C) keep the exhaust rate between 400 and 800 cfm if there are no gravity vent appliances within living space of the structure
(D) b and c

Q21: Per Chapter 16, DUCT SYSTEMS, FBCR (2020), the maximum duct temperature for plastic ducts shall not be greater than:

(A) 150 F
(B) 150 C
(C) 175 F
(D) above 150 F is approved by the manufacturer

Q22: Per Chapter 22, SPECIAL PIPING AND STORAGE SYSTEMS, if a manual shutoff valve is installed in the discharge line of an oil pump, what must be included in the installation:

(A) a pressure-relief valve
(B) ready access to the manual shutoff valve
(C) a and b
(D) none of the above

Q23: Equipment installed as part of a Thermal Solar Energy System shall be located to allow access for:

(A) inspection
(B) repair and replacement
(C) maintenance
(D) all of the above

Q24: Consider Chapter 24, FUEL GAS, FBCR (2020) – what differentiates between piping and tubing:

(A) pipe is rigid and tubing is rigid
(B) pipe is semi-rigid and tubing is rigid
(C) pipe is rigid and tubing is semi-rigid
(D) pipe is semi-rigid and tubing is semi-rigid

Q25: Per Chapter 24, FUEL GAS, FBCR (2020) a clothes dryer is prohibited from being installed in a bathroom with the exception:

(A) the dryer is installed in a residential bathroom
(B) there is a permanent opening with an area of not less than 100 square inches
(C) the permanent opening communicates with a space outside of the bathroom
(D) all of the above

Q26: Per Chapter 24, FUEL GAS, FBCR (2020) the maximum operating pressure for piping systems located inside buildings can exceed 5 pounds per square inch if:

(A) piping joints are welded or brazed
(B) piping joints have been fused with an approved sealant
(C) piping joints are mechanically coupled
(D) there are no exceptions to exceed 5 pounds per square inch

Q27: Per Chapter 24, FUEL GAS, FBCR (2020) Cooking appliances labeled for use in commercial occupancies shall not be installed within dwelling units:

(A) with no exceptions
(B) unless the appliance is listed as a domestic cooking appliance
(C) unless the installation is designed by a licensed PE engineer following the manufacturers installation instructions
(D) b and c

Q28: You are the engineer responsible for testing a newly installed section of water-supply system (non-plastic). Per Chapter 25, PLUMBING ADMINISTRATION, FBCR (2020), You will be responsible to:

(A) prove the system to be tight
(B) complete an air test of not less than 50 psi
(C) hold the air test pressure for not less than 15 minutes
(D) all of the above

Q29: FBCR (2020) now allows for the installation of plastic pans beneath gas-fired water heaters provided the material:

(A) has been approved by UL 723 by a registered manufacturer
(B) has been tested to have a flame spread index of 25 or less AND a smoke-developed index of 450 or less
(C) has been tested to have a flame spread index of 25 or less OR a smoke-developed index of 450 or less
(D) False, FBCR (2020) DOES NOT allow for the installation of plastic pans beneath gas-fired water heaters in any case

Q30: **Per Chapter 29, WATER SUPPLY AND DISTRIBUTION, FBCR (2020) hot water piping from the source of hot water to the fixtures shall not exceed:**
(A) 100 feet
(B) 75 feet
(C) 50 feet
(D) 25 feet

Q31: **Which Section of CHAPTER 30, SANITARY DRAINAGE, FBCR (2020) has been deleted and shown as Reserved because the Florida Department of Health is the regulatory authority:**
(A) Section P3005
(B) Section P3007
(C) Section P3008
(D) Section P3009

Q32: **You are designing a roof system for an observation deck that is being used for recreational purposes. Any open vents from the roof must terminate:**
(A) not less than 5 feet above the roof
(B) not less than 6 feet above the roof
(C) not less than 7 feet above the roof
(D) not less than 8 feet above the roof

END OF TEST QUESTIONS

CHAPTER 1 SCOPE AND ADMINISTRATION
(NO Changes)

Chapter 1, of the Florida Building Code, Residential (FBCR) establishes the residential scope of the Florida Building Code and address the application, enforcement, and administration of subsequent requirements. The provisions of the Florida Building Code Residential applies to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and townhouses not more than three stories above grade plane in height with a separate means of egress and their accessory structures not more than three stories above grade plane in height.

CHAPTER 2 DEFINITIONS
(Significant Changes)

Definitions are used in the Florida Building Code Residential (FBCR) to expressly state meaning as they apply to the context of the code chapter (especially where ordinary accepted meanings do not exist). These specific definitions and terms are used throughout the code in order to clarify meaning and understanding. Following is a listing of the major additions, deletions, and modifications to the definitions.

SECTION R202 DEFINITIONS

ACCESS (TO). **NEW definition clarifying the distinction between accessible and having access to something. Access To is defined as that which enables a device, appliance, or equipment to be reached by ready access or by a means that first requires the removal or movement of a panel, door, or similar obstruction.**

> **R202 Definitions**
>
> That which enables a device, appliance or equipment to be reached by *ready access* or by a means that first requires the removal or movement of a panel, door or similar obstruction.

ACCESSIBLE, READILY. **FBCR (2017) deletion**

Q1

BALANCED VENTILATION. **New definition of balanced ventilation systems has been added to coordinate with new requirements for such systems in Chapter 15.**

> **R202 Definitions**
>
> Any combination of concurrently operating mechanical exhaust and mechanical supply whereby the total mechanical exhaust airflow rate is within 10% of the total mechanical supply airflow rate.

BATTERY SYSTEM, STATIONARY STORAGE. **New definition added for stationary storage battery systems for coordination with next Section R328 Stationary Storage Battery Systems.**

> **R202 Definitions**
>
> A rechargeable energy storage system consisting of electrochemical storage batteries, battery chargers, controls, and associated electrical equipment designed to provide electrical power to a building. The system is typically used to

provide standby or emergency power, an uninterruptable power supply, load shedding, load sharing or similar capabilities.

BUILDING-INTEGRATED PHOTOVOLTAIC ROOF PANEL. **New definition added to correlate with provisions in Chapter 9 for building-integrated photovoltaic roof panels.**

R202 Definitions

A photovoltaic panel that functions as a component of the building envelope.

CLEANOUT. **Definition revised to coordinate the use of the terms accessible and access in the code.**

R202 Definitions

An opening in the drainage system used for the removal of possible obstruction and located to allow for access.

DRILLED SHAFT. **New definition of a type of deep foundation type has been added.**

R202 Definitions

A cast-in-place deep foundation element, also referred to as caisson, drilled pier and bored pile, constructed by drilling a hole (with or without permanent casing or drilling fluid) into soil or rock and filling it with fluid concrete after the drilling equipment is removed.

DRILLED SHAFT, SOCKETED. **New definition of a type of deep foundation type has been added.**

R202 Definitions

A drilled shaft with a permanent pipe or tube casing that extends down to bedrock and an uncased socket drilled into the bedrock.

FENESTRATION. **Definition revised to clarify the distinctions between vertical fenestrations such as windows and skylights and sloped glazing.**

R202 Definitions

Products classified as either vertical fenestration or skylights and sloped glazing, installed in such a manner as to preserve the weather-resistant barrier of the wall or roof in which they are installed. Fenestration includes products with glass or other transparent or translucent materials.

FENESTRATION, VERTICAL. **New definition added to clarify the distinctions between vertical fenestrations such as windows and skylights and sloped glazing.**

Q2

R202 Definitions

Windows that are fixed or movable, opaque doors, glazed doors, glazed block and combination opaque and glazed doors installed in a wall at less than 15 degrees from vertical.

FIXTURE FITTING. **Definition revised to coordinate the use of the terms accessible and access in the code.**

R202 Definitions

Supply fitting. A fitting that controls the volume or directional flow or both of water and that is either attached to or is accessed from a fixture or is used with an open or atmospheric discharge.

Waste fitting. A combination of components that conveys the sanitary waste from the outlet of a fixture to the connection of the sanitary drainage system.

FULL-OPEN VALVE. **New definition added to define a phrase that is used in various places in the code. The new definition encompasses all types of valves that do not appreciably restrict the flow of water.**

Q3

R202 Definitions

A water control or shutoff component in the water supply system piping that, where adjusted for maximum flow, the flow path through the component's closure member is not a restriction in the component's through-flow area.

LABELED. **Definition revised for consistency with the FBCB by changing inspection agency to approved agency.**

R202 Definitions

Equipment, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, approved agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

LIGHT-FRAME CONSTRUCTION. **Definition editorially revised for clarity.**

R202 Definitions

Construction whose vertical and horizontal structural elements are primarily a system of repetitive wood or cold-formed steel framing members.

READY ACCESS (TO). **New definition clarifying the distinction between accessible and having access to something.**

Q4

R202 Definitions

That which enables a device, appliance or equipment to be directly reached, without requiring the removal or movement of any panel, door or similar obstruction.

VAPOR DIFFUSION PORT. **New definition added to coordinate with new provisions in Section R806 for attic ventilation.**

R202 Definitions

An assembly constructed or Installed within a roof assembly at an opening in the roof deck to convey water vapor from an unvented attic to the outside atmosphere.

VAPOR PERMEABLE. **Definition revised to delete the term "membrane" so that the definition applies to the vapor permeance of any material. Testing in accordance with Procedure B of ASTM E96 has been added as an alternative to Procedure A.**

R202 Definitions

The property of having a moisture vapor permeance rating of 5 perms ($2.9 * 10^{10}$ kg/Pa * s * m^2) or greater when tested in accordance with Procedure A or Procedure B of ASTM E96. A vapor permeable material permits the passage of moisture vapor.

CHAPTER 3 BUILDING PLANNING

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION R301 DESIGN CRITERIA

R301.2.1	**Wind design criteria**	**New language has been added to require metal shingles to be designed for wind speeds in accordance with new Section R905.4.4**

R301.2.1 Wind design criteria

… Asphalt shingles shall be designed for wind speeds in accordance with Section R905.2.4. Metal roof shingles shall be designed for wind speeds in accordance with Section R905.4.4. A continuous load path shall be provided to transmit the applicable uplift forces from the roof assembly to the foundation.

R301.2.1.1	**Wind design required**	**The wind design required section has been reorganized to clarify which provisions of the code are applicable to various construction methods. The prescriptive provisions for low wind areas in Chapters 5, 6, and 8 have been deleted. Wind design requirements in the FBCR are generally unchanged but the code now makes it clear which provisions apply. ICC 600 is now only permitted to be used for the design of concrete and masonry walls. Wood frame roofs are required to be designed in accordance with ASCE 7 or in accordance with the AWC WFCM. New exceptions specifically reference applicable sections in the code for the design of footings and foundations, windows and doors, SIPs, wall coverings, roof sheathing, roof coverings, and insulated concrete form construction.**

Table R301.2(2)	**Component and Cladding Loads for a Building with a Mean**	**Table R301.2(2) has been updated to correlate with ASCE 7-16. ASCE 7 has been updated in the FBCR from the 2010 edition to the 2016 edition. Significant changes have occurred to roof component and cladding loads. There are multiple**

	Roof Height of 30 feet Located in Exposure B	**new zones on the roof (previously only 3). In general, roof component and cladding loads have increased, significantly for some slopes and zones.**

Table R301.2(3)	**Height and Exposure Adjustment Coefficients for Table R301.2(2)**	**Table R301.2(3) has been updated to correlate with ASCE 7-16. Specifically, the adjustment factors for mean roof heights under 30 feet for Exposure Category B have been reduced.**

Figure R301.2(7)	**Component and Cladding Pressure Zones**	**Figure R301.2(7) has been updated to correlate with ASCE 7-16. The roof figures have been revised to indicate the location and designation of the roof zones to coordinate with changes to Table R301.2(2) and ASCE 7-16.**

Table R301.2(4)	**Nominal (ASD) Garage Door Wind Loads for a Building with a Mean Roof Height of 30 feet Located in Exposure B**	**Table values and Note 2 have been revised to clarify that the minimum design wind pressure for garage doors is +/- 10 psf.**

Table R301.2(4)

TABLE R301.2(4)
NOMINAL (ASD) GARAGE DOOR WIND LOADS FOR A BUILDING WITH A MEAN ROOF HEIGHT OF 30 FEET LOCATED IN EXPOSURE B (PSF) [1, 2, 3, 4, 5]

Door Size		ULTIMATE DESIGN WIND SPEED (V_{ult}) DETERMINED IN ACCORDANCE WITH SECTION R301.2.1 (MPH–3 SECOND GUST)																			
Width (ft)	Height (ft)	100 mph		110 mph		120 mph		130 mph		140 mph		150 mph		160 mph		170 mph		180 mph		190 mph		200 mph	
9	7	+10.0	-10.9	+11.4	-12.9	+13.7	-15.5	+16.1	-18.2	+18.5	-20.9	+21.3	-24.1	+24.3	-27.5	+27.6	-31.2	+30.6	-34.6	+34.2	-38.6	+38.0	-43.0
16	7	+10.0	-10.3	+10.9	-12.2	+13.1	-14.6	+15.5	-17.2	+17.7	-19.7	+20.4	-22.7	+23.3	-26.0	+26.4	-29.4	+29.3	-32.6	+32.7	-36.5	+36.4	-40.6
		78 mph		85 mph		93 mph		101 mph		108 mph		116 mph		124 mph		132 mph		139 mph		147 mph		155 mph	
Nominal Design Wind Speed (V_{asd}) converted from V_{ult} per Section R301.2.1.3																							

For SI: 1 foot = 304.8 mm, 1 mile per hour = 1.609 km/h, 1 psf = 47.88 N/m^2.

1. For door sizes or wind speeds between those given above the load may be interpolated, otherwise use the load associated with the lower door size.
2. Table values shall be adjusted for height and exposure by multiplying by the adjustment coefficient in Table R301.2(3). Minimum positive wind load shall be 10 psf and minimum negative wind load shall be 10 psf.
3. Plus and minus signs signify pressures acting toward and away from the building surfaces.
4. Negative pressures assume door has 2 feet of width in building's end zone.
5. Table values include the 0.6 load reduction factor.

R301.2.4	**Floodplain construction**	**Section editorially revised to clarify it applies to the repair of substantial damage not restoration of substantial damage.**

R301.2.4 Floodplain construction

Buildings and structures constructed in whole or in part in flood hazard areas (including A or V Zones) as established in Table R301.2(1), and substantial improvement and repair of substantial damage of buildings and structures in flood hazard areas, shall be designed and constructed in accordance with Section R322. Buildings and structures that are located in more than one flood hazard area shall comply with the provisions associated with the most restrictive flood hazard area. Buildings and structures located in whole or in part in identified floodways shall be designed and constructed in accordance with ASCE 24.

Table R301.5	**Minimum Uniformly Distributed Live Loads**	**Note g Item 1 has been revised to coordinate the use of the terms accessible and access in the code.**

SECTION R302 FIRE-RESISTANT CONSTRUCTION

R302.1	**Exterior walls**	**Exception 2 has been revised to clarify that the exception to fire separation distance only applies to individual dwellings and their accessory structures.**

R302.1 Exterior walls

Construction, projections, openings and penetrations of *exterior walls* of *dwellings* and accessory buildings shall comply with Table R302.1.

Exceptions:

1. Walls, projections, openings or penetrations in walls perpendicular to the line used to determine the *fire separation distance*.
2. Walls of individual dwelling units and their *accessory structures* located on the same *lot*.

Table R302.1	**Exterior Walls**	**Table has been revised to permit the use of heavy timber or fire-retardant-treated wood on the underside of projections as an alternate to a 1-hour fire-resistance rating.**

R302.3	**Two-family dwellings**	**Section revised to permit dwelling units to be separated from each other in accordance with Section 703.3 of the FBCB as an alternate to a 1-hour fire-resistance test in accordance with ASTM E119 or UL 263.**

R302.4.2	**Membrane penetrations**	**A new exception to membrane penetration protection has been added for ceiling membrane penetrations by listed luminaires or by luminaires protected with listed materials that have been tested for use in the fire-resistance-rated assemblies.**

R302.7	**Under-stair protection**	**Section revised to coordinate the use of the terms accessible and access in the code.**

R302.7 Under-stair protection

Enclosed space under stairs that is *accessed* by a door or access panel shall have walls, under-stair surface and any soffits protected on the enclosed side with $^1/_2$-inch (12.7 mm) gypsum board.

R302.10.1	**Insulation (flame spread and smoke-developed index)**	**Section revised to clarify that the requirements apply to all insulating materials including facings such as vapor retarders and vapor permeable membranes.**

R302.10.1 Insulation

Insulating materials installed within floor-ceiling assemblies, roof-ceiling assemblies, wall assemblies, crawl spaces and *attics* shall comply with the requirements of this section. They shall exhibit a flame spread index not to exceed 25 and a smoke -developed index not to exceed 450 where tested in accordance with ASTM E84 or UL 723. Insulating materials, where tested in accordance

Q6

with the requirements of this section, shall include facings, where used, such as vapor retarders, vapor -permeable membranes and similar coverings.

SECTION R308 GLAZING

R308.4.2	**Glazing adjacent to doors**	**Condition 2 has been revised to clarify that safety glazing is required where an individual can be jammed between the door and the glazing. The condition has been changed to apply from a wall perpendicular to the plane of the door in a closed position to a wall less than 180 degrees from the plane of the door in a closed position.**

R308.4.3	**Glazing in windows**	**Section revised to coordinate the use of the terms accessible and access in the code.**

R308.4.6	**Glazing adjacent to stairs and ramps**	**Section revised to coordinate the use of the terms accessible and access in the code.**

Figure R308.4.7	**Hazardous Glazing Locations at Bottom Stair Landings**	**The figure title has been changed to correctly reflect that the locations indicated are hazardous locations not the glazing is prohibited in those locations. Additionally, the figure has been revised to clarify the locations considered hazardous locations.**

Figure R308.4.7

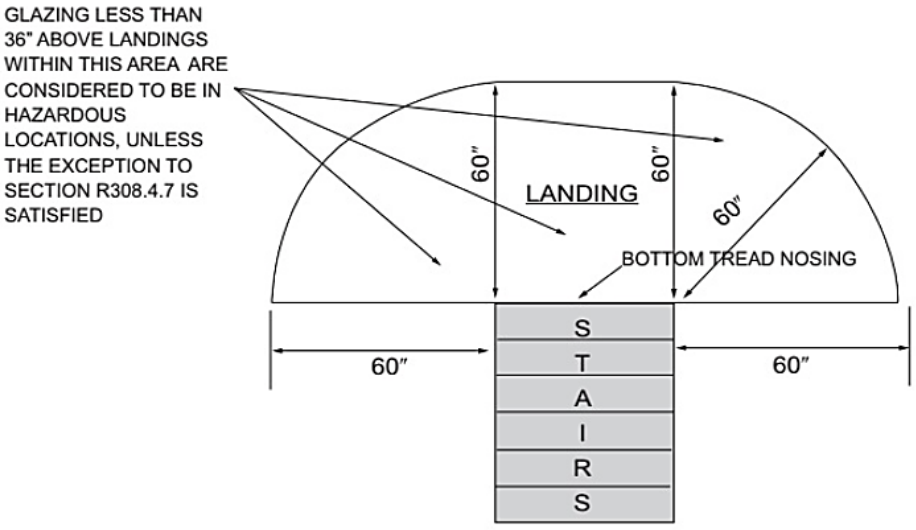

FIGURE R308.4.7
HAZARDOUS GLAZING LOCATIONS AT BOTTOM STAIR LANDINGS

Q5

R308.6.2	**Materials**	**Section revised to coordinate the use of the terms accessible and access in the code.**

R308.6.3	Screens general (skylights and sloped glazing)	The term retaining screen has been changed to broken glass retention screen to better describe the screen's purpose. Additional revisions have been made to clarify where specifically screens are required.

R308.6.3 Screens, general

For fully tempered or heat-strengthened glass, a broken-glass retention screen meeting the requirements of Section R308.6.7 shall be installed below the full area of the glass, except for fully tempered glass that meets condition 1 or 2 listed in Section R308.6.5.

R308.6.4	Screens with multiple glazing	The term retaining screen has been changed to broken glass retention screen to better describe the screen's purpose. Additional revisions have been made to clarify where specifically screens are required.

R308.6.4 Screens with multiple glazing

Where the inboard pane is fully tempered, heat-strengthened or wired glass, a broken-glass retention screen meeting the requirements of Section R308.6.7 shall be installed below the full area of the glass, except for condition 1 or 2 listed in Section R308.6.5. Other panes in the multiple glazing shall be of any type listed in Section R308.6.2.

R308.6.5	Screens not required	New language states specifically that screens are not required for laminated glass complying with Item 1 of Section R308.6.2 and is used as single glazing or the inboard pane in multiple glazing. Section also revised to coordinate the use of the terms accessible and access in the code.

R308.6.5 Screens not required

Screens shall not be required where laminated glass complying with Item 1 of Section R308.6.2 is used as single glazing or the inboard pane in multiple glazing. Screens shall not be required where fully tempered glass is used as single glazing or the inboard pane in multiple glazing and either of the following conditions is met:

1. Glass area 16 square feet (1.49 m^2) or less. Highest point of glass not more than 12 feet (3658 mm) above a walking surface, nominal glass thickness not more than $^3/_{16}$ inch (4.8 mm), and (for multiple glazing only) the other pane or panes fully tempered, laminated or wired glass.
2. Glass area greater than 16 square feet (1.49 m^2). Glass sloped 30 degrees (0.52 rad) or less from vertical, and highest point of glass not more than 10 feet (3048 mm) above a walking surface.

R308.6.7	Screen characteristics	Section revised to require that screens be installed within 4 inches of the glass.

R308.6.7 Screen characteristics

The screen and its fastenings shall be capable of supporting twice the weight of the glazing, be firmly and substantially fastened to the framing members, be installed within 4 inches (102 mm) of the glass and have a mesh opening of not more than 1 inch by 1 inch (25 mm by 25 mm).

SECTION R310 EMERGENCY ESCAPE AND RESCUE OPENINGS

R310.3	Emergency escape and rescue doors	The term bulkhead enclosure has been changed to area well.

R310.3 Emergency escape and rescue doors

Where a door is provided as the required emergency escape and rescue opening, it shall be permitted to be a side-hinged door or a slider. Where the opening is below the adjacent grade, it shall be provided with an area well.

R310.3.2	Area wells	The term bulkhead enclosure has been changed to area well. New language added requiring area wells to have a width of not less than 36 inches.

R310.3.2 Area wells
Area wells shall have a width of not less than 36 inches (914 mm). The area of the area well shall allow the emergency escape and rescue door to be fully opened.

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R310.3.2.1	Ladders and steps	New section added requiring ladders or steps for area wells consistent with that required for window wells in Section R310.2.3.1

R310.3.2.1 Ladder and steps
Area wells with a vertical depth greater than 44 inches (1118 mm) shall be equipped with a permanently affixed ladder or steps usable with the door in the fully open position. Ladders or steps required by this section shall not be required to comply with Sections R311.7 and R311.8. Ladders or rungs shall have an inside width of not less than 12 inches (305 mm), shall project not less than 3 inches (76 mm) from the wall and shall be spaced not more than 18 inches (457 mm) on center vertically for the full height of the exterior stairwell.

R310.3.2.2	Drainage	The term bulkhead enclosure has been changed to area well.

R310.3.2.2 Drainage
Area wells shall be designed for proper drainage by connecting to the building's foundation drainage system required by Section R405.1 or by an *approved* alternative method.
Exception: A drainage system for area wells is not required where the foundation is on well-drained soil or sand-gravel mixture soils in accordance with the United Soil Classification System, Group I Soils, as detailed in Table R405.1.

R310.5	Dwelling additions	Exception 2 has been revised to coordinate the use of the terms accessible and access in the code.

SECTION R311 MEANS OF EGRESS

R311.3	Floors and landings at exterior doors	The exception has been revised to coordinate the use of the terms accessible and access in the code.

R311.7.1	Width (stairways)	The criteria for handrail projections into the stairway width has been relocated to new Section R311.7.8.5.

R311.7.1 Width
Stairways shall be not less than 36 inches (914 mm) in clear width at all points above the permitted handrail height and below the required headroom height. The clear width of the stairway at and below the handrail height, including treads and landings, shall be not less than $31^1/_2$ inches (787 mm) where a handrail is installed on one side and 27 inches (698 mm) where handrails are provided on both sides.

R311.7.3	Vertical rise	The maximum vertical rise of a flight of stairs has been increased from 147 inches to 151 inches.

R311.7.3 Vertical rise
A flight of stairs shall not have a vertical rise larger than 151 inches (3835 mm) between floor levels or landings.

R311.7.5.3	Nosings	Section revised to clearly describe and emphasize consistent nosings and that nosing projections are required at every walking surface throughout the stairway.

R311.7.5.3 Nosings

Nosings at treads, landings and floors of stairways shall have a radius of curvature at the nosing not greater than $^{9}/_{16}$ inch (14 mm) or a bevel not exceeding $^{1}/_{2}$ inch (12.7 mm). A nosing projection not less than $^{3}/_{4}$ inch (19 mm) and not more than $1^{1}/_{4}$ inches (32 mm) shall be provided on stairways. The greatest nosing projection shall not exceed the smallest nosing projection by more than $^{3}/_{8}$ inch (9.5 mm) within a stairway.

Exception: A nosing projection is not required where the tread depth is not less than 11 inches (279 mm).

R311.7.8.5	Handrail projection	Handrail projection limitations into the stairway width have been relocated from Section R311.7.1 to new Section R311.7.8.5. A new exception has been added for instances where handrails pass the projection of landing tread nosings and tread return nosings that project into the stairway.

R311.7.8.5 Handrail projection

Handrails shall not project more than $4^{1}/_{2}$ inches (114 mm) on either side of the stairway.

Exception: Where nosings of landings, floors or passing flights project into the stairway reducing the required clearance at passing handrails, the handrail shall project not more than $6^{1}/_{2}$ inches (165 mm) into the stairway, provided the required stair width and required handrail clearance are not reduced.

R311.7.11	Alternating tread device	New exception added permitting alternating tread devices to be used as an element of a means of egress for lofts, mezzanines, and similar areas of 200 gross square feet or less and not providing exclusive access to a kitchen or bathroom.

R311.7.11 Alternating tread devices

Alternating tread devices shall not be used as an element of a means of egress. Alternating tread devices shall be permitted provided that the required means of egress stairway or ramp serves the same space at each adjoining level or where a means of egress is not required. The clear width at and below the handrails shall be not less than 20 inches (508 mm).

Exception: Alternating tread devices are allowed to be used as an element of a means of egress for lofts, mezzanines and similar areas of 200 gross square feet or less and not providing exclusive access to a kitchen or bathroom.

R311.7.12	Ships ladders	New exception added permitting ships ladders to be used as an element of a means of egress for lofts, mezzanines, and similar areas of 200 gross square feet or less and not providing exclusive access to a kitchen or bathroom.

R311.7.12 Ships ladders

Ships ladders shall not be used as an element of a means of egress. Ships ladders shall be permitted provided that a required means of egress stairway or ramp serves the same space at each adjoining level or where a means of egress is not required. The clear width at and below the handrails shall be not less than 20 inches.

Exception: Ships ladders are allowed to be used as an element of a means of egress for lofts, mezzanines and similar areas of 200 gross square feet or less and not providing exclusive access to a kitchen or bathroom.

SECTION R312 GUARDS AND WINDOW FALL PROTECTION

R312.1.1	Where required (guards)	Section revised to clarify that guards are only required for portions of open-side walking surfaces that located more than 30 inches above grade.

R312.1.1 Where required

Guards shall be provided for those portions of open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30 inches (762 mm) measured vertically to the floor or *grade* below at any point within 24 inches (610 mm) horizontally to the edge of the open side. Insect screening shall not be considered as a *guard*.

SECTION R316 FOAM PLASTIC

R316.5.4	Crawl spaces	Fiber cement panels, soffit, and backer board minimum ¼ inch thick has been added to item 3 to qualify as an ignition barrier for foam plastic insulation.

SECTION R322 FLOOD-RESISTANT CONSTRUCTION

R322.1	General (flood-resistant construction)	Section editorially revised to clarify it applies to the repair of substantial damage not restoration of substantial damage.

R322.1 General

Buildings and structures constructed in whole or in part in flood hazard areas, including A or V Zones and Coastal A Zones, as established in Table R301.2(1), and substantial improvement and repair of substantial damage of buildings and structures in flood hazard areas, shall be designed and constructed in accordance with the provisions contained in this section. Buildings and structures that are located in more than one flood hazard area shall comply with the provisions associated with the most restrictive flood hazard area. Buildings and structures located in whole or in part in identified floodways shall be designed and constructed in accordance with ASCE 24.

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R322.1.6	Protection of mechanical, plumbing, and electrical systems	New language added permitting equipment for pools, spas and water features to be located below the required base flood elevation provided the equipment is elevated to the extent practical, is anchored to resist flotation and flood forces, and supported by branch circuits having ground-fault circuit-interrupter protection.

R322.1.6 Protection of mechanical, plumbing and electrical systems

Electrical systems, *equipment* and components; heating, ventilating, air conditioning; plumbing *appliances* and plumbing fixtures; *duct systems*; and other service *equipment* shall be located at or above the elevation required in Section R322.2 or R322.3. If replaced as part of a substantial improvement, electrical systems, *equipment* and components; heating, ventilating, air conditioning and plumbing *appliances* and plumbing fixtures; *duct systems*; and other service *equipment* shall meet the requirements of this section. Systems, fixtures, and *equipment* and components shall not be mounted on or penetrate through walls intended to breakaway under flood loads.

Exception: Locating electrical systems, *equipment* and components; heating, ventilating, air conditioning; plumbing *appliances and* plumbing fixtures; *duct systems*; and other service *equipment* is permitted below the elevation required in Section R322.2 or R322.3 provided that they are designed and installed to prevent water from entering or accumulating within the components and to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding to

the design flood elevation in accordance with ASCE 24. Equipment for pools, spas and water features shall be permitted below the elevation required in Section R322.2 or R322.3 provided it is elevated to the extent practical, is anchored to prevent flotation and resist flood forces, and is supplied by branch circuits that have ground-fault circuit-interrupter protection. Electrical wiring systems are permitted to be located below the required elevation provided that they conform to the provisions of the electrical part of this code for wet locations.

R322.3.3	**Foundations**	**The requirement that slabs, pool decks and walkways be located and constructed to be structurally independent has been relocated to new Section R322.3.4.**

R322.3.4	**Concrete slabs**	**New section containing the slab, pool deck, and walkway requirements previously in Section R322.3.3. New language has been added to clarify that the area below elevated buildings is required to be free of obstructions. Two alternatives are provided. One requires slabs in Coastal High Hazard Areas and Coastal A zones to be frangible and break away under flood conditions. Turned down edges are prohibited, and the slab thickness is limited to 4 inches. The other option is for the slab to be capable of resisting any added flood loads and effects of local scour cause by the presence of the slab.**

R322.3.4 Concrete slabs

Concrete slabs used for parking, floors of enclosures, landings, decks, walkways, patios and similar uses that are located beneath structures, or slabs that are located such that if undermined or displaced during base flood conditions could cause structural damage to the building foundation, shall be designed and constructed in accordance with one of the following:

1. To be structurally independent of the foundation system of the structure, to not transfer flood loads to the main structure, and to be frangible and breakaway under flood conditions prior to base flood conditions. Slabs shall be a maximum of 4 inches (102 mm) in thickness, shall not have turned-down edges, shall not contain reinforcing, shall have isolation joints at pilings and columns, and shall have control or construction joints in both directions spaced not more than 4 feet (1219 mm) apart.

2. To be self-supporting, structural slabs capable of remaining intact and functional under base flood conditions, including erosion and local scour, and the main structure shall be capable of resisting any added flood loads and effects of local scour caused by the presence of the slabs.

R322.3.7	**Stairways and ramps**	**New section pertaining to stairways and ramps has been added to clarify that the area below elevated buildings is required to be free of obstructions. Four options are specified:** • **They be designed and constructed to resist flood loads and minimize the transfer of flood loads to the building or structure.** • **They break away during design flood conditions provided the stairways and ramps are not part of the required means of egress.** • **The be retractable or capable of being raised above the lowest floor elevation.** • **They be designed and constructed with open or partially open risers.**

R322.3.7 Stairways and ramps

Stairways and ramps that are located below the lowest floor elevations specified in Section R322.3.2 shall comply with one or more of the following:

1. Be designed and constructed with open or partially open risers and guards.
2. Stairways and ramps not part of the required means of egress shall be designed and constructed to break away during design flood conditions without causing damage to the building or structure, including foundation.
3. Be retractable, or able to be raised to or above the lowest floor elevation, provided that the ability to be retracted or raised prior to the onset of flooding is not contrary to the means of egress requirements of the code.
4. Be designed and constructed to resist flood loads and minimize transfer of flood loads to the building or structure, including foundation.

Areas below stairways and ramps shall not be enclosed with walls below the design flood elevation unless such walls are constructed in accordance with Section R322.3.5.

R322.3.8	**Decks and porches**	**New section pertaining to decks and porches has been added to clarify that the area below elevated buildings is required to be free of obstructions. Attached decks and porches are required to meet the base flood elevation requirements. Self-supporting decks and porches below the base flood elevation are not permitted to be enclosed by solid walls and have to be designed and constructed to remain in place during the base flood condition or be frangible and break away.**

R322.3.8 Decks and porches

Attached decks and porches shall meet the elevation requirements of Section R322.3.2 and shall either meet the foundation requirements of this section or shall be cantilevered from or knee braced to the building or structure. Self-supporting decks and porches that are below the elevation required in Section R322.3.2 shall not be enclosed by solid, rigid walls, including walls designed to break away. Self-supporting decks and porches shall be designed and constructed to remain in place during base flood conditions or shall be frangible and break away under base flood conditions.

SECTION R324 SOLAR ENERGY SYSTEMS

R324	**Solar Energy Systems**	**Section R324 has been completely revised addressing solar energy systems in order to eliminate redundant requirements and to reorganize the provisions for consistency with NFPA 70 and the FFPC.**

R324.4.1	**Roof load (rooftop-mounted photovoltaic systems)**	**Section revised to clarify the design of the roof structure for dead and live loads for roofs with photovoltaic panel systems. Portions of roof structures covered by photovoltaic panel systems are required to be designed for the following:** • **Dead load including photovoltaic panel weight.** • **Dead load excluding photovoltaic panel weight plus roof live load.**

R324.4.1 Structural requirements

Rooftop-mounted photovoltaic panel systems shall be designed to structurally support the system and withstand applicable gravity loads in accordance with Chapter 3. The roof on which these systems are installed shall be designed and constructed to support the loads imposed by such systems in accordance with Chapter 8.

R324.4.1.1 Roof load

Portions of roof structures not covered with photovoltaic panel systems shall be designed for dead loads and roof loads in accordance with Sections R301.4 and R301.6. Portions of roof structures covered with photovoltaic panel systems shall be designed for the following load cases:

1. Dead load (including photovoltaic panel weight) plus snow load in accordance with Table R301.2(1).
2. Dead load (excluding photovoltaic panel weight) plus roof live load or snow load, whichever is greater, in accordance with Section R301.6.

SECTION R328 STATIONARY STORAGE BATTERY SYSTEMS

R328	**Stationary Storage Battery Systems**	**New section providing basic safety requirements for energy storage systems. The new provisions address listing requirements, installation, electrical installation, ventilation, and protection from impact.**

Stationary storage battery systems shall comply with the provisions of this section.

R328.2 Equipment listings

Stationary storage battery systems shall be *listed* and *labeled* for residential use in accordance with UL 9540.

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Exceptions:

1. Where approved, repurposed unlisted battery systems from electric vehicles are allowed to be installed outdoors or in detached sheds located not less than 5 feet (1524 mm) from exterior walls, property lines and public ways.
2. Battery systems that are an integral part of an electric vehicle are allowed, provided that the installation complies with Section 625.48 of NFPA70.
3. Battery systems less than 1 kWh (3.6 megajoules).

R328.3 Installation

Stationary storage battery systems shall be installed in accordance with the manufacturer's instructions and their *listing,* if applicable, and shall not be installed within the habitable space of a *dwelling unit.*

R328.4 Electrical installation

Stationary storage battery systems shall be installed in accordance with NFPA70. Inverters shall be *listed* and *labeled* in accordance with UL 1741 or provided as part of the UL 9540 listing. Systems connected to the utility grid shall use inverters *listed* for utility interaction.

R328.5 Ventilation

Indoor installations of *stationary storage battery systems* that include batteries that produce hydrogen or other flammable gases during charging shall be provided with ventilation in accordance with Section M1307.4.

R328.6 Protection from impact

Stationary storage battery systems installed in a location subject to vehicle damage shall be protected by *approved* barriers.

CHAPTER 4 FOUNDATIONS

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION R402 MATERIALS

R402.1.2	**Wood treatment (wood foundations)**	**AWPA U1 references have been updated for wood foundation systems.**

SECTION R403 FOOTINGS

R403.1.4	**Minimum depth (footings)**	**The required depth of footings has been changed from 12 inches below undisturbed ground surface to 12 inches below finished grade of ground surface.**

R403.1.4 Minimum depth
Exterior footings shall be placed not less than 12 inches (305 mm) below the finished grade of ground surface. Where applicable, the depth of footings shall also conform to Section R403.1.4.1.

SECTION R405 FOUNDATION DRAINAGE

R405.1	**Concrete or masonry foundations (foundation drainage)**	**Section revised to clarify that drain tiles, gravel or crushed stone drains, perforated pipe or other approved drain materials are required to be installed at or below the top of the footing or below the bottom of the slab.**

R405.1 Concrete or masonry foundations
Drains shall be provided around concrete or masonry foundations that retain earth and enclose habitable or usable spaces located below *grade*. Drainage tiles, gravel or crushed stone drains, perforated pipe or other *approved* systems or materials shall be installed at or below the top of the footing or below the bottom of the slab and shall discharge by gravity or mechanical means into an *approved* drainage system. Gravel or crushed stone drains shall extend not less than 1 foot (305 mm) beyond the outside edge of the footing and 6 inches (152 mm) above the top of the footing and be covered with an *approved* filter membrane material. The top of open joints of drain tiles shall be protected with strips of building paper. Except where otherwise recommended by the drain manufacturer, perforated drains shall be surrounded with an *approved* filter membrane or the filter membrane shall cover the washed gravel or crushed rock covering the drain. Drainage tiles or perforated pipe shall be placed on a minimum of 2 inches (51 mm) of washed gravel or crushed rock not less than one sieve size larger than the tile joint opening or perforation and covered with not less than 6 inches (152 mm) of the same material.

Exception: A drainage system is not required where the foundation is installed on well-drained ground or sand-gravel mixture soils according to the Unified Soil Classification System, Group I soils, as detailed in Table R405.1.

SECTION R408 FOUNDATION DRAINAGE

R408.3	**Unvented crawl space**	**An additional option to not providing ventilation openings in underfloor space has been added to Item 2. Item 2.4 now permits the use of dehumidification sized to provide 70 pints of moisture removal per day for every 1000 square feet of crawl space area.**	

R408.3 Unvented crawl space
Ventilation openings in under-floor spaces specified in Sections R408.1 and R408.2 shall not be required where the following items are provided:

1. Exposed earth is covered with a continuous Class I vapor retarder. Joints of the vapor retarder shall overlap by 6 inches (152 mm) and shall be sealed or taped. The edges of the vapor retarder shall extend not less than 6 inches (152 mm) up the stem wall and shall be attached and sealed to the stem wall or insulation. 2. One of the following is provided for the under-floor space: 2.1 Continuously operated mechanical exhaust ventilation at a rate equal to 1 cubic foot per minute (0.47 L/s) for each 50 square feet (4.7 m^2) of crawl space floor area, including an air pathway to the common area (such as a duct or transfer grille), and perimeter walls insulated in accordance with the *Florida Building Code. Energy Conservation.* *2.2 Conditioned air* supply sized to deliver at a rate equal to 1 cubic foot per minute (0.47 L/s) for each 50 square feet (4.7 m^2) of under-floor area, including a return air pathway to the common area (such as a duct or transfer grille), and perimeter walls insulated in accordance with the *Florida Building Code, Energy Conservation.* 2.3 Plenum in existing structures complying with Section M1601.5, if under-floor space is used as a plenum. **2.4** Dehumidification sized to provide 70 pints (33 L) of moisture removal per day for every 1,000 square feet (93 m^2) of crawl space floor area.	

CHAPTER 5 FLOORS

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION R502 WOOD FLOOR FRAMING

R502.1.3	**Structural glued laminated timbers**	**ANSI 117 has been added as a reference standard for structural glued laminated timbers.**

R502.2	**Wood floor framing**	**Section R502.2 has been revised to require wood floor framing to be designed in accordance with the provisions of Section R301.2.1.1 (AWC WFCM, ASCE 7, or the FBCB) or in accordance with the AWC NDS.** **The prescriptive provisions for constructing wood frame floors in Chapter 5 have been deleted and shown as Reserved.**

SECTION R503 FLOOR SHEATHING

R503.1	**Floor sheathing**	**Section R503.1 has been revised to require wood floor sheathing to be designed in accordance with the provisions of Section R301.2.1.1 (AWC WFCM, ASCE 7, or the FBCB) or in accordance with the AWC NDS.**

		The prescriptive provisions for wood frame floor sheathing in Chapter 5 have been deleted and shown as Reserved.

SECTION R504 PRESSURE PRESERVATIVE-TREATED WOOD FLOORS (ON GROUND)

R504.3	**Materials (preservative treated wood floors on ground)**	**AWPA U1 references have been updated for wood foundation systems.**

SECTION R505 COLD-FORMED STEEL FLOOR FRAMING

R505	**Cold-formed steel floor framing**	**The prescriptive provisions of Section R505 for cold-formed steel floor framing have been deleted in their entirety. Section R505.1 now requires the design of cold-form steel floor framing to be in accordance with AISI S230.**

SECTION R506 CONCRETE FLOORS (ON GROUND)

R506.1	**General (concrete floors on ground)**	**New language added providing a reference to Chapter 4 for footings for concrete slab-on-grade floors.**
R506.1 General Concrete slab-on-ground floors shall be designed and constructed in accordance with the provisions of ACI 332 and this section. Floors shall be a minimum 3 1/2 inches (89 mm) thick (for expansive soils, see Section R403.1.8). The specified compressive strength of concrete shall be as set forth in Section R402.2. Footings for concrete slab-on-grade floors shall be in accordance with Chapter 4.		

SECTION R507 EXTERIOR DECKS

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R507	**Exterior Decks**	**Section R507, prescriptive construction of exterior decks, has been reorganized for clarity. The provisions now start with the footings and work upwards. No technical changes to Section R507 have occurred.**
R507.1 Decks Wood-framed decks shall be in accordance with this section. For decks using materials and conditions not prescribed in this section, refer to Section R301.		

CHAPTER 6 WALL CONSTRUCTION

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION R602 WOOD WALL FRAMING

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R602.1.3	Structural glued laminated timbers	ANSI 117 has been added as a reference standard for structural glued laminated timbers.
R602.1.11	Structural insulated panels	New section added requiring structural insulated panels to be manufactured and identified in accordance with ANSI/APA PRS 610.1.

R602.3	Wood wall framing	Section R602.3 has been revised to require exterior walls of wood frame construction to be designed in accordance with the provisions of Section R301.2.1.1 (AWC WFCM, ASCE 7, or the FBCB) or in accordance with the AWC NDS. The prescriptive provisions for wood frame walls in Chapter 6 have been deleted and shown as Reserved.

SECTION R603 COLD-FORMED STEEL WALL FRAMING

R603	Cold-formed steel wall framing	The prescriptive provisions of Section R603 for cold-formed steel walls have been deleted in their entirety. Section 603.1 now requires the design of cold-form steel wall framing to be in accordance with AISI S230.

SECTION R606 GENERAL MASONRY CONSTRUCTION

R606.1	General (masonry construction)	References for the design of masonry have been updated to also include Section R301.2.1.1 and TMS 404.

R606.2.3	AAC masonry	Section revised to require AAC masonry units to conform to ASTM C1691 and ASTM C1693 for the strength class specified.

R606.2.6	Adhered manufactured stone masonry veneer	New section added requiring adhered manufactured stone masonry veneer units to comply with ASTM C1670.
R606.2.6 Adhered manufactured stone masonry veneer units. Adhered manufactured stone masonry veneer units shall conform to ASTM C1670.		

R606.6.4	**Lateral support of masonry**	**Section R606.6.4 has been revised to require masonry walls to be laterally supported in accordance with Section R301.2.1.1, TMS 402, TMS 403, or TMS 404.** **The prescriptive provisions contained in Section R606.6.4 through R606.6.4.2.2 apply to low wind regions and do not apply to lateral support required for masonry construction in the State of Florida. For clarity, these provisions have now been deleted.**

R606.11	**Anchorage**	**The prescriptive provisions contained in Section R606.11 for anchorage of masonry apply to low wind regions and do not apply to anchorage required for masonry construction in the State of Florida. For clarity, these provisions have now been deleted.**

SECTION R609 EXTERIOR WINDOWS AND DOORS

R609.7.2.1	**Masonry, concrete, or other structural substrate (anchorage methods)**	**New language added requiring bucks to extend beyond the interior face of the window or door frame such that full support of the frame is provided. This requirement applies to all thicknesses of wood shims and bucks.**

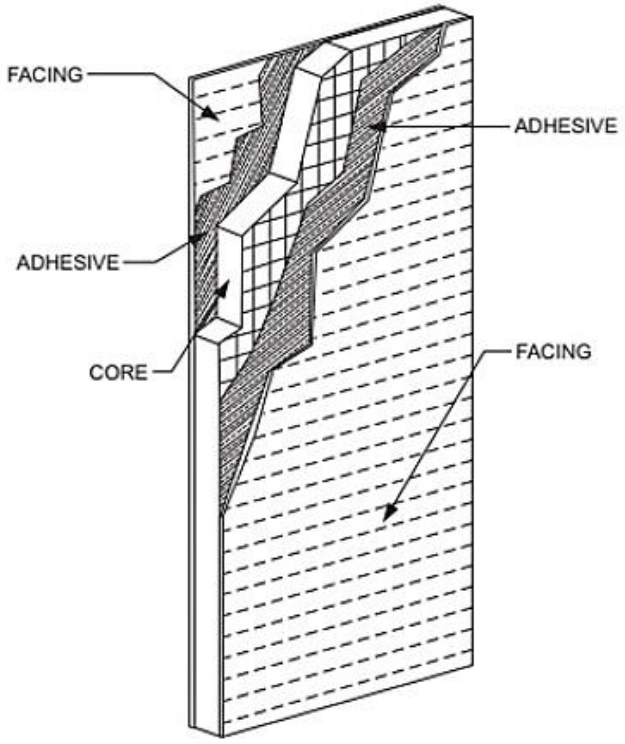
R609.7.2.1 Masonry, concrete or other structural substrate.
Where the wood shim or buck thickness is less than $1^1/_2$ inches (38 mm), window and glass door assemblies shall be anchored through the jamb, or by jamb clip and anchors shall be embedded directly into the masonry, concrete or other substantial substrate material. Unless otherwise tested, bucks shall extend beyond the interior face of the window or door frame such that full support of the frame is provided. Anchors shall adequately transfer load from the window or door frame into the rough opening substrate [see Figures R609.7.2(1) and R6097.2(2)].
Where the wood shim or buck thickness is $1^1/_2$ inches (38 mm) or more, and the buck is securely fastened to the masonry, concrete or other substantial substrate, window and glass door assemblies shall be anchored through the jamb, or by jamb clip , or through the flange to the secured wood buck. Unless otherwise tested, bucks shall extend beyond the interior face of the window or door frame such that full support of the frame is provided. Anchors shall be embedded into the secured wood buck to adequately transfer load from the window or door frame assembly [see Figures R609.7.2(3), R6097.2(4) and R609.7.2(5)].

SECTION R610 STRUCTURAL INSULATED PANEL WALL CONSTRUCTION

R610.3	**Materials (SIPs)**	**Requirements for SIP cores, facings, and adhesives have been deleted. Section R610.3 now references ANSI/APA PRS 610.1 for material requirements for SIP construction.**

R610.4.1 **FBCR (2017) deletion**	**Labeling**	**Section deleted because labeling requirements are covered in ANSI/APA PRS 610.1.**

Figures R610.5(1) through R610.5(5)	**SIP connections to framing**	**Figures have been revised for clarity.**

R610.5.3	**Panel-to-panel connection**	**New section requiring SIP's to be connected at vertical in-plane joints in accordance with Figure R610.8 or other approved methods.**
R610.5.3 Panel-to-panel connection. IPs shall be connected at vertical in-plane joints in accordance with Figure R610.8 or by other approved methods.		
R610.4	**SIP wall panels**	**Section revised to require SIPs to be identified by a grade mark or certificate of inspection issued by an approved agency in accordance with ANSI/APA PRS 610.1.**
R610.4 SIP wall panels. SIPs shall comply with Figure R610.4 and shall have minimum panel thickness in accordance with Tables R610.5(1) and R610.5(2) for above-grade walls. SIPs shall be identified by grade mark or certificate of inspection issued by an *approved* agency in accordance with ANSI/APA PRS 610.1.		 **FIGURE R610.4 SIP WALL PANEL**

R610.5.4	**Corner framing**	**New section requiring corner framing of SIP walls to be constructed in accordance with Figure R610.5.4.**

R610.8	**Headers**	**New language added requiring the strength axis of the factors on the header to be oriented horizontally.**
R610.8 Headers SIP headers shall be designed and constructed in accordance with Table R610.8 and Figure R610.5.1. SIP headers shall be continuous sections without splines. Headers shall be not less than $11\,^{7}/_{8}$ inches (302 mm) deep. Headers longer than 4 feet (1219 mm) shall be constructed in accordance with Section R602.3. The strength axis of the factors on the header shall be oriented horizontally.		

Table R610.18	Maximum Spans for 11 7/8-inch or Deeper SIP Headers	New footnotes have been added to clarify the basis for the table values.

CHAPTER 7 WALL COVERING

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION R702 INTERIOR COVERING

Table R702.1(3)	Cement Plaster Proportions, Parts by Volume	Table has been revised to update the blended hydraulic cement types permitted.

R702.3.3	Cold-formed steel framing	References to AISI standards have been updated. The reference to ASTM C645 for non-load-bearing cold-formed steel framing has been deleted because the screw penetration test has been incorporated into AISI S220. For load-bearing cold-formed steel the framing, the reference to AISI S200 and ASTM C955 Section 8 has been changed to AISI S240.

R702.7.3	Minimum clear airspaces and vented openings for vented cladding	Polypropylene has been added as a recognized cladding with respect to vapor barriers.

R702.7.3 Minimum clear airspaces and vented openings for vented cladding.

For the purposes of this section, vented cladding shall include the following minimum clear airspaces. Other openings with the equivalent vent area shall be permitted.

1. Vinyl, polypropylene or horizontal aluminum siding applied over a weather-resistive barrier as specified in Table R703.3(1).
2. Brick veneer with a clear airspace as specified in Table R703.8.4(1).
3. Other approved vented claddings.

SECTION R703 EXTERIOR COVERING

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R703.1.1	Water resistance (exterior coverings)	Section editorially revised to clarify this section applies to cladding not just a decorative covering. Protection against condensation has been deleted because it is more appropriately covered in Section R702.7 The reference to Section R703.8 in Exception 1 has been deleted as that section does not pertain to flashing.

R703.1.1 Water resistance

The exterior wall envelope shall be designed and constructed in a manner that prevents the accumulation of water within the wall assembly by providing a water-resistant barrier behind the exterior cladding as required by Section R703.2 and a means of draining to the exterior water that penetrates the exterior cladding.

R703.1.2.1	**Wind resistance of soffits**	**Section revised to refer to new Section R704 for the design of soffits to resist wind loads.**
R703.2	**Water-resistive barrier**	**Section revised to clarify requirements for No. 15 asphalt felt and distinguish requirements for other approved water-resistive barriers. Requires other approved water-resistive barriers to be installed in accordance with the manufacturer's installation instructions.**

R703.2 Water-resistive barrier

One layer of No. 15 asphalt felt, free from holes and breaks, complying with ASTM D226 for Type 1 felt or other approved water-resistive barrier shall be applied over studs or sheathing of all exterior walls. No. 15 asphalt felt shall be applied horizontally, with the upper layer lapped over the lower layer not less than 2 inches (51 mm). Where joints occur, felt shall be lapped not less than 6 inches (152 mm). Other approved materials shall be installed in accordance with the water-resistive barrier manufacturer's installation instructions. The No. 15 asphalt felt or other approved water-resistive barrier material shall be continuous to the top of walls and terminated at penetrations and building appendages in a manner to meet the requirements of the exterior wall envelope as described in Section R703.1. The water-resistive barrier is not required for detached accessory buildings.

R703.4	**Flashing**	**Section revised to clarify that vinyl flashing, self-adhered membranes, and mechanically attached flexible flashing are permitted to be used as flashing.**

R703.4 Flashing.

Approved metal flashing, vinyl flashing, self-adhered membranes and mechanically attached flexible flashing shall be applied shingle- fashion or in accordance with the manufacturer's instructions. Metal flashing shall be corrosion resistant. Fluid-applied membranes used as flashing shall be applied in accordance with the manufacturer's instructions. All flashing shall be applied in a manner to prevent the entry of water into the wall cavity or penetration of water to the building structural framing components. Self-adhered membranes used as flashing shall comply with AAMA 711. All exterior fenestration products shall be sealed at the juncture with the building wall with a sealant complying with AAMA 800 or ASTM C920 Class 25 Grade NS or greater for proper joint expansion and contraction, ASTM 01281, AAMA 812, or other approved standard as appropriate for the type of sealant. Fluid-applied membranes used as flashing in exterior walls shall comply with AAMA 714. The flashing shall extend to the surface of the exterior wall finish. Approved flashings shall be installed at the following locations:

(… CONTINUED)

R703.7	**Exterior plaster**	**Section revised to add ASTM C1787 for non-metal lath.**

R703.7.1	**Lath**	**The length of staples used to attach lath has been increased from 7/8 inches to 1 ½ inches.**

R703.7.1 Lath

Lath and lath attachments shall be of corrosion-resistant materials. Expanded metal or woven wire lath shall be attached with $1^1/_2$-inch-long (38 mm), 11 gage nails having a $^7/_{16}$-inch (11.1 mm) head, or $1^1/_2$-inch-long (22.2 mm), 16 gage staples, spaced in accordance with ASTM C1063 or C1787, or as otherwise approved.

R703.7.2	**Plaster**	**The acceptable types of cement for plaster have been updated to the current ASTM designations.**

R703.8.4	**Anchorage (anchored stone and masonry veneer)**	**New language added referencing new Table R703.8.4(2) for masonry veneer tie attachment through insulating sheathing not greater than 2 inches in thickness to not less than 7/16 performance category wood structural panel.**
R703.8.4 Anchorage Masonry veneer shall be anchored to the supporting wall studs with corrosion-resistant metal ties embedded in mortar or grout and extending into the veneer a minimum of $1^1/_2$ inches (38 mm), with not less than $^5/_8$-inch (15.9 mm) mortar or grout cover to outside face. Masonry veneer shall conform to Table R703.8.4(1). For masonry veneer tie attachment through insulating sheathing not greater than 2 inches (51 mm) in thickness to not less than ^{7}/i6 performance category wood structural panel, see Table R703.8.4(2).		

Table R703.8.4(1)	**Tie Attachment and Airspace Requirements**	**New note added to the table indicating that an airspace that provides drainage is permitted to contain some mortar from construction.**

Table R703.8.4(2)	**Required Brick Tie Spacing for Direct Application to Wood Structural Panel Sheathing**	**New table added for attaching brick veneer through insulating sheathing not greater than 2 inches in thickness to not less than 7/16 performance category wood structural panel. Attachments are provided for wind speeds up to 140 mph and a building mean roof height up to 30 feet using ring shank nails and screws.**

R703.11.2.3 FBCR (2017) deletion	**Manufacturer specification (vinyl siding installed over foam plastic sheathing)**	**Section deleted as the requirements are covered by Exception 2 to Section R703.11.2.**

R703.14	**Polypropylene siding and accessories**	**Section revised to clarify that polypropylene siding is required to comply with the fire separation distance requirements of Section R703.14.2 or meet the flame spread index requirements of new Section R703.14.3.**

R703.14.3	**Flame spread index**	**New section added requiring polypropylene siding to be certified by a test report stating that all portions of the test specimen ahead of flame front remained in position during the flame spread index test in accordance with ASTM E84 or UL 723.**
R703.14.3 Flame spread index The certification of the *flame spread index* shall be accompanied by a test report stating that all portions of the test specimen ahead of the flame front remained in position during the test in accordance with ASTM E84 or UL 723.		

Table R703.15.1	**Cladding Minimum Fastening Requirements for Direct Attachment of Foam Plastic Sheathing to Support Cladding Weight**	**Table values have been updated by using a consistent rounding approach by rounding the values down to the nearest 0.05 inches for consistency with actual thicknesses of foam plastic sheathing materials.**

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Table R703.15.2	Furring Minimum Fastening Requirements for Application Over Foam Plastic Sheathing to Support Cladding Weight	Table values have been updated by using a consistent rounding approach by rounding the values down to the nearest 0.05 inches for consistency with actual thicknesses of foam plastic sheathing materials.
Table R703.16.1	Cladding Minimum Fastening Requirements for Direct Attachment of Foam Plastic Sheathing to Support Cladding Weight	Table values have been updated by using a consistent rounding approach by rounding the values down to the nearest 0.05 inches for consistency with actual thicknesses of foam plastic sheathing materials.

Table R703.16.2	Furring Minimum Fastening Requirements for Application Over Foam Plastic Sheathing to Support Cladding Weight	Table values have been updated by using a consistent rounding approach by rounding the values down to the nearest 0.05 inches for consistency with actual thicknesses of foam plastic sheathing materials.

SECTION R704 SOFFITS

Section R704	Soffits	New section providing design and construction requirements for common soffit materials. Two new figures have been added depicting proper attachment of vinyl soffit panels to resist wind loads. The span of vinyl soffit panels is now limited to 12 inches. Material requirements are specified for vinyl, fiber-cement, and hardboard soffit panels. A new prescriptive option for wood structural panel soffits is provided for design wind pressures up to 90 psf.

CHAPTER 8 ROOF-CEILING CONSTRUCTION

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION R802 WOOD ROOF FRAMING

R802.1.2	Structural glued laminated timbers	ANSI 117 has been added as a reference standard for structural glued laminated timbers.

R802.1.8	Prefabricated wood I-joists	New section added requiring the structural capacities and design provisions for prefabricated wood I-joists to be established and monitored in accordance with ASTM D 5055.

R802.2	**Design and construction**	**Section revised to require wood roof framing to be designed in accordance with the provisions of Section R301.2.1.1 (AWC WFCM, ASCE 7, or the FBCB) or in accordance with the AWC NDS.**
R802.3, R802.4, R802.5, R802.8, R802.1 **FBCR (2017) deletion**	**Prescriptive provisions for construction of wood frame roofs**	**The prescriptive provisions for constructing wood frame roofs in Chapter 8 have been deleted and shown as Reserved. These prescriptive provisions were developed for low wind regions (Vult < 115 mph) and do not apply to the design and construction of wood roofs in the State of Florida. These provisions had been carried forward in many editions of the FBCR as part of the previous based code (IRC). However, the wind speed limitations for use of these prescriptive provisions established in Section R301.2.1.1 has prohibited their use. For clarity, these provisions have now been deleted.**

SECTION R803 ROOF SHEATHING

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R803.2.2	**Allowable spans (roof sheathing)**	**Section revised to refer to new Table R803.2.2 for the minimum thickness and span rating of wood structural panel roof sheathing.**

TABLE R803.2.2
MINIMUM ROOF SHEATHING THICKNESS

Rafter/Truss Spacing 24 in. o.c.	WIND SPEED							
	115 mph	120 mph	130 mph	140 mph	150 mph	160 mph	170 mph	180 mph
Minimum Sheathing Thickness, inches (Panel Span Rating) Exposure B	7/16 (24/16)	7/16 (24/16)	7/16 (24/16)	7/16 (24/16)	15/32 (32/16)	19/32 (40/20)	19/32 (40/20)	19/32 (40/20)
Minimum Sheathing Thickness, inches (Panel Span Rating) Exposure C	7/16 (24/16)	7/16 (24/16)	15/32 (32/16)	19/32 (40/20)	19/32 (40/20)	19/32 (40/20)	19/32 (40/20)	23/32 (48/24)
Minimum Sheathing Thickness, inches (Panel Span Rating) Exposure D	15/32 (32/16)	19/32 (40/20)	19/32 (40/20)	19/32 (40/20)	19/32 (40/20)	19/32 (40/20)	23/32 (48/24)	23/32 (48/24)

R803.2.3	**Installation**	**New language prohibits wood structural panel roof sheathing from cantilevering more than 9 inches beyond the gable end wall unless supported by gable overhang framing.**

R803.2.3 Installation
Wood structural panel used as roof sheathing shall be installed with joints staggered in accordance with Section R803.2.3.1 for wood roof framing or with Section R804.1 for cold-formed steel roof framing. Wood structural panel roof sheathing shall not cantilever more than 9 inches beyond the gable end wall unless supported by gable overhang framing.

Table R803.2.2	**Minimum Roof Sheathing Thickness**	**New table specifying the minimum roof sheathing thickness based on wind speed and exposure category. The specified sheathing thicknesses are based on a rafter/truss spacing of 24 inches on center.**

R803.2.3.1	**Sheathing fastenings**	**Section revised to refer to new Table R803.2.3.1 to determine the required spacing of fasteners for attaching wood structural panel sheathing to roof framing. Where the sheathing thickness is 15/32 inches and less, sheathing is required to be attached with ASTM F1667 RSRS-01 (2 3/8" x 0.113") nails. Where the sheathing thickness exceeds 15/32 inches, sheathing is required to be attached with ASTM F1667 RSRS-03 (2 ½" x 0.131") nails or RSRS-04 (3" x 0.120") nails.**

Table R803.2.3.1	**Roof Sheathing Attachment**	**New table specifying fastener spacing of wood structural panel roof sheathing based on wind speed, exposure category, and framing member specific gravity. The specified fastener spacing is based on a rafter/truss spacing of 24 inches on center. Fastener spacing is provided for panel edges and for intermediate supports in the panel field.**

SECTION R804 COLD-FORMED STEEL ROOF FRAMING

R804	**Cold-Formed Steel Roof Framing**	**The prescriptive provisions of Section R804 for cold-formed steel roof framing have been deleted in their entirety. Section R804.1 now requires the design of cold-form steel roof framing to be in accordance with AISI S230.** **These prescriptive provisions were developed for low wind regions and do not apply to the design and construction of cold-formed steel roof framing for most the State of Florida. These provisions had been carried forward in many editions of the FBCR as part of the previous based code (IRC). However, the wind speed limitations for use of these prescriptive provisions established in Section R301.2.1.1 has prohibited their use. For clarity, these provisions have now been deleted.**
R804.1 General In accordance with Section R301.2.1.1, the design of cold-formed steel roof framing shall be in accordance with AISI S230, *Standard for Cold-Formed Steel Framing—Prescriptive Method For One- and Two-Family Dwellings.*		

SECTION R806 ROOF VENTILATION

Q16

R806.1	**Ventilation required (roof ventilation)**	**Perforated vinyl has been added as option for covering ventilated openings. New language has been added to clarify that ventilated openings have to be protected to prevent the entry of birds, rodents, snakes, and other similar creatures.**

R806.1 Ventilation required.
Enclosed attics and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain or snow. Ventilation openings shall have a least dimension of 1/16 inch (1.6 mm) minimum and 1/4 inch (6.4 mm) maximum. Ventilation openings having a least dimension larger than 1/4 inch (6.4 mm) shall be provided with corrosion-resistant wire cloth screening, hardware cloth, perforated vinyl or similar material with openings having a least dimension of 1/16 inch (1.6 mm) minimum and 1/4 inch (6.4 mm) maximum. Openings in roof framing members shall conform to the requirements of Section R802.7. Required ventilation openings shall open directly to the outside air and shall be protected to prevent the entry of birds, rodents, snakes and other similar creatures.

R806.2	**Minimum vent area**	**Exception 1 has been deleted as the climate zones indicated do not apply to Florida.** **Exception 2 has been revised to permit the lower vents to be in the bottom one-third of the attic space instead of only in eaves or cornices.**

R806.3	**Vent and insulation clearance**	**Section revised to clarify that blocking and bridging, in addition to insulation, is not permitted to block the free flow of air.**

R806.5	**Unvented attic and unvented enclosed rafter assemblies**	**A new option has been added for Climate Zones 1, 2, and 3 permitting the use vapor diffusion in lieu of air changes to remove moisture in attics. This option only applies where air-permeable insulation is located on the top of the attic floor or on top of the attic ceiling.**

CHAPTER 9 ROOF ASSEMBLIES
(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION R902 FIRE CLASSIFICATION

R902.4	**Rooftop-mounted photovoltaic panel systems**	**New section requiring rooftop-mounted photovoltaic panel systems to be tested, listed, and identified with a fire classification in accordance with UL 1703 and UL 2703.**

R902.4 Rooftop-mounted photovoltaic panel systems.
Rooftop-mounted *photovoltaic panel systems* installed on or above the roof covering shall be tested, listed and identified with a fire classification in accordance with UL 1703 and UL 2703. Class A, B or C *photovoltaic panel systems* and modules shall be installed in jurisdictions designated by law as requiring their use or where the edge of the roof is less than 3 feet (914 mm) from a lot line.

SECTION R905 REQUIREMENTS FOR ROOF COVERINGS

R905.1.1	**Underlayment**	Underlayment types and installation for all roof coverings have been revised to be consistent with the recommendations from IBHS to create a "sealed roof deck." The key changes are as follows: • where felt underlayment is used, it must be 30# or equivalent (ASTM D 226 Type II, ASTM D4869 Types III or IV) • installation techniques such as number of plies, lapping, and fastener spacing have been strengthened • where self-adhering strips/tapes are applied over roof deck joints, a 30# equivalent underlayment with enhanced fastening is required over the strips/tapes A new exception permits an existing self-adhered membrane to remain on the roof provided that, if required, re-nailing of the roof deck in accordance with Section R908.7.1 can be confirmed or verified. An approved underlayment for the applicable roof coverings is required to be applied over the existing self-adhered membrane.
R905.1.1.1	**Underlayment for asphalt, metal, mineral surfaced, slate and slate-type roof coverings**	
R905.1.1.2	**Underlayment for concrete and clay tile**	
R905.1.1.3	**Underlayment for wood shakes and shingles.**	

Table R905.1.1 FBCR (2017) deletion	**Underlayment Table**	Table has been deleted.

Table R905.1.1.1	**Underlayment with Self-Adhering Strips Over Roof Deck Joints**	New table specifies the required underlayment types, lapping, and fasteners where self-adhering strips/tapes are applied to the roof deck joints.

R905.2.6.1	**Classification of asphalt shingles**	Section revised to clarify that asphalt shingles are required to be labeled to indicate compliance with one of the required classifications in Table R905.2.6.1

R905.2.8.5	**Drip edge**	New language added requiring the drip edge at gables to be installed over the underlayment.

R905.2.8.5 Drip edge

Provide drip edge at eaves and gables of shingle roofs. Overlap to be a minimum of 3 inches (76 mm). Eave drip edges shall extend $^1/_2$ inch (13 mm) below sheathing and extend back on the roof a minimum of 2 inches (51 mm). Drip edge at gables shall be installed over the underlayment. Drip edge at eaves shall be permitted to be installed either over or under the underlayment. If installed over the underlayment, there shall be a minimum 4 inch (51 mm) width of roof cement installed over the drip edge flange. Drip edge shall be mechanically fastened a maximum of 12 inches (305 mm) on center. Where the V_{asd} as determined in accordance with Section R301.2.1.3 is 110 mph (177 km/h) or greater or the mean roof height exceeds 33 feet (10 058 mm), drip edges shall be mechanically fastened a maximum of 4 inches (102 mm) on center.

R905.3 through R905.3.8	Clay and concrete tile	The FRSA/TRI Florida High Wind Concrete and Clay Tile Installation Manual has been updated to the 6th Edition.

R905.4.4.1	Wind resistance of metal roof shingles	New section requiring that metal roof shingles applied to a solid or closely fitted deck to be tested in accordance with FM 4474, UL 580, UL 1897, ASTM D3161, or TAS 107.

Table R905.4.4.1	Classification of Metal Roof Shingles Tested in Accordance with ASTM D3161	New Table R905.4.4.1 specifies the required classification of metal shingles tested to ASTM D3161 based on the ultimate design wind speed (similar to the classification requirements for asphalt shingles).

Table R905.8.5	Wood Shake Material Requirements	AWPA U1 references have been updated for preservative-treated taper sawn shakes of Southern Pine.

Table R905.11.2	Modified Bitumen Roof Material Standards	CGSB 37-GP-56M has been deleted from the list of modified bitumen roof membrane standards.

R905.12.2	Material standards (thermoset single-ply roofing)	CGSB 37-GP-56M has been deleted from the list of thermoset single-ply roofing standards.

R905.13.2	Material standards (thermoplastic single-ply roofing)	CGSB 37-GP-56M has been deleted from the list of thermoplastic single-ply standards.

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R905.17.1	Wind resistance (photovoltaic systems)	The specified wind design criteria for rooftop-mounted photovoltaic systems has been deleted and replaced with a reference to designing for wind loads in accordance with ASCE 7. ASCE 7-16 includes new wind design criteria for roof-top mounted photovoltaic systems.

R905.17.1 Wind resistance.
Rooftop mounted photovoltaic systems shall be designed for wind loads in accordance with ASCE 7.

SECTION R906 ROOF INSULATION

Table R906.2	Material Standards for Roof Insulation	Mineral wool board complying with ASTM C726 has been added to the list of material and standards for roof insulation.

SECTION R907 ROOF-TOP MOUNTED PHOTOVOLTAIC SYSTEMS

R907.1	Rooftop-mounted photovoltaic systems	New section added requiring rooftop-mounted photovoltaic panel systems to be designed and installed in accordance with R324, NFPA 70, and the FFPC.

R907.1 Rooftop-mounted photovoltaic systems.

Rooftop-mounted photovoltaic panel systems shall be designed and installed in accordance with Section R324, NFPA 70 and the *Florida Fire Prevention Code.*

SECTION R908 EXISTING ROOFING

R908.1	General (existing roofing)	A new exception permits an existing self-adhered membrane to remain on the roof provided that, if required, re-nailing of the roof deck in accordance with Section R908.7.1 can be confirmed or verified. An approved underlayment for the applicable roof coverings is required to be applied over the existing self-adhered membrane.

R908.1 General

Materials and methods of application used for re-covering or replacing an existing roof covering shall comply with the requirements of this chapter.

Exceptions:

1. Reroofing shall not be required to meet the minimum design slope requirement of one-quarter unit vertical in 12 units horizontal (2-percent slope) in Section R905 for roofs that provide positive roof drainage.
2. An existing seif-adhering modified bitumen underlayment that has been previously installed over the roof decking and where it is required, renailing off the roof sheathing in accordance with Section R908.7.1 can be confirmed or verified. An approved underlayment in accordance with Table R905.1.1.1 for the applicable roof covering shall be applied over the entire roof over the existing self-adhered modified bitumen underlayment.

R908.5	Reinstallation/reuse of materials	Section revised to clarify that existing or salvaged slate, clay, or concrete tile is permitted for reinstallation or reuse, to repair an existing roof provided it is of like kind in material and profile. New language specifically permits the building official to permit salvaged slate, clay, concrete tile on additions and new construction provided the tile is tested and installed in accordance with Section 1507.

908.5 Reinstallation/reuse of materials

Existing or salvaged slate, clay or concrete tile shall be permitted for reinstallation or reuse, to repair an existing slate or tile roof, except that salvaged slate or tile shall be of like kind in both material and profile. Damaged, cracked or broken slate or tile shall not be reinstalled. The building official may permit salvaged slate, clay and concrete tile to be installed on additions and new construction, when the tile is tested in compliance with the provisions of Section R905 or Section 1523 of the *Florida Building Code. Building* (HVHZ shall comply with Section 1523 of the *Florida Building Code. Building)* and installed in accordance with Section R905 or Section 1518 of the *Florida Building Code. Building* (HVHZ shall comply with Section 1518 of the *Florida Building Code. Building).* Existing vent flashing, metal edgings, drain outlets, collars and metal counterflashings shall not be reinstalled where rusted, damaged or deteriorated. Aggregate surfacing materials shall not be reinstalled (High-Velocity Hurricane Zones shall comply with Sections 1512 through 1525 of the *Florida Building Code. Building).*

R908.7	**Wind mitigation**	**Section revised to apply to all buildings with a sawn lumber, wood plank, or wood structural panel roof deck not just site-built single-family dwellings.**

R908.7.1	**Roof decking attachment for existing structures with wood roof decks.**	**Section revised to apply to all buildings with a sawn lumber, wood plank, or wood structural panel roof deck not just site-built single-family dwellings.**

R908.7.2	**Roof secondary water barrier for existing structures with wood roof decks**	**Section revised to apply to all buildings with a sawn lumber, wood plank, or wood structural panel roof deck not just site-built single-family dwellings.**

R908.8	**Roof-to-wall connections (mitigation)**	**Section revised to apply to all buildings with a sawn lumber, wood plank, or wood structural panel roof deck not just site-built single-family dwellings.**

R908.8

When a roof covering on an existing structure with a sawn lumber, wood plank or wood structural panel roof deck is removed and replaced on a building that is located in the wind-borne debris region as defined in the *Florida Building Code, Building* and that has an insured value of $300,000 or more or, if the building is uninsured or for which documentation of insured value is not presented, has a just valuation for the structure for purposes of ad valorem taxation of $300,000 or more:

1. Roof to wall connections shall be improved as required by Section R908.8.1.
2. Mandated retrofits of the roof-to-wall connection shall not be required beyond a 15 percent increase in the cost of re-roofing.

Exception: Structures permitted subject to the *Florida Building Code* are not required to comply with this section.

CHAPTER 10 CHIMNEYS AND FIREPLACES

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION R1001 MASONRY FIREPLACES

1001.2.1	**Ash dump cleanout**	**Section revised to coordinate the use of the terms accessible and access in the code.**

R1001.2.1 Ash dump cleanout.

Cleanout openings located within foundation walls below fireboxes, when provided, shall be equipped with ferrous metal or masonry doors and frames constructed to remain tightly closed except when in use. Cleanouts shall be located to allow *access* and so that ash removal will not create a hazard to combustible materials.

SECTION R1003 MASONRY FIREPLACES

1003.9.2	Spark arrestors	Section revised to coordinate the use of the terms accessible and access in the code.

R1003.9.2 Spark arrestors.

Where a spark arrestor is installed on a masonry chimney, the spark arrestor shall meet all of the following requirements:

1. The net free area of the arrestor shall be not less than four times the net free area of the outlet of the chimney flue it serves.
2. The arrestor screen shall have heat and corrosion resistance equivalent to 19-gage galvanized steel or 24-gage stainless steel.
3. Openings shall not permit the passage of spheres having a diameter greater than $^{1}/_{2}$ inch (12.7 mm) nor block the passage of spheres having a diameter less than $^{3}/_{g}$ inch (9.5 mm).
4. The spark arrestor shall be located with access for cleaning and the screen or chimney cap shall be removable to allow for cleaning of the chimney flue.

1005.8	Insulation shield	New section requiring insulation shields for factory-built chimneys that pass through insulated assemblies.

R1005.8 Insulation shield

Where factory-built chimneys pass through insulated assemblies, an insulation shield constructed of steel having a minimum thickness of 0.0187 inch (0.4712 mm) (No. 26 gage) shall be installed to provide *clearance* between the chimney and the insulation material.

The *clearance* shall not be less than the *clearance* to combustibles specified by the chimney manufacturer's installation instructions.

Where chimneys pass through attic space, the shield shall terminate not less than 2 inches (51 mm) above the insulation materials and shall be secured in place to prevent displacement. Insulation shields provided as part of a *listed* chimney system shall be installed in accordance with the manufacturer's installation instructions.

CHAPTER 11 ENERGY EFFICIENCY

CHAPTER 12 MECHANICAL ADMINISTRATION

(No Changes)

CHAPTER 13 GENERAL MECHANICAL SYSTEM REQUIREMENTS

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION M1305 APPLIANCE ACCESS

M1305.1	Appliance access for inspection service, repair and replacement.	Section revised to coordinate the use of the terms accessible and access in the code.

M1305.1 Appliance access for inspection service, repair and replacement

Appliances shall be located to allow for access for inspection, service, repair and replacement without removing permanent construction, other *appliances*, or any other piping or ducts not connected to the *appliance* being inspected, serviced, repaired or replaced. A level working space not less than 30 inches deep and 30 inches wide (762 mm by 762 mm) shall be provided in front of the control side to service an *appliance*.

CHAPTER 14 HEATING AND COOLING EQUIPMENT AND APPLIANCES

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION M1407 DUCT HEATERS

M1407.4	Access	Section revised to coordinate the use of the terms accessible and access in the code.

M1407.4 Access

Duct heaters shall be located to allow *access* for servicing, and clearance shall be maintained to permit adjustment, servicing and replacement of controls and heating elements.

SECTION M1411 HEATING AND COOLING EQUIPMENT

Q18

M1411.6	Insulation of refrigerant piping	Section revised to change the insulation size for piping and fittings for refrigerant vapor lines from R-4 to R-3.

M1411.6 Insulation of refrigerant piping

Piping and fittings for refrigerant vapor (suction) lines shall be insulated with insulation having a thermal resistivity of not less than R-3 and having external surface permeance not exceeding 0.05 perm [2.87 ng/(s • m^2 • Pa)] when tested in accordance with ASTM E96.

CHAPTER 15 EXHAUST SYSTEMS

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION M1502 CLOTHES DRYER EXHAUST

Q19

M1502.3.1	Exhaust termination outlet and passageway size	New section requiring the passageway of dryer exhaust duct terminals to be undiminished in size and to provide an open area of not less than 12.5 square inches.

M1502.3.1 Exhaust termination outlet and passageway size

The passageway of dryer exhaust duct terminals shall be undiminished in size and shall provide an open area of not less than 12.5 square inches (8065 mm^2).

M1502.4.1	Material and size (dryer exhaust duct)	For clarity, the equivalent metal gauge size has been added.

M1502.4.1 Material and size

Exhaust ducts shall have a smooth interior finish and be constructed of metal having a minimum thickness of 0.0157 inch (28 gauge). The duct shall be 4 inches (102 mm) nominal in diameter.

Exception: Exhaust ducts may be 4 inches nominal in diameter Schedule 40 PVC when horizontally run beneath the slab.

M1502.4.2	**Duct installation**	**Section revised to prohibit joining ducts with screws or similar fasteners.** **New language added requiring where dryer exhaust ducts are enclosed in wall or ceiling cavities, such cavities are required to allow the installation of the duct without deformation.**

M1502.4.2 Duct installation

Exhaust ducts shall be supported at intervals not to exceed 12 feet (3658 mm) and shall be secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Exhaust duct joints shall be sealed in accordance with Section M1601.4.1. Ducts shall not be joined with screws or similar fasteners. Where dryer exhaust ducts are enclosed in wall or ceiling cavities, such cavities shall allow the installation of the duct without deformation.

SECTION M1503 RANGE HOODS

Q20

1503.4	**Make-up air required (range hoods)**	**Section revised to coordinate the use of the terms accessible and access in the code.**

M1503.4 Makeup air required

Exhaust hood systems capable of exhausting in excess of 400 cubic feet per minute (0.19 m^3/s) shall be mechanically or naturally provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with not less than one damper. Each damper shall be a gravity damper or an electrically operated damper that automatically opens when the exhaust system operates. Dampers shall be located to allow *access* for inspection, service, repair and replacement without removing permanent construction or any other ducts not connected to the damper being inspected, serviced, repaired or replaced.

Exception: In a single-family dwelling, make-up air is not required for range hood exhaust systems capable of exhausting:

(a) Four hundred cubic feet per minute or less; or
More than 400 cubic feet per minute but no more than 800 cubic feet per minute if there are no gravity vent appliances within the conditioned living space of the structure.

SECTION M1507 MECHANICAL VENTILATION

1507.3.2	**System controls (mechanical ventilation)**	**New language added requiring controls to include text or a symbol indicating their function.**

M1507.3.2 System controls

The whole-house mechanical ventilation system shall be provided with controls that enable manual override. Controls shall include text or a symbol indicating their function.

1507.3.3	**Mechanical ventilation rate**	**Section revised and new exception added to incorporate the balanced ventilation provisions that are contained in the FBCM for one-two-family dwellings.** **New Equation 15-1 has been added for determining the required ventilation rate as an alternate to Table M1507.3.3(1).** **New Exception 2 permits the ventilation rates determined in accordance with Table 1507.3.3(1) or Equation 15-1 to be reduced by 30% provided a ducted system supplies ventilation air directly to each bedroom and to a living room, dining room, or kitchen; and the whole-house ventilation system is a balanced ventilation system.**

CHAPTER 16 DUCT SYSTEMS

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION M1601 DUCT CONSTRUCTION

Q21

M1601.1.2	**Underground duct systems**	**Section revised to coordinate the use of the terms accessible and access in the code.**
M1601.1.2 Underground duct systems Underground *duct systems* shall be constructed of *approved* concrete, clay, metal or plastic. The maximum duct temperature for plastic ducts shall not be greater than 150°F (66° C). Metal ducts shall be protected from corrosion in an *approved* manner or shall be completely encased in concrete not less than 2 inches (51 mm) thick. Nonmetallic ducts shall be installed in accordance with the manufacturer's instructions. Plastic pipe and fitting materials shall conform to cell classification 12454-B of ASTM D1248 or ASTM D1784 and external loading properties of ASTM D2412. Ducts shall slope to a point for drainage that has *access.* Where encased in concrete, ducts shall be sealed and secured prior to any concrete being poured. Metallic ducts having an *approved* protective coating and nonmetallic ducts shall be installed in accordance with the manufacturer's instructions.		

M1601.4.1	**Joints, seams and connections**	**Section revised to coordinate the use of the terms accessible and access in the code.**

SECTION M1602 RETURN AIR

M1602.2	**Return air openings**	**Two new exceptions have been added to the general return air requirements.** **New Exception 3 permits a dedicated independent dehumidification system to take return air from spaces such as closets and bathrooms and discharge air back into the space provided the air is filtered and dehumidified prior to being returned into the space.** **New Exception 4 permits taking return air from a closet where the return air serves only the closet and has no dedicated supply duct. Additional restrictions apply where return air is taken from closets smaller than 30 square feet.**

CHAPTER 17 COMBUSTION AIR

(No Changes)

CHAPTER 18 CHIMNEYS AND VENTS

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION M1803 CHIMNEY AND VENT CONNECTORS

M1803.3.5	**Access (chimney and vent connectors)**	**Section revised to coordinate the use of the terms accessible and access in the code.**
M1803.3.5 Access The entire length of a connector shall allow *access* for inspection, cleaning and replacement.		

M1803.4.3	**Connection to masonry fireplace flue.**	**Section revised to coordinate the use of the terms accessible and access in the code.**
M1803.4.3 Connection to masonry fireplace flue A connector shall extend from the *appliance* to the flue serving a masonry fireplace to convey the flue gases directly into the flue. The connector shall allow *access* or removal for inspection and cleaning of both the connector and the flue. *Listed* direct-connection devices shall be installed in accordance with their *listing*.		

CHAPTER 19 SPECIAL APPLIANCES, EQUIPMENT AND SYSTEMS

CHAPTER 20 BOILERS AND HEATERS

CHAPTER 21 HYDRONIC PIPING

(No Changes)

CHAPTER 22 SPECIAL PIPING AND STORAGE SYSTEMS

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION M2204 OIL PUMPS AND VALVES

Q22

M2204.2	**Shutoff valves (oil pumps and valves)**	**Section revised to coordinate the use of the terms accessible and access in the code.**
M2204.2 Shutoff valves A manual shutoff valve shall be installed to allow for *ready access* and be located between the oil supply tank and the burner. Where the shutoff valve is installed in the discharge line of an oil pump, a pressure-relief valve shall be incorporated to bypass or return surplus oil. Valves shall comply with UL 842.		

CHAPTER 23 SOLAR THERMAL ENERGY SYSTEMS

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

Q23

SECTION M2301 THERMAL SOLAR ENERGY SYSTEMS

M2301.2.1	Access	Section revised to coordinate the use of the terms accessible and access in the code.
M2301.2.1 Access Solar energy collectors, controls, dampers, fans, blowers and pumps shall be located to allow *access* for inspection, maintenance, repair and replacement.		

CHAPTER 24 FUEL GAS

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION G2403 GENERAL DEFINITIONS

FURNACE, CENTRAL. **The sub definitions under central furnace have been deleted because the code does not differentiate between the various furnace types.**

G2403 General Definitions

A self-contained *appliance* for heating air by transfer of heat of *combustion* through metal to the air, and designed to supply heated air through ducts to spaces remote from or adjacent to the *appliance* location.

JOINT, MECHANICAL. **Definition editorially revised to change press joint to press-connect joint.**

G2403 General Definitions

A general form of gas-tight joints obtained by the joining of metal parts through a positive-holding mechanical construction, such as press-connect joint, flanged joint, threaded joint, flared joint or compression joint.

Q24

PIPING. **Definition updated.**

G2403 General Definitions

Where used in this code, "*piping*" refers to either *pipe* or *tubing*, or both.

Pipe. A rigid conduit of iron, steel, copper, copper-alloy or plastic.

Tubing. Semi-rigid conduit of copper, copper-alloy, aluminum, plastic or steel.

REGULATOR, GAS APPLIANCE. **The sub definitions under gas appliance regulator have been deleted because the code does not differentiate between the various regulator types.**

G2403 General Definitions

A *pressure regulator* for controlling pressure to the manifold of the gas *appliance*.

REGULATOR, MONITORING. **New definition for monitoring regulator added. Defined as a pressure regulator set in series with another pressure regulator for the purpose of automatically taking control of the pressure downstream of the monitored regulator when that pressure exceeds a set minimum.**

G2403 General Definitions

A pressure regulator set in series with another pressure regulator for the purpose of automatically taking control of the pressure downstream of the monitored regulator when that pressure exceeds a set minimum.

REGULATOR, SERIES. **New definition for series regulator added. Defined as a pressure regulator in series with one or more other pressure regulators.**

G2403 General Definitions

A pressure regulator in series with one or more other pressure regulators.

TOILET, GAS FIRED. **New definition for gas-fire toilet added. Defined as a packaged and completely assembled appliance containing a toilet that incinerates refuse instead of flushing it away with water.**

G2403 General Definitions

A packaged and completely assembled appliance containing a toilet that incinerates refuse instead of flushing it away with water.

UNIT HEATER. **The sub definitions under unit heater have been deleted because the code does not differentiate between the high- and low-static heaters. New language added defining a unit heater as a self-contained, automatically controlled, vented, fuel-gas-burning space-heating appliance, intended for installation in the space to be heated without the use of ducts, and having integral means for circulation of air.**

G2403 General Definitions

A self-contained, automatically controlled, vented, fuel-gas-burning space-heating appliance, intended for installation in the space to be heated without the use of ducts, and having integral means for circulation of air.

Q25

SECTION G2406 APPLIANCE LOCATION

G2406.2	**Prohibited locations (appliance location)**	**Section revised to add a new item permitting a clothes dryer to be installed in a residential bathroom or toilet rom having a permanent opening with an area not less than 100 square inches that communicates with a space outside of a sleeping room, bathroom, toilet room or storage closet.**

G2406.2 Prohibited locations

Appliances shall not be located in sleeping rooms, bathrooms, toilet rooms, storage closets or surgical rooms, or in a space that opens only into such rooms or spaces, except where the installation complies with one of the following:

1. The *appliance* is a direct-vent *appliance* installed in accordance with the conditions of the listing and the manufacturer's instructions.
2. *Vented room heaters,* wall *furnaces,* vented decorative *appliances,* vented gas *fireplaces,* vented gas *fireplace* heaters and decorative *appliances* for installation in vented solid fuel-burning *fireplaces* are installed in rooms that meet the required volume criteria of Section G2407.5.
3. A single wall-mounted *unvented room heater* is installed in a bathroom and such *unvented room heater* is equipped as specified in Section G2445.6 and has an input rating not greater than 6,000 *Btu/h* (1.76 kW). The bathroom shall meet the required volume criteria of Section G2407.5.
4. The appliance is installed in a room or space that opens only into a bedroom or bathroom, and such room or space is used for no other purpose and is provided with a solid weather-stripped door equipped with an approved self-closing device. All combustion air shall be taken directly from the outdoors in accordance with Section G2407.6.
5. A clothes dryer is installed in a residential bathroom or toilet room having a permanent opening with an area of not less than 100 square inches (0.06 m2) that communicates with a space outside of a sleeping room, bathroom, toilet room or storage closet.

SECTION G2407 COMBUSTION, VENTILATION, AND DILUTION AIR

G2407.5.3.1	**Combining spaces on the same story**	**Section revised to clarify that the openings specified are required to be permanent openings.**

G2407.5.3.1 Combining spaces on the same story

Where combining spaces on the same story, each opening shall have a minimum free area of 1 square inch per 1,000 *Btu/h* (2200 mm^2/kW) of the total input rating of all *appliances* in the space, but not less than 100 square inches (0.06 m^2). One permanent opening shall commence within 12 inches (305 mm) of the top and one permanent opening shall commence within 12 inches (305 mm) of the bottom of the enclosure. The minimum dimension of air openings shall be not less than 3 inches (76 mm).

G2407.5.3.2	**Combining spaces in different stories**	**Section revised to clarify that the openings specified are required to be permanent openings.**

G2407.5.3.2 Combining spaces in different stories

The volumes of spaces in different stories shall be considered to be communicating spaces where such spaces are connected by one or more permanent openings in doors or floors having a total minimum free area of 2 square inches per 1,000 *Btu/h* (4402 mm^2/kW) of total input rating of all *appliances.*

SECTION G2411 ELECTRICAL BONDING

G2411.2	**CSST (electrical bonding)**	**Section revised to clarify that this section applies to corrugated stainless steel tubing (CSST) that is not listed with an arc-resistant jacket or coating system in accordance with ANSI LC 1/CSA 6.26. CSST gas piping systems and gas piping systems containing one or more segment of CSST are required to be electrically continuous.** **Section G2411.2.3 has been revised to editorially clarify that this section applies to additional grounding electrodes installed to meet the requirements of this section.**

G2411.2 CSST

This section applies to corrugated stainless steel tubing (CSST) that is not listed with an arc resistant jacket or coating system in accordance with ANSI LC 1/CSA 6.26. CSST gas *piping* systems and piping systems containing one or more segments of CSST shall be electrically continuous and bonded to the electrical service grounding electrode system or, where provided, the lightning protection grounding electrode system.

G2411.2.1 (310.2.1) Point of connection.

The bonding jumper shall connect to a metallic pipe, pipe fitting or CSST fitting.

G2411.2.2 (310.2.2) Size and material of jumper.

The bonding jumper shall be not smaller than 6 AWG copper wire or equivalent.

G2411.2.3 (310.2.3) Bonding jumper length.

The length of the bonding jumper between the connection to a gas piping system and the connection to a grounding electrode system shall not exceed 75 feet (22 860 mm). Any additional grounding electrodes installed to meet this requirement shall be bonded to the electrical service grounding electrode system or, where provided, the lightning protection grounding electrode system.

G2411.2.4 (310.2.4) Bonding connections.

Bonding connections shall be in accordance with NFPA 70.

G2411.2.5 (310.2.5) Connection devices.

Devices used for making the bonding connections shall be listed for the application in accordance with UL 467.

G2411.3	**Arc-resistant CSST**	**New section added that applies to CSST that is listed with an arc-resistant jacket or coating system in accordance with ANSI LC 1/CSA 6.26. Arc-resistant-jacketed CSST is considered to be bonded where it is connected to an appliance that is connected to the appliance grounding conductor of the circuit that supplies the appliance.**

G2411.3 Arc-resistant CSST

This section applies to corrugated stainless steel tubing (CSST) that is listed with an arc-resistant jacket or coating system in accordance with ANSI LC1/CSA 6.26. The CSST shall be electrically continuous and bonded to an effective ground fault current path. Where any CSST component of a piping system does not have an arc-resistant jacket or coating system, the bonding requirements of Section G2411.2 shall apply. Arc-resistant jacketed CSST shall be considered to be bonded where it is connected to an appliance that is connected to the appliance grounding conductor of the circuit that supplies that appliance.

SECTION G2413 PIPE SIZING

G2413.3	Sizing	Gas piping to be sized per Sections G2413.4 or Section G2413.4.

G2413.3 Sizing

Gas *piping* shall be sized in accordance with one of the following:

1. *Pipe* sizing tables or sizing equations in accordance with Section G2413.4 or G2413.5, as applicable.
2. The sizing tables included in a *listed piping* system's manufacturer's installation instructions.
3. Other *approved* engineering methods.

G2413.4	Sizing tables and equations	Section revised to clarify that this section applies to piping materials other than noncorrugated stainless steel tubing.

G2413.3 Sizing tables and equations

G2413.4 (402.4) Sizing tables and equations.

This section applies to piping materials other than noncorrugated stainless steel tubing. Where Tables G2413.4(1) through G2413.4(21) are used to size *piping* or *tubing*, the *pipe* length shall be determined in accordance with Section G2413.4.1, G2413.4.2 or G2413.4.3.

Where Equations 24-3 and 24-4 are used to size *piping* or *tubing*, the *pipe* or *tubing* shall have smooth inside walls and the pipe length shall be determined in accordance with Section G2413.4.1, G2413.4.2 or G2413.4.3.

1. Low-pressure gas equation [Less than $1^1/_2$ pounds per square inch (psi) (10.3 kPa)]:

$$D = \frac{Q^{0.381}}{19.17\left(\frac{\Delta H}{C_r \times L}\right)^{0.206}} \qquad \text{(Equation 24-3)}$$

2. High-pressure gas equation [$1^1/_2$ psi (10.3 kPa) and above]:

$$D = \frac{Q^{0.381}}{18.93\left[\frac{(P_1^2 - P_2^2) \times Y}{C_r \times L}\right]^{0.206}} \qquad \text{(Equation 24-4)}$$

where:

D = Inside diameter of *pipe*, inches (mm).

Q = Input rate *appliance(s)*, cubic feet per hour at 60°F (16°C) and 30-inch mercury column.

P_1 = Upstream pressure, psia (P_1 + 14.7).

P_2 = Downstream pressure, psia (P_2 + 14.7).

L = Equivalent length of *pipe*, feet.

ΔH = *Pressure drop*, inch water column (27.7-inch water column = 1 psi).

G2413.5	Noncorrugated stainless steel tubing	New section requiring noncorrugated stainless steel tubing to be sized in accordance with Equation 24-3 and 24-4 of Section 2413.4 in conjunction with Section 2413.4.1, 2413.4.2, or 2413.4.3.

G2413.5 Noncorrugated stainless steel tubing

Noncorrugated stainless steel tubing shall be sized in accordance with Equations 24-3 and 24-4 of Section 2413.4 in conjunction with Section 2413.4.1, 2413.4.2 or 2413.4.3.

G2413.7  Q26	Maximum operating pressure	Section revised to change maximum design operating pressure to maximum operating pressure. Conditions for exceeding the maximum 5 psig pressure have been revised. Condition 1 clarifies that the piping joints are required to be welded or brazed. New condition 2 requires piping joints to be flanged and pipe-to-flange connections made by welding or brazing.

G2413.7 Maximum operating pressure

The maximum operating pressure for *piping systems* located inside buildings shall not exceed 5 pounds per square inch gauge (psig) (34 kPa gauge) except where one or more of the following conditions are met:

1. The *piping* joints are welded or brazed.
2. The piping joints are flanged and pipe-to-flange connections are made by welding or brazing.
3. The *piping* is located in a ventilated chase or otherwise enclosed for protection against accidental gas accumulation.
4. The piping is a temporary installation for buildings under construction.

G2413.7.1 (402.7.1) Operation below -5° F (-21° C).

LP-gas systems designed to operate below -5° F (-21° C) or with butane or a propane-butane mix shall be designed to either accommodate liquid LP-gas or prevent LP-gas vapor from condensing into a liquid.

SECTION G2414 PIPING MATERIALS

G2414.4.2	Steel pipe (piping materials)	Section revised to also apply to stainless steel metallic pipe. Requires steel to not be lighter than Schedule 10. ASTM A312 has been added as a reference standard for steel pipe.

G2414.4.2 Steel

Steel, stainless steel and wrought-iron pipe shall be not lighter than Schedule 10 and shall comply with the dimensional standards of ASME B36.10M and one of the following standards:

1. ASTM A53/A53M.
2. ASTM A106.
3. ASTM A312.

G2414.5	Metallic tubing	Section revised to prohibit the use of tubing materials where gases are corrosive to the tubing material.

G2414.5 Metallic tubing

Tubing shall not be used with gases corrosive to the tubing material.

G2414.5.2	Stainless steel	New section added requiring stainless steel tubing to comply with ASTM A268 or ASTM A269.

G2414.5.2 Stainless steel

Stainless steel tubing shall comply with ASTM A268 or ASTM A269.

G2414.6	Plastic pipe, tubing and fittings	The requirement that plastic pipe, tubing and fittings, other than polyethylene, be identified and conform to the 2008 edition of ASTM D2513 has been deleted. New language added requiring polyamide pipe, tubing, and fittings to be identified and conform to ASTM F2945.

G2414.6 Plastic pipe, tubing and fittings

Polyethylene plastic pipe, tubing and fittings used to supply fuel gas shall conform to ASTM D2513. Such pipe shall be marked "Gas" and "ASTM D2513."

Polyamide pipe, tubing and fittings shall be identified and conform to ASTM F2945. Such pipe shall be marked "Gas" and "ASTM F2945."

Polyvinyl chloride (PVC) and chlorinated polyvinyl chloride (CPVC) plastic pipe, tubing and fittings shall not be used to supply fuel gas.

G2414.10.1	Pipe joints (metallic)	Section revised to require Schedule 40 and heavier pipe joints to be threaded, flanged, brazed, welded, or assembled with press-connect fittings listed in accordance with ANSI LC4/CSA 6.32. Pipe lighter than Schedule 40 is required to be connected using press-connect fittings, flanges, brazing, or welding.

G2414.10.1 Pipe joints

Schedule 40 and heavier *pipe* joints shall be threaded, flanged, brazed, welded or assembled with press-connect fittings listed in accordance with ANSI LC4/CSA6.32. Pipe lighter than Schedule 40 shall be connected using press-connect fittings, flanges, brazing or welding. Where nonferrous *pipe* is brazed, the *brazing* materials shall have a melting point in excess of 1,000° F (538° C). *Brazing* alloys shall not contain more than 0.05-percent phosphorus.

G2414.10.2	Copper tubing joints	Requirements for tubing joints have been separated into 2 new sections addressing copper tubing joints and stainless steel tubing joints.

G2414.10.2 Copper tubing joints

Copper tubing joints shall be assembled with *approved* gas tubing fittings, shall be brazed with a material having a melting point in excess of 1,000° F (538° C) or assembled with press-connect fittings listed in accordance with ANSI LC-4/CSA 6.32. *Brazing* alloys shall not contain more than 0.05-percent phosphorus.

G2414.10.3	Stainless steel tubing joints	Requirements for tubing joints have been separated into 2 new sections addressing copper tubing joints and stainless steel tubing joints.

G2414.10.3 Stainless steel tubing joints

Stainless steel tubing joints shall be welded, assembled with approved tubing fittings, brazed with a material having a melting point in excess of 1,000° F (578° C), or assembled with press-connect fittings listed in accordance with ANSI LC4/CSA6.32.

SECTION G2415 PIPING SYSTEM INSTALLATION

G2415.11 through G2415.11.4	**Protection against corrosion**	**The requirements for protecting pipe or tubing from corrosion have been revised and reorganized for clarity. Corrosion protection is required for steel piping exposed to corrosive action. All steel piping is required to be factory coated where exposed to corrosive action. An approved cathodic protective system is allowed. New section added requiring protection of risers.**

G2415.11 Protection against corrosion

Steel pipe or *tubing* exposed to corrosive action, such as soil conditions or moisture, shall be protected in accordance with Sections G2415.11.1 through G2415.11.5.

G2415.11.1 (404.11.1) Galvanizing.
Zinc coating shall not be deemed adequate protection for underground gas piping.

G2415.11.2 (404.11.2) Protection methods.
Underground piping shall comply with one or more of the following:
1. The piping shall be made of corrosion-resistant material that is suitable for the environment in which it will be installed.
2. Pipe shall have a factory-applied, electrically insulating coating. Fittings and joints between sections of coated pipe shall be coated in accordance with the coating manufacturer's instructions.
3. The piping shall have a cathodic protection system installed and the system shall be monitored and maintained in accordance with an approved program.

G2415.11.3 (404.11.3) Dissimilar metals.
Where dissimilar metals are joined underground, an insulating coupling or fitting shall be used.

G2415.11.4 (404.11.4) Protection of risers.
Steel risers connected to plastic piping shall be cathodically protected by means of a welded anode, except where such risers are anodeless risers.

G2415.11.5 (404.11.5) Prohibited use.
Uncoated threaded or socket-welded joints shall not be used in *piping* in contact with soil or where internal or external crevice corrosion is known to occur.

G2415.14	**Piping underground beneath buildings**	**A piping or encasement system listed for installation beneath buildings has been added as an option for encasing piping installed underground beneath buildings.**

G2415.14 Piping underground beneath buildings

Piping installed underground beneath buildings is prohibited except where the *piping* is encased in a conduit of wrought iron, plastic pipe, steel pipe, a piping or encasement system listed for installation beneath buildings, or other *approved* conduit material designed to withstand the superimposed loads. The conduit shall be protected from corrosion in accordance with Section G2415.11 and shall be installed in accordance with Section G2415.14.1 or G2415.14.2.

SECTION G2417 INSPECTION, TESTING AND PURGING

G2417.2	**Test medium**	**Section editorially revised to clarify that oxygen is not permitted to be used as a test medium.**

G2417.2 Test medium

The test medium shall be air, nitrogen, carbon dioxide or an inert gas. Oxygen shall not be used as a test medium.

G2415.17.3	**Tracer**	**A product specifically designed for that purpose has been added as an alternate to a yellow insulated copper tracer wire or approved conductor.**

G2415.17.3 Tracer
A yellow insulated copper tracer wire or other *approved* conductor, or a product specifically designed for that purpose, shall be installed adjacent to underground nonmetallic *piping. Access* shall be provided to the tracer wire or the tracer wire shall terminate above ground at each end of the nonmetallic *piping.* The tracer wire size shall not be less than 18 AWG and the insulation type shall be suitable for direct burial.

SECTION G2420 SHUTOFF VALVES

G2420.5.1	**Located within same room (appliance shutoff valve)**	**New language added recognizing shutoff valves serving movable appliances such as cooking appliances and clothes dryers as provided with access where the valves are installed behind such appliances.**

G2420.5.1 Located within same room
The shutoff valve shall be located in the same room as the *appliance.* The shutoff valve shall be within 6 feet (1829 mm) of the *appliance,* and shall be installed upstream of the union, connector or quick disconnect device it serves. Such shutoff *valves* shall be provided with *access.* Shutoff *valves* serving movable *appliances,* such as cooking *appliances* and clothes dryers, shall be considered to be provided with *access* where installed behind such *appliances. Appliance* shutoff *valves* located in the firebox of a *fireplace* shall be installed in accordance with the *appliance* manufacturer's instructions.

G2420.6	**Shutoff valves in tubing systems**	**New section requiring shutoff valves installed in tubing systems to be rigidly and securely supported independently of the tubing.**

G2420.6 Shutoff valves in tubing systems
Shutoff valves installed in tubing systems shall be rigidly and securely supported independently of the tubing.

SECTION G2421 FLOW CONTROLS

G2421.2	**MP regulators**	**New language has been added to Item 6 regarding MP regulators clarifying that the tee fitting is not required where the MP regulator serves an appliance that has a pressure test port on the gas control inlet side and the appliance is located in the same room as the MP regulator.**

G2421.2 MP regulators
MP *pressure regulators* shall comply with the following:

1. The MP *regulator* shall be *approved* and shall be suitable for the inlet and outlet gas pressures for the application.
2. The MP *regulator* shall maintain a reduced outlet pressure under lock-up (no-flow) conditions.
3. The capacity of the MP *regulator,* determined by published ratings of its manufacturer, shall be adequate to supply the *appliances* served.
4. The MP *pressure regulator* shall be provided with *access.* Where located indoors, the *regulator* shall be vented to the outdoors or shall be equipped with a leak-limiting device, in either case complying with Section G2421.3.
5. A tee fitting with one opening capped or plugged shall be installed between the MP *regulator* and its upstream shutoff valve. Such tee fitting shall be positioned to allow connection of a pressure-measuring instrument and to serve as a sediment trap.

6. A tee fitting with one opening capped or plugged shall be installed not less than 10 pipe diameters downstream of the MP *regulator* outlet. Such tee fitting shall be positioned to allow connection of a pressure-measuring instrument. The tee fitting is not required where the MP regulator serves an appliance that has a pressure test port on the gas control inlet side and the appliance is located in the same room as the MP regulator.
7. Where connected to rigid *piping*, a union shall be installed within 1 foot (304 mm) of either side of the MP *regulator.*

G2421.4	Excess flow valves	Section revised to require automatic excess flow valves to be listed in accordance with ANSI Z21.93/CSA 6.30.

G2421.4 Excess flow valves

Where automatic *excess flow valves* are installed, they shall be listed in accordance with ANSI Z21.93/CSA 6.30 and shall be sized and installed in accordance with the manufacturer's instructions.

SECTION G2427 VENTING OF APPLIANCES

G2427.3.3	Mechanical draft systems	Section revised to require mechanical draft systems to be listed in accordance with UL 378 and installed in accordance with the manufacturer's instructions.

G2427.3.3 Mechanical draft systems

Mechanical *draft* systems shall comply with the following:

1. Mechanical *draft* systems shall be *listed* in accordance with UL 378 and shall be installed in accordance with the manufacturer's instructions for both the *appliance* and the mechanical *draft* system.
2. *Appliances* requiring venting shall be permitted to be vented by means of mechanical *draft* systems of either forced or induced *draft* design.
3. Forced *draft* systems and all portions of induced *draft* systems under positive pressure during operation shall be designed and installed so as to prevent leakage of flue or *vent gases* into a building.
4. *Vent connectors* serving *appliances* vented by natural draft shall not be connected into any portion of mechanical draff systems operating under positive pressure.
5. Where a mechanical *draft* system is employed, provisions shall be made to prevent the flow of gas to the *main burners* when the *draft* system is not performing so as to satisfy the operating requirements of the *appliance* for safe performance.
6. The exit terminals of mechanical *draft* systems shall be not less than 7 feet (2134 mm) above finished ground level where located adjacent to public walkways and shall be located as specified in Section G2427.8, Items 1 and 2.

G2427.4.1	Plastic piping (venting)	New language added requiring plastic pipe venting materials to be labeled in accordance with the product standards specified by the appliance manufacturer or listed and labeled in accordance with UL 1738.

G2427.4.1 Plastic piping

Where plastic *piping* is used to vent an *appliance*, the *appliance* shall be *listed* for use with such venting materials and the *appliance* manufacturer's installation instructions shall identify the specific plastic *piping* material. The plastic *pipe* venting materials shall be *labeled* in accordance with the product standards specified by the *appliance* manufacturer or shall be *listed* and *labeled* in accordance with UL 1738.

G2427.4.1.1	Plastic vent joints	**New language added requiring plastic pipe venting materials listed and labeled in accordance with UL 1738 to be installed in accordance with the vent manufacturer's instructions.**

G2427.4.1.1 (IFGS) Plastic vent joints

Plastic *pipe* and fittings used to vent *appliances* shall be installed in accordance with the *appliance* manufacturer's instructions. Plastic *pipe* venting materials *listed* and *labeled* in accordance with UL 1738 shall be installed in accordance with the vent manufacturer's instructions. Where a primer is required, it shall be of a contrasting color.

G2427.4.2	Special gas vent	**Section revised to require special gas vents to be listed in accordance with UL 1738 and installed in accordance with the manufacturer's instructions.**

G2427.4.2 Special gas vent

Special gas *vent* shall be *listed* and *labeled* in accordance with UL 1738 and installed in accordance with the special gas *vent* manufacturer's instructions.

G2427.5.1	Factory-built chimneys	**Section revised to require factory-built chimneys to be listed in accordance with UL 103 and installed in accordance with the manufacturer's instructions.**

G2427.5.1 Factory-built chimneys

Factory-built *chimneys* shall be *listed* in accordance with UL 103 and installed in accordance with the manufacturer's instructions. Factory-built *chimneys* used to vent *appliances* that operate at a positive vent pressure shall be *listed tor* such application.

G2427.5.2	Masonry chimneys	**Section revised to require chimney lining systems to be listed and labeled in accordance with UL 1777.**

G2427.5.2 Masonry chimneys

Masonry *chimneys* shall be built and installed in accordance with NFPA 211 and shall be lined with *approved* clay *flue lining,* a *chimney* lining system *listed* and *labeled* in accordance with UL 1777 or other *approved* material that will resist corrosion, erosion, softening or cracking from vent gases at temperatures up to 1,800° F (982° C).

Exception: Masonry *chimney* flues serving *listed* gas *appliances* with *draft hoods,* Category I *appliances* and other gas *appliances listed* for use with Type B vents shall be permitted to be lined with a *chimney* lining system specifically *listed* for use only with such *appliances.* The liner shall be installed in accordance with the liner manufacturer's instructions. A permanent identifying label shall be attached at the point where the connection is to be made to the liner. The label shall read: "This *chimney* liner is for *appliances* that burn gas only. Do not connect to solid or liquid fuel-burning appliances or incinerators."

G2427.5.5.2	Cleanouts	**Section revised to require cleanouts to be repaired or replaced where they do not remain tightly closed when not in use.**

G2427.5.5.2 Cleanouts

Cleanouts shall be examined and where they do not remain tightly closed when not in use, they shall be repaired or replaced.

G2427.5.6.4	**Combination gas- and oil-fuel-burning appliances**	**Section revised to clarify that a single chimney flue serving a listed combination gas- and oil-fuel-burning appliance is required to be sized in accordance with the appliance manufacturer's instructions.**

G2427.5.6.4 Combination gas- and oil fuel-burning appliances

Where a single *chimney* flue serves a *listed* combination gas- and oil fuel-burning *appliance*, such flue shall be sized in accordance with the *appliance* manufacturer's instructions.

G2427.5.10	**Insulation shield**	**New section requiring an insulation shield where a factory-built chimney passes through insulated assemblies to provide clearance between the chimney and the insulation material.**

G2427.5.10 Insulation shield

Where a factory-built chimney passes through insulated assemblies, an insulation shield constructed of steel having a thickness of not less than 0.0187 inch (0.475 mm) shall be installed to provide clearance between the chimney and the insulation material. The clearance shall be not less than the clearance to combustibles specified by the chimney manufacturer's installation instructions. Where chimneys pass through attic space, the shield shall terminate not less than 2 inches (51 mm) above the installation materials and shall be secured in place to prevent displacement. Insulation shields provided as part of a *listed* chimney system shall be installed in accordance with the manufacturer's installation instructions.

G2427.6.1	**Materials (gas vents)**	**New section added requiring Type B and BW gas vents to be listed in accordance with UL 441. Vents for listed combination gas- and oil-fuel-burning appliances are required to be listed in accordance with UL 641.**

G2427.6.1 Materials

Type B and BW gas vents shall be *listed* in accordance with UL 441. Vents for *listed* combination gas- and oil-burning *appliances* shall be *listed* in accordance with UL 641.

G2427.8	**Venting system termination location**	**The required through-the-wall direct vent termination clearances in Item 3 have been relocated to a new table. A new category requires where the direct-vent appliance input rating exceeds 150,000 Btu/hr., the clearance from an air opening in the building is required to be in accordance with the appliance manufacturer's instructions but not less than the clearances specified in Section G2427.8, Item 2.**

Table G2427.8	Through-the-Wall, Direct-Vent Termination Clearances	New Table

Table G2427.8

TABLE G2427.8 (503.8)
THROUGH-THE-WALL, DIRECT-VENT TERMINATION CLEARANCES

DIRECT-VENT APPLIANCE INPUT RATING (Btu/hr)	THROUGH-THE-WALL VENT TERMINAL CLEARANCE FROM ANY AIR OPENING INTO THE BUILDING (inches)
< 10,000	6
≥ 10,000 ≤ 50,000	9
> 50,000 ≤ 150,000	12
> 150,000	In accordance with the appliance manufacturer's instructions and not less than the clearances specified in Section G2427.8 (503.8), Item 2

For SI: 1 inch = 25.4 mm, 1 Btu/h = 0.2931 W.

SECTION G2439 CLOTHES DRYER EXHAUST

G2439.3	Exhaust installation (clothes dryer exhaust)	Section revised to require clothes dryer exhaust ducts to be sealed in accordance with Section M1601.4.1.

G2439.3 Exhaust installation

Exhaust ducts for *clothes dryers* shall terminate on the outside of the building and shall be equipped with a backdraft *damper.* Screens shall not be installed at the duct termination. Ducts shall not be connected or installed with sheet metal screws or other fasteners that will obstruct the flow. *Clothes dryer* exhaust ducts shall not be connected to a *vent connector,* vent or *chimney. Clothes dryer* exhaust ducts shall not extend into or through ducts or plenums. *Clothes dryer* exhaust ducts shall be sealed in accordance with Section M1601.4.1.

G2439.3.1	Exhaust termination outlet and passageway	New section requiring the passageway of dryer exhaust duct terminals to be undiminished in size and provide an open area of not less than 12.5 square inches.

G2439.3.1 Exhaust termination outlet and passageway

The passageway of dryer exhaust duct terminals shall be undiminished in size and shall provide an open area of not less than 12.5 square inches (8065 mm^2).

G2439.7.2	Duct installation	New language added requiring where dryer ducts are enclosed in wall or ceiling cavities, the cavities are required to allow the installation of the ducts without deformation.

G2439.7.2 Duct installation

Exhaust ducts shall be supported at 4-foot (1219 mm) intervals and secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Ducts shall not be joined with screws or similar fasteners that protrude more than $^1/_8$ inch (3.2 mm) into the inside of the duct. Where dryer exhaust ducts are enclosed in wall or ceiling cavities, such cavities shall allow the installation of the duct without deformation.

SECTION G2447 COOKING APPLIANCES

G2447.2  Q27	Prohibited location (cooking appliances)	New exception added permitting cooking appliances for commercial occupancies to be installed within dwelling units where the installation is designed by a licensed professional engineer, in compliance with the manufacturer's installation instructions.

G2447.2 Prohibited location

Cooking appliances designed, tested, *listed* and *labeled* for use in commercial occupancies shall not be installed within dwelling units or within any area where domestic cooking operations occur.

Exceptions:

1 Appliances that are also listed as domestic cooking appliances.

2. Where the installation is designed by a licensed professional engineer, in compliance with the manufacturer's installation instructions.

CHAPTER 25 PLUMBING ADMINISTRATION

(Significant Changes)

Q28

Significant 2020 FBCR Changes include, by section:

SECTION P2503 INSPECTION AND TESTS

P2503.7	Water-supply system testing	New exception permits testing with compressed gas as an alternative to hydrostatic testing for PEX piping systems where permitted by the manufacturer's instructions for PEX pipe and fittings and not prohibited by other laws, codes, or regulations.

P2503.7 Water-supply system testing

Upon completion of the water-supply system or a section of it, the system or portion completed shall be tested and proved tight under a water pressure of not less than the working pressure of the system or, for piping systems other than plastic, by an air test of not less than 50 psi (345 kPa). This pressure shall be held for not less than 15 minutes. The water used for tests shall be obtained from a potable water source.

Exception: For PEX piping systems, testing with a compressed gas shall be an alternative to hydrostatic testing where compressed air or other gas pressure testing is specifically authorized by all of the manufacturer's instructions for the PEX pipe and fittings products installed at the time the system is being tested, and compressed air or other gas testing is not otherwise prohibited by applicable codes, laws or regulations outside of this code.

CHAPTER 26 GENERAL PLUMBING REQUIREMENTS

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION P2602 INDIVIDUAL WATER SUPPLY AND SEWAGE DISPOSAL

P2602.1	**General (individual water supply and sewage disposal)**	**New language added to address well construction in areas in a jurisdiction not covered by state or local laws. Individual water supplies are required to comply with NFWA-01 Water Well Construction Standard where state or local laws do not address well construction. Additionally, where such state or local laws do not address all the requirements set forth in NGWA-01, individual water supplies are required to comply with NGWA for those requirements not addressed.**

P2602.1 General

The water-distribution and drainage system of any building or premises where plumbing fixtures are installed shall be connected to a public water supply or sewer system, respectively, if available Where either a public water-supply or sewer system, or both, are not available, or connection to them is not feasible, an individual water supply or individual (private) sewage-disposal system, or both, shall be provided. Individual water supplies shall be constructed and installed in accordance with the applicable state and local laws. Where such laws do not address all of the requirements set forth in NGWA-01, individual water supplies shall comply with NGWA-01 for those requirements not addressed by state and local laws.

SECTION P2605 SUPPORT

P2605.1	**General (support)**	**Piping support for changes in flow direction greater than 45 degrees for drainage and waste horizontal pipes 4 inches and larger has been clarified. New language requires rigid bracing or other rigid support to be installed to resist movement of the upstream pipe. A change of flow direction into vertical pipe does not require the upstream pipe to be braced.**

P2605.1 General

Piping shall be supported in accordance with the following:

1. Piping shall be supported to ensure alignment and prevent sagging, and allow movement associated with the expansion and contraction of the piping system.
2. Piping in the ground shall be laid on a firm bed for its entire length, except where support is otherwise provided.
3. Hangers and anchors shall be of sufficient strength to maintain their proportional share of the weight of pipe and contents and of sufficient width to prevent distortion to the pipe. Hangers and strapping shall be of *approved* material that will not promote galvanic action.
4. Where horizontal pipes 4 inches (102 mm) and larger convey drainage or waste, and where a pipe fitting changes the flow direction greater than 45 degrees (0.79 rad), rigid bracing or other rigid support arrangements shall be installed to resist movement of the upstream pipe in a direction opposite the pipe flow. A change of flow direction into a vertical pipe shall not require the upstream pipe to be braced.
5. Piping shall be supported at distances not to exceed those indicated in Table P2605.1.

CHAPTER 27 PLUMBING FIXTURES

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION P2701 FIXTURES, FAUCETS AND FIXTURE FITTINGS

Table P2701.1	**Plumbing Fixtures, Faucets, and Fixture Fittings (standards)**	**ASME A112.6.1M has been deleted from the standard references because the requirements in this standard are now covered in ASME A112.6.2**

SECTION P2702 FIXTURE ACCESSORIES

P2702.4	**Carriers for wall-hung closets**	**ASME A112.6.1M has been deleted as a reference standard for carriers for wall-hung water closets because the requirements in this standard are now covered in ASME A112.6.2.**
P2702.4 Carriers for wall-hung water closets Carriers for wall-hung water closets shall conform to ASME A112.6.2.		

SECTION P2704 ACCESS TO SLIP-JOINT CONNECTIONS

P2704.1	**Slip joints**	**Section revised primarily to clarify the code permits slip joints to be installed upstream of a trap inlet and at the connection of the trap arm to the drainage piping. Access requirements have also been clarified.**
P2704.1 Slip joints Slip-joint connections shall be installed only for tubular waste piping and only between the trap outlet of a fixture and the connection to the drainage piping. Slip-joint connections shall be made with an *approved* sealing gasket. Slip-joint connections shall be accessible. Such access shall provide an opening that is not less than 12 inches (305 mm) in its smallest dimension.		

SECTION P2713 BATHTUBS

P2713.1	**Bathtub waste outlets and overflows**	**The requirement that bathtubs be equipped with an overflow outlet has been deleted because the applicable standards in Table P2701.1 do not require an overflow outlet and they are rarely used. New langue states that where an overflow outlet is installed, it is required to be not less than 1½ inches in diameter.**
P2713.1 Bathtub waste outlets and overflows Bathtubs shall be equipped with a waste outlet that is not less than $1^1/_2$ inches (38 mm) in diameter. The waste outlet shall be equipped with a water-tight stopper. Where an overflow is installed, the overflow shall be not less than $1^1/_2$ inches (38 mm) in diameter.		

CHAPTER 28 WATER HEATERS

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

Q29

SECTION P2801 GENERAL

P2801.6	**Required pan**	**The prohibition of using a plastic pan beneath a gas-fired water heater has been removed. Plastic pans are now permitted beneath gas-fired water heaters provided the material has a flame spread index of 25 or less and a smoked developed index of 450 or less when tested in accordance with ASTM E84 or UL 723.**

P2801.6 Required pan

Where a storage tank-type water heater or a hot water storage tank is installed in a location where water leakage from the tank will cause damage, the tank shall be installed in a pan constructed of one of the following:

1. Galvanized steel or aluminum of not less than 0.0236 inch (0.6010 mm) in thickness.
2. Plastic not less than 0.036 inch (0.9 mm) in thickness.
3. Other approved materials.

A plastic pan beneath a gas-fired water heater shall be constructed of material having a flame spread index of 25 or less and a smoke- developed index of 450 or less when tested in accordance with ASTM E84 or UL 723.

SECTION P2804 RELIEF VALVES

P2804.6.1	**Requirements for discharge pipe (relief valves)**	**The requirement for discharge piping serving a pressure-relief valve, temperature-relief valve or combination valve be one nominal size larger than the size of the relief valve outlet where the piping is constructed of PEX or PE-RT tubing has been changed to only apply where the piping is installed with insert fittings.**

CHAPTER 29 WATER SUPPLY AND DISTRIBUTION

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION P2903 WATER SUPPLY SYSTEM

P2903.5	**Water hammer**	**New language added requiring water hammer arrestors to be installed where quick-closing valves are utilized**

P2903.5 Water hammer

The flow velocity of the water distribution system shall be controlled to reduce the possibility of water hammer. A water-hammer arrestor shall be installed where quick-closing valves are utilized. Water-hammer arrestors shall be installed in accordance with the manufacturer's instructions. Water-hammer arrestors shall conform to ASSE 1010.

Table P2903.9.4	Valves	MSS SP-122 and MSS SP-139 have been added as reference standards for certain valves.

SECTION P2905 HEATED WATER DISTRIBUTION SYSTEMS

Q30

P2905.3	Hot water supply to fixtures	New section added limiting the developed length of hot water piping from the source of hot water to the fixtures to not exceed 100 feet. Water heaters and recirculating system piping are considered sources of hot water.

P2905.3 Hot water supply to fixtures

The developed length of hot water piping, from the source of hot water to the fixtures that require hot water, shall not exceed 100 feet. Water heaters and recirculating system piping shall be considered to be sources of hot water.

SECTION P2906 MATERIALS, JOINTS AND CONNECTIONS

Table P2906.4	Water Service Pipe	CSA B137.18 has been added as a reference standard for PE-RT plastic tubing. ASTM F877 has been removed as a reference standard for PEX plastic tubing.

Table P2906.5	Water Distribution Pipe	CSA B137.18 has been added as a reference standard for PE-RT plastic tubing. ASTM F877 has been removed as a reference standard for PEX plastic tubing.

Table P2906.6	Pipe Fittings	ASSE 1061, ASTM D2683, ASTM D3261, ASTM F1055, and CSA B137.18 have been added as reference standards for PE-RT plastic tubing.

P2906.5	Water-distribution pipe	Section revised to require all water distribution piping (hot and cold) to have a pressure rating of not less than 100 psi at 180°F.

P2906.5 Water-distribution pipe

Water-distribution piping within *dwelling units* shall conform to NSF 61 and shall conform to one of the standards indicated in Table P2906.5. Water-distribution pipe and tubing shall have a pressure rating of not less than 100 psi at 180° F (689 kPa at 82° C).

P2906.6.1	Saddle tap fittings	New section explicitly prohibiting the use of saddle tap fittings and combination saddle tap and valve fittings.

P2906.6.1 Saddle tap fittings

The use of saddle tap fittings and combination saddle tap and valve fittings shall be prohibited.

P2906.10	**Cross-linked polyethylene plastic (PEX)**	**Requirements for PEX plastic tubing and fittings have been relocated to new Section P2906.10.**
P2906.10.1	**Flared joints**	
P2906.10.2	**Mechanical joints**	

P2906.10 Cross-linked polyethylene plastic (PEX)

Joints between cross-linked polyethylene plastic tubing or fittings shall comply with Section P2906.10.1 or Section P2906.10.2.

P2906.10.1 Flared joints.

Flared pipe ends shall be made by a tool designed for that operation.

P2906.10.2 Mechanical joints.

Mechanical joints shall be installed in accordance with the manufacturer's instructions. Fittings for cross-linked polyethylene (PEX) plastic tubing shall comply with the applicable standards indicated in Table P2906.6 and shall be installed in accordance with the manufacturer's instructions. PEX tubing shall be factory marked with the applicable standards for the fittings that the PEX manufacturer specifies for use with the tubing.

P2906.18.2	**Joint between PVC water service and CPVC water distribution**	**New section permitting joints between PVC water service and CPVC water distribution pipe to be a mechanical fitting, an approved adapter fitting, a transition fitting, or solvent-cemented.**

P2906.18.2 Joint between PVC water service and CPVC water distribution

Where a PVC water service pipe connects to a CPVC pipe at the beginning of a water distribution system, the transition shall be by a mechanical fitting, an *approved* adapter fitting, a transition fitting or a single solvent-cemented transition joint. A single, solvent cement transition joint shall be in compliance with ASTM F493 and the pipe, fitting and solvent cement manufacturers' instructions. Solvent cement joint surfaces shall be clean, free from moisture and prepared with an approved primer. Solvent cement conforming to ASTM F493 shall be applied to the joint surfaces and the joint assembled while the cement is wet.

P2906.20.2	**Heat fusion joints (PE-RT)**	**New section permitting heat fusion joints for PE-RT pipe. Joints are required to be socket-fusion, saddle-fusion, or butt-fusion type complying with ASTM D2657.**

P2906.20.2 Heat-fusion joints

Joints shall be of the socket-fusion, saddle-fusion or butt-fusion type, and shall be joined in accordance with ASTM D2657. Joint surfaces shall be clean and free of moisture. Joint surfaces shall be heated to melt temperatures and joined. The joint shall remain undisturbed until cool. Fittings shall be manufactured in accordance with ASTM D2683 or ASTM D3261.

P2906.20.3	**Electrofusion joints (PE-RT)**	**New section permitting electrofusion joints for PE-RT pipe.**

P2906.20.3 Electrofusion joints

Joints shall be of the electrofusion type. Joint surfaces shall be clean and free of moisture and scoured to expose virgin resin. Joint surfaces shall be heated to melt temperatures for a period of time specified by the manufacturer and joined. The joint shall remain undisturbed until cool. Fittings shall be manufactured in accordance with ASTM F1055.

P2906.21	**Push-fit joints**	**New section permitting push-fit joints to be used only on copper-tube-size outside diameter dimensioned CPVC, PEX, and copper tubing. Push-fit joints are required to conform to ASSE 1061.**

P2906.21 Push-fit joints

Push-fit joints shall be used only on copper-tube-size outside diameter dimensioned CPVC, PEX and copper tubing. Push-fit joints shall conform to ASSE 1061 and shall be installed in accordance with the manufacturer's instructions.

CHAPTER 30 SANITARY DRAINAGE

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION P3002 MATERIALS

Table P3002.1(2)	Underground Building Drainage and Vent Pipe	**ASTM F714 has been added as a reference standard for polyolefin pipe.** **PE plastic pipe (SDR-PR) has been added as a pipe material and is required to comply with ASTM F714.**

Table P3002.3	Pipe Fittings	**Polyethylene has been added as pipe material and is required to comply with ASTM D2683.**

SECTION P3003 JOINTS AND CONNECTIONS

P3003.2	Prohibited joints	**Section revised to permit solvent cement joints between different types of plastic as permitted in accordance with Section P3003.13.4.**

P3003.9.2	Solvent cementing	**Section revised to clarify that approved primers other than purple primer are permitted to be used provided they comply with ASTM F656.**

P3003.9.2 Solvent cementing

Joint surfaces shall be clean and free from moisture. A purple primer, or other *approved* primer, that conforms to ASTM F656 shall be applied. Solvent cement not purple in color and conforming to ASTM D2564, CSA B137.3 or CSA B181.2 shall be applied to all joint surfaces. The joint shall be made while the cement is wet, and shall be in accordance with ASTM D2855. Solvent-cement joints shall be installed above or below ground.

Exception: A primer shall not be required where all of the following conditions apply:
1. The solvent cement used is third-party certified as conforming to ASTM D2564.
2. The solvent cement is used only for joining PVC drain, waste and vent pipe and fittings in non-pressure applications in sizes up to and including 4 inches (102 mm) in diameter.

P3003.13.4	Plastic pipe or tubing to other piping material	**Section revised to permit solvent-cement joints complying with ASTM D3138 between ABS and PVC pipes only for a single joint at the end of a building drainage pipe and the beginning of a building sewer pipe.**

P3003.13.4 Plastic pipe or tubing to other piping material

Joints between different types of plastic pipe shall be made with an *approved* adapter fitting or by a solvent cement joint only where a single joint is made between ABS and PVC pipes at the end of a building drainage pipe and the beginning of a building sewer pipe using a solvent cement complying with ASTM D3138. Joints between plastic pipe and cast-iron hub pipe shall be made by a caulked joint or a mechanical compression joint.

SECTION P3005 DRAINAGE SYSTEM

P3005.1.6	**No reduction in size in the direction of flow (drainage system)**	**Section revised to clarify what does not constitute a reduction in size in the direction of flow. Now includes a water closet bend fitting having a 4-inch inlet and a 3-inch outlet, and offset closet flanges.**

P3005.1.6 No reduction in size in the direction of flow

The size of the drainage piping shall not be reduced in the direction of the flow. The following shall not be considered a reduction in size in the direction of flow:

1. A 4-inch by 3-inch (102 mm by 76 mm) water closet flange.
2. A water closet bend fitting having a 4-inch (102 mm) inlet and a 3-inch (76 mm) outlet, provided that the 4-inch leg of the fitting is upright and below, but not necessarily directly connected to, the water closet flange.
3. An offset closet flange.

SECTION P3007 SUMPS AND EJECTORS

P3007.3.3	**Discharge pipe and fittings (sumps and ejectors)**	**Language requiring discharge pipe and fittings serving sump pumps and ejectors to be approved has been deleted.**

P3007.6	**Capacity (sumps and ejectors)**	**The size of spherical solids that pumps and ejectors must handle for those that do not receive discharge from a water closet has been reduced from 1 inch to ½ inch.**

P3007.6 Capacity

Sewage pumps and sewage ejectors shall have the capacity and head for the application requirements. Pumps and ejectors that receive the discharge of water closets shall be capable of handling spherical solids with a diameter of up to and including 2 inches (51 mm). Other pumps or ejectors shall be capable of handling spherical solids with a diameter of up to and including $^{1}/_{2}$ inch (13 mm). The minimum capacity of a pump or ejector based on the diameter of the discharge pipe shall be in accordance with Table 3007.6.

Exceptions:

1. Grinder pumps or grinder ejectors that receive the discharge of water closets shall have a discharge opening of not less than $1^{1}/_{4}$ inches (32 mm).
2. Macerating toilet assemblies that serve single water closets shall have a discharge opening of not less than $^{3}/_{4}$ inch (19 mm).

SECTION P3008 BACKWATER VALVES

P3008.1	**Where required (backwater valves)**	**Section P3008.1 has been revised and new Section P3008.2 has been added to add a distinction between the use of normally closed backwater valve and normally open backwater valve. Section P3008.2 allows the discharge of fixtures located above the elevation of the manhole cover provided that a normally open backwater valve is installed.**
P3008.2	**Allowable installation**	

P3008.1 Where required

Where the flood level rims of plumbing fixtures are below the elevation of the manhole cover of the next upstream manhole in the public sewer, the fixtures shall be protected by a backwater valve installed in the *building drain*, branch of the *building drain* or horizontal branch serving such fixtures.

P3008.2 Allowable installation

Where plumbing fixtures are installed on a floor with a finished floor elevation above the elevation of the manhole cover of the next upstream manhole in the public sewer, and a backwater valve is installed in the building drain or horizontal branch serving such fixtures, the backwater valve shall be of the normally open type.

Exception: Normally closed backwater valve installations for existing buildings shall not be prohibited.

P3008.4	Location	Section revised to identify that the internal moving components are what must be accessible.

P3008.4 Location

Backwater valves shall be installed so that access is provided to the working parts.

SECTION P3009 SUBSURFACE LANDSCAPE IRRIGATION SYSTEMS (RESERVED)

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P3009 FBCR (2017) deletion	Subsurface Landscape Irrigation Systems	Section deleted and shown as Reserved because the Florida Department of Health is the regulatory authority permitting onsite sewage treatment and disposal systems include gray water treatment and disposal systems.

SECTION P3010 REPLACEMENT OF UNDERGROUND BUILDING SEWERS AND BUILDING DRAINS BY PIPE BURSTING METHODS

P3010	Replacement of Underground Building Sewers and Building Drains by Pipe Bursting Methods	Section revised to include building drains within the scope of this section. Similar changes have been made to Sections P3010.1, P3010.2, and P3010.6.

P3010.1 General

This section shall govern the replacement of existing *building sewer* and *building drain* piping by pipe-bursting methods.

P3010.2 Applicability

The replacement of *building* sewer and *building drain* piping by pipe bursting methods shall be limited to gravity drainage piping of sizes 6 inches (150 mm) and smaller. The replacement piping shall be of the same nominal size as the existing piping.

P3010.4	Pipe	Cell classifications for HDPE pipe have been deleted. The SDR requirement for pipe fittings has been deleted.

P3010.4 Pipe

The replacement pipe shall be made of a high-density polyethylene (HDPE) and shall be in compliance with ASTM F714.

P3010.5	**Pipe fittings**	**Cell classifications for HDPE pipe have been deleted. The SDR requirement for pipe fittings has been deleted.**

P3010.5 Pipe fittings
Pipe fittings to be connected to the replacement pipe shall be made of high-density polyethylene (HDPE) and shall be in compliance with ASTM D2683.

SECTION P3011 REPLACEMENT OF UNDERGROUND SEWERS BY PVC FOLD AND FORM METHODS

P3011	**Replacement of Underground Sewers by PVC Fold and Form Methods**	**New section added governing the replacement of existing building sewer piping by PVC fold and form methods. Fold and form is a method where a PVC pipe is manufactured in a plant and is heated and collapsed to form a roll for transport to the worksite. The pipe is heated and pulled into an existing sewer pipe in need of rehabilitation. The pipe is then expanded and installed.**

P3011.1 General
This section shall govern the replacement of existing building sewer piping by PVC fold and form methods.

P3011.2 Applicability
The replacement of *building* sewer piping by PVC fold and form methods shall be limited to gravity drainage piping 4 inches (102 mm) to 18 inches (457 mm). The replacement piping shall be of the same nominal size as the existing piping.

P3011.3 Preinstallation inspection
The existing piping sections to be replaced shall be inspected internally by a recorded video camera survey. The survey shall include notations of the position of cleanouts and the depth of connections to the existing piping.

P3011.4 Pipe
The replacement piping shall be manufactured in compliance with ASTM F1871 or ASTM F1504.

P3011.5 Installation
The piping sections to be replaced shall be cleaned and flushed. Remediation shall be performed where there is groundwater infiltration, roots, collapsed pipe, dropped joints, offsets more than 12 percent of the inside pipe diameter or other obstructions.

P3011.6 Cleanouts
Where the existing building sewer did not have cleanouts meeting the requirements of this code, cleanout fittings shall be installed as required by this code.

P3011.7 Post-installation inspection
The completed replacement piping shall be inspected internally by a recorded video camera survey. The video survey shall be reviewed and approved by the code official prior to pressure testing of the replacement piping system.

P3011.8 Pressure testing
The replacement piping system as well as the connections to the replacement piping shall be tested in accordance with Section P2503.4.

CHAPTER 31 VENTS

(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION P3103 VENT TERMINALS

P3103.1	Vent pipes terminating outdoors	Section P3103.1 has been expanded and reorganized into 4 new sections.

P3103.1 Vent pipes terminating outdoors

Vent pipes terminating outdoors shall be extended to the outdoors through the roof or a side wall of the building in accordance with one of the methods identified in Sections P3103.1.1 through P3103.1.4.

P3103.1.1	Roof extension	Criteria for roof extensions previously in Section P3103.1 have been relocated to new Section P3103.1.1.

P3103.1.1 Roof extension

`Open vent pipes that extend through a roof and that do not meet the conditions of Section P3103.1.2 or Section P3103.1.3 shall terminate not less than 6 inches (150 mm) above the roof or 6 inches (150 mm) above the anticipated snow accumulation, whichever is greater.

P3103.1.2	Roof used for recreational purposes	Criteria for vent terminations above roofs used for recreational purposes has been clarified and relocated from Section P3103.1 to new Section P3103.1.2.

P3101.1.2 Roof used for recreational purposes

Where a roof is to be used for assembly or as a promenade, observation deck, sunbathing deck or similar purposes, open vent pipes shall terminate not less than 7 feet (2134 mm) above the roof.

P3103.1.3	Roof extension covered	New section added addressing vent pipe terminations covered by either a roof-mounted photovoltaic panel or an architectural feature.

P3103.1.3 Roof extension covered

Where an open vent pipe terminates above a sloped roof and is covered by either a roof-mounted panel such as a solar collector or photovoltaic panel mounted over the vent opening, or by a roof element such as an architectural feature or a decorative shroud, the vent pipe shall terminate not less than 2 inches (51 mm) above the roof surface. Such roof elements shall be designed to prevent the adverse effects of snow accumulation and wind on the function of the vent. The placement of a panel over a vent pipe and the design of a roof element covering the vent pipe shall provide for an open area for the vent pipe to the outdoors that is not less than the area of the pipe, as calculated from the inside diameter of the pipe. Such vent terminals shall be protected by a method that prevents birds and rodents from entering or blocking the vent pipe opening.

P3103.1.4	Side wall vent terminal	Criteria for vent terminations through side walls previously in section P3103.6 has been relocated to new Section P3103.1.4.

P3103.1.4 Side wall vent terminal

Vent terminals extending through the wall shall terminate not closer than 10 feet (3048 mm) from a lot line and not less than 10 feet (3048 mm) above the highest grade elevation within 10 feet (3048 mm) in any direction horizontally of the vent terminal. Vent pipes shall not terminate under the overhang of a structure where the overhang includes soffit vents. Such vent terminals shall be protected by a method that prevents birds and rodents from entering or blocking the vent pipe opening and that does not reduce the open area of the vent pipe.

P3103.6 **FBCR (2017) deletion**	**Extension through the wall**	**Side wall vent terminations are now addressed in new Section P3103.1.4.**

SECTION P3111 COMBINATION WASTE AND VENT SYSTEM

P3111.1	**Type of fixtures (combination waste and vent system)**	**The prohibition of a combination waste and vent system receiving the discharge from a food waste disposer has been deleted.** **The requirements in previous Section P3111.2.4 have been merged into Section P3111.1.**

P3111.1 Type of fixtures.
A combination waste and vent system shall only serve floor drains, sinks, lavatories and drinking fountains. A combination waste and vent system shall be considered to be the vent for those fixtures. The developed length of a fixture drain to the combination waste and vent system piping shall not exceed the limitations of Table P3105.1.

P3111.1.1	**Single fixture systems**	**New section permitting a horizontal fixture drain to be considered as a combination waste and vent system provided the fixture drain size complies with Table P3111.3.**

P3111.1.1 Single fixture systems.
A horizontal fixture drain shall be considered to be a combination waste and vent system, provided that the fixture drain size complies with Table P3111.3.

P3111.2	**Installation**	**Section revised for clarity**

P3111.2 Installation.
The only vertical pipe of a combination waste and vent system shall be the connection between a fixture drain and a horizontal combination waste and vent pipe. The length of the vertical pipe shall be not greater than 8 feet (2438 mm).

P3111.2.1	**Slope**	**Section revised for clarity.**

P3111.2.1 Slope.
The slope of a horizontal combination waste and vent piping shall be not greater than $^1/_2$ unit vertical in 12 units horizontal (4-percent slope) and shall not be less than that indicated in Section P3005.2.

P3111.2.2	**Vent connection**	**Section revised for clarity.**

P3111.2.2 Vent connection.
A combination waste and vent system shall be provided with a dry vent connected at any point within the system or the system shall connect to a horizontal drain or *building drain* that serves vented fixtures located on the same floor. Combination waste and vent systems connecting to *building drains* receiving only the discharge from one or more stacks shall be provided with a dry vent. The dry vent connected to the combination waste and vent pipe shall extend vertically to a point not less than 6 inches (152 mm) above the flood level rim of the highest fixture being vented by the combination waste and vent system before horizontal offsets in the dry vent piping are allowed.

P3111.2.3	Vent size	Section revised for clarity.

P3111.2.3 Vent size.
The dry vent connected to the combination waste and vent system shall be sized for the total drainage fixture unit load in accordance with Section P3111.1.

P3111.3	Size and length	Section revised for clarity.

P3111.3 Size and length.
The size of a combination drain and vent piping shall be not less than that specified in Table 3111.3. The horizontal length of a combination drain and vent system shall be unlimited.

TABLE P3111.3
SIZE OF COMBINATION WASTE AND VENT PIPE

DIAMETER PIPE (inches)	MAXIMUM NUMBER OF FIXTURE UNITS (d.f.u.)	
	Connecting to a horizontal branch or stack	Connecting to a building drain or building subdrain
2	3	4
$2^1/_2$	6	26
3	12	31
4	20	50

For SI: 1 inch = 25.4 mm.

CHAPTER 32 TRAPS
(Significant Changes)

Significant 2020 FBCR Changes include, by section:

SECTION P3201 FIXTURE TRAPS

P3201.1	Design of traps	Section revised to require traps having slip joint connections to comply with Section P2704.1.

P3201.1 Design of traps.
Traps shall be of standard design, shall have smooth uniform internal waterways, shall be self-cleaning and shall not have interior partitions except where integral with the fixture. Traps shall be constructed of lead, cast iron, copper or copper alloy or *approved* plastic. Copper or copper alloy traps shall be not less than No. 20 gage (0.8 mm) thickness. Solid connections, slip joints and couplings shall be permitted to be used on the trap inlet, trap outlet, or within the trap seal. Traps having slip-joint connections shall comply with Section P2704.1.

CHAPTER 33 STORM DRAINAGE (No Changes)

CHAPTER 34 through 43: ELECTRICAL

The electrical requirements in the FBCR have been deleted. Section E3401.1 requires electrical systems, equipment and components to comply with NFPA 70. Section E3401.4 requires additions or alterations to existing electrical systems to comply with the FBCEB and NFPA 70.

CHAPTER 44 HIGH-VELOCITY HURRICANE ZONES

CHAPTER 45 PRIVATE SWIMMING POOLS

(No Changes)

APPENDIX Q: TINY HOUSES

Appendix Q	Tiny Houses	New appendix added addressing construction of tiny houses. Tiny houses are specifically defined as a dwelling that is 400 square feet or less in floor area excluding lofts. Section AQ101.1 Scope requires to tiny houses to comply with the code except as otherwise stated in this appendix. Due to the size of these dwellings, Appendix Q relaxes various requirements in the body of the code for tiny houses. These include compact stairways, headroom, ladders, reduced ceiling heights in lofts and additional options for emergency escape and rescue openings.

END OF COURSE MATERIAL