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# **Advanced internet course in significant Florida Building Code Changes 8th Edition (2023)**

**1 PDH**

**Professional Development Hours (PDH)**

**or Continuing Education Hours (CE)**

**Online PDH or CE course**

## **Advanced Internet course in significant Florida Building Code changes 8th Edition (2023)**

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**Course provider**

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**Course Title**

Advanced internet course in significant Florida Building Code Changes 8th Edition (2023)

**Course description**

This is a one (1) hour course about the significant changes made in Florida Building Code 8<sup>th</sup> Edition (2023) compared to the Seventh edition (2020).

**Course learning objective**

This course is intended to show the analysis of changes for the 8<sup>th</sup> edition (2020) of the Florida Building Code. This course is based on the latest changes in the 8<sup>th</sup> Edition (2023) *Florida Building Code, Building*. The model code used to update the 8<sup>th</sup> Edition (2023) FBCB is the 2021 International Building code (IBC). However, not all changes in the 2021 IBC are included in the 8<sup>th</sup> Edition (2023) FBCB. As a result of changes from the 2021 IBC and Florida-specific amendments, certain provisions and criteria of the code have changed. This *analysis* will serve as a useful tool to facilitate the transition to the new code.

**Number of Classroom Hours**

1 PDH or One hour of continuing education

**Course category**

Advanced Building Code Module

**Code Edition:**

2023 Florida Building **Code 8th Edition**

## Advanced Internet course in significant Florida Building Code changes 8th Edition (2023)

### Course provider:

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### Course title:

**Advanced Internet course in significant Florida Building Code changes 8th Edition (2023)**

**Total hours:** Total number of PDH hours for this course is **1 hour**

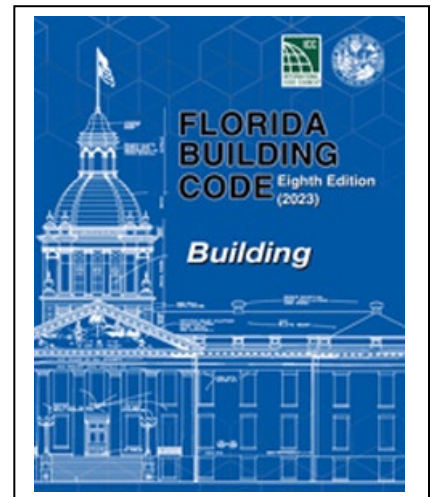
**Grading:** The passing grade for this course is **70%**. You can take the course as many times as you like in order to pass.

**Advanced Internet course in significant Florida Building Code changes 8th Edition (2023)**

This is a one (1) hour course about the significant changes made in Florida Building Code 8<sup>th</sup> Edition (2023) compared to the Seventh edition (2020).

The course includes the changes that are posted at Florida Administrative Rules for Accreditation and the 7<sup>th</sup> and 8<sup>th</sup> Edition of the Florida Building code 2023.

The course covers the most significant changes in the 8<sup>th</sup> edition of the *2023 Florida Building Code, Building* compared to the *7<sup>th</sup> edition of the 2020 Florida Building Code*. We also included some more changes that were not mentioned in the comparison, but seemed useful.



## Learning Objectives

This course is intended to show the analysis of changes for the 8<sup>th</sup> edition (2020) of the Florida Building Code. This course is based on the latest changes in the 8<sup>th</sup> Edition (2023) *Florida Building Code, Building*. The model code used to update the 8<sup>th</sup> Edition (2023) FBCB is the 2021 International Building code (IBC). However, not all changes in the 2021 IBC are included in the 8<sup>th</sup> Edition (2023) FBCB. As a result of changes from the 2021 IBC and Florida-specific amendments, certain provisions and criteria of the code have changed. This *analysis* will serve as a useful tool to facilitate the transition to the new code.

The code changes and **updates** will be shown in **red color** for easier viewing and comparison.

### **202 Definition: Change of Occupancy**

The scope of a change in occupancy has been revised to address conditions where no occupancy classification changes occur. A change in occupancy, as defined by the FBC, no longer applies to any change in occupancy classification. A change of occupancy now only applies where the FBC requires a greater degree of safety, accessibility, structural strength, fire protection, means of egress, ventilation or sanitation than exists in the current building and structure, and one of the following occurs:

- A change in occupancy classification
- A change in the purpose of, or a change in the level of activity within a building or structure.

### **202 Definition: Change of Occupancy**

Either of the following shall be considered as a change of occupancy where this code requires a greater degree of safety, accessibility, structural strength, fire protection, means of egress, ventilation or sanitation than is existing in the current building or structure:

1. Any change in the occupancy classification of a building or structure.

2. Any change in the purpose of, or a change in the level of activity within, a building or structure.

## Significant code changes to Chapter 4

### 454.1.9.9 Swim bars

New construction criteria have been added for swim-up bars.

#### 454.1.9.9 Swim-up bars.

Swim-up bars shall comply with the requirements of Sections 454.1.9.9.1 through 454.1.9.9.9.

#### 454.1.9.9.1

Swim-up bars are only permitted at transient public lodging establishments licensed under s. 509.013(4)(a)1, *Florida Statutes*, or at a theme park or entertainment complex as defined in s. 509.013(9), F.S.

#### 454.1.9.9.2

A swim-up bar shall be constructed in accordance with the applicable provisions of this code and within the limits of sound engineering practice. The maximum pool depth shall not exceed 54 inches (1372 mm). The disinfection equipment shall be capable of feeding 12 mg/L of halogen to the continuous recirculation flow of the filtration system. Attendants or lifeguards shall be provided in accordance with a safety/lifeguard plan approved by the Department of Health.

#### 454.1.9.9.3

A swim-up bar shall be equipped with a recirculation system which provides for a maximum time of 2 hours for turnover of the entire pool water volume. Swim-up bar water quality shall be continuously sustained in accordance with Department of Health (DOH) Rule 64E-9.004, *Florida Administrative Code*, by the installation and use of an automated controller with chemical sensing probes for disinfection and pH control.

#### 454.1.9.9.4

Signage complying with Section 454.1.2.3.5 must be posted to inform patrons that the public swimming pool has a swim-up bar that provides food and beverages, that spillages should be reported to staff for rapid cleanup, and that consumption of alcoholic beverages may cause drowsiness.

#### 454.1.9.9.5

If the bar or counter is built into the edge of the pool, pool access complying with Section 454.1.2.5 shall be provided at both ends of the bar. A deck complying with Section 454.1.3.1 shall be provided, except, up to 50 percent of the pool perimeter may be obstructed by the bar. Gutter or skimmers are not required at or under the bar counter, however, they are required at the rest of the pool. An automatic water level controller shall be provided, and an overflow waste line with air gap shall be provided.

#### **454.1.9.9.6**

A smooth, easily cleanable poolside surface must be provided for patrons to place their food and beverage containers upon.

#### **454.1.9.9.7**

A swim-up bar may be physically combined or connected with other pool types, however, food and drink must be permitted over the entire body of water and the requirements of Section 454.1.9.9 shall apply to the entire water volume. A swim-up bar's water must not mix with any body of water that is not a swim-up bar and does not allow the consumption of food and beverages.

#### **454.1.9.10 Vanishing edge pools.**

##### **454.1.9.10.1**

Vanishing edge pools shall be designed and constructed within the limits of sound engineering practice and shall meet the requirements of Sections 454.1.1 through 454.1.6.5, unless specifically indicated otherwise.

##### **454.1.9.10.2**

Vanishing edges and associated discharge troughs or catch basins shall be constructed of concrete or other structurally rigid impervious materials with a nontoxic, smooth and slip-resistant finish.

##### **454.1.9.10.3**

The vanishing edge shall discharge into a trough or basin. The trough or basin must be covered with a lid or secure grating that has the capacity to support a responder attending to a bather in distress on the opposite side of the vanishing edge. The trough or basin must be designed to deter access. The maximum height of the trough or basin wall above surrounding grade shall be 10 inches (254 mm). A lowered wet deck in accordance with Section 454.1.3.1 must be provided around the trough or basin and immediately adjacent to it.

##### **454.1.9.10.4**

The vanishing edge length shall not exceed 65 feet (19 812 mm) or 40 percent of the pool perimeter, whichever is less. The maximum vertical distance from the top of the vanishing edge wall to the trough or catch basin cover or adjacent grade shall be 36 inches (914 mm). The maximum water depth in the pool at the vanishing edge wall shall be 4 feet (1219 mm). The vanishing edge wall shall not be considered as a perimeter deck obstruction. Water line tile at the top of the edge wall as required by Section 454.1.2.1(a) is not required to be non-skid.

##### **454.1.9.10.5**

Depth markings for vanishing edges shall be in accordance with Section 454.1.2.3.1(5).

##### **454.1.9.10.6**

The remainder of the pool perimeter must have perimeter overflow gutters per Section 454.1.6.5.3.1 or recessed automatic surface skimmers in accordance with Section 454.1.6.5.3.2. Alternatively, a combination of recessed automatic surface skimmers and perimeter overflow gutters may be used along the remainder of the perimeter, such that parts of the perimeter without perimeter overflow gutters or vanishing edges shall have skimmers spaced every 20 feet (6096 mm) or less, regardless of the width or area of the pool.

## **Significant code changes to Chapter 9**

### **907.2.25 Group S (fire alarm and detection systems)**

New section added requiring a manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 be installed in Group S public and self-storage occupancies three stories or greater in height for interior corridors and interior common areas. An exception to manual fire alarm boxes is provided where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1, and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

#### **907.2.25 Group S.**

A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group S public and self-storage occupancies three stories or greater in height for interior corridors and interior common areas. Visible notification appliances are not required within storage units.

**Exception:** Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1, and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

## **Significant code changes to Chapter 10**

### **1010.1.6 Thresholds**

Exception 2 has been revised to specifically permit thresholds at exterior doors of dwelling units or sleeping to be at the height necessary to comply with the water resistance requirements of Section 1709.5. Table 1010.1.7, which specified maximum differences between exterior and interior floor levels, has been deleted.

#### **1010.1.6 Thresholds.**

Thresholds at doorways shall not exceed 3/4 inch (19.1 mm) in height above the finished floor or landing for sliding doors serving dwelling units or 1/2 inch (12.7 mm) above the finished floor or landing for other doors. Raised thresholds and floor level changes greater than 1/4 inch (6.4 mm) at doorways shall be beveled with a slope not greater than one unit vertical in two units horizontal (50-percent slope).



## Exceptions:

1. In occupancy Group R-2 or R-3, threshold heights for sliding and side-hinged exterior doors shall be permitted to be up to 73/4 inches (197 mm) in height if all of the following apply:

- 1.1. The door is not part of the required means of egress.
- 1.2. The door is not part of an accessible route as required by Chapter 11.

2. For exterior doors serving dwelling units, or sleeping units, thresholds at doorways shall be allowed at a height necessary to comply with the water resistance requirements of Section 1709.5.

### **Table 1010.1.7 Exterior Floor Level Difference**

Table 1010.1.7, which specified maximum differences between exterior and interior floor levels, has been deleted.

Deleted

## **Significant code changes to Chapter 14**

### **Exterior Walls**

#### **1403.5 Water-resistive barriers**

Section revised to clarify that fenestration products and other specific flashing components are not considered part of the water-resistive barrier.

Exception 2 has been revised to clarify that in order to qualify for this exception, the combustible water-resistive barrier has to meet both ASTM E1354 and ASTM E2404.

#### **1403.5 Water-resistive barriers.**

Exterior walls on buildings of Type I, II, III or IV construction that are greater than 40 feet (12 192 mm) in height above grade plane and contain a combustible *water-resistive barrier* shall be tested in accordance with and comply with the acceptance criteria of NFPA 285. Combustibility shall be determined in accordance with Section 703.2.2. For the purposes of this section, fenestration products, flashing of fenestration products and *water-resistive-barrier* flashing and accessories at other locations, including through wall flashings, shall not be considered part of the *water-resistive barrier*.

## **Exceptions:**

1. Walls in which the *water-resistive barrier* is the only combustible component and the *exterior wall* has a wall covering of brick, concrete, stone, terra cotta, stucco or steel with minimum thicknesses in accordance with Table 1405.2.
2. Walls in which the *water-resistive barrier* is the only combustible component and the *water-resistive barrier* complies with the following:
  - 2.1. A peak heat release rate of less than 150 kW/m<sup>2</sup>, a total heat release of less than 20 MJ/m<sup>2</sup> and an effective heat of combustion of less than 18 MJ/kg when tested on specimens at the thickness intended for use, in accordance with ASTM E1354, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m<sup>2</sup>.
  - 2.2. A flame spread index of 25 or less and a smoke-developed index of 450 or less as determined in accordance with ASTM E84 or UL 723, with test specimen preparation and mounting in accordance with ASTM E2404.

#### **1404.2 Water-resistive barrier**

The types of materials that qualify as water-resistive barriers has been expanded to include the following:

- No. 15 felt complying with ASTM D226 Type I.
- ASTM E2556, Type I or II.
- ASTM E331 in accordance with Section 1402.2.

#### **1404.2 Water-resistive barrier.**

Not fewer than one layer of water-resistive barrier material shall be attached to the studs or sheathing, with flashing as described in Section 1405.4, in such a manner as to provide a continuous water-resistive barrier behind the exterior wall veneer. Water-resistive barriers shall comply with one of the following:

- 1.No. 15 felt complying with ASTM D226, Type I.
- 2.ASTM E2556, Type I or II.
- 3.ASTM E331 in accordance with Section 1402.2.
- 4.Other approved materials installed in accordance with the manufacturer's installation instructions.

#### **1405.14.2 Accessories**

Accessories must be installed in accordance with the approved manufacturer's instructions.

##### **1405.14.2.1 Starter Strip**

New section added requiring the initial course of vinyl siding to be installed with a starter strip.

##### **1405.14.2.1 Starter Strip**

Horizontal siding shall be installed with a starter strip at the initial course at any location.

#### **1405.14.2.2 Utility Trim**

Under windows and at the top of walls, new section requires vinyl siding to be secured with utility trim and snap locks.

Under windows, and at top of walls, utility trim shall be used with snap locks.

#### **1410 Soffits and Fascias at Roof Overhangs**

New section providing design and construction requirements for common soffit materials. Requirements are similar to the soffit requirements in the FBCR. 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. New attachment requirements for aluminum fascias have also been added.

#### **1410 Soffits and Fascias at Roof Overhangs**

##### **1410.1 General.**

Soffits and fascias at roof overhangs shall be designed and constructed in accordance with the applicable provisions of this section.

##### **1410.2 General wind requirements.**

Soffits and fascias shall be capable of resisting the component and cladding loads for walls determined in accordance with Chapter 16 using an effective wind area of 10 square feet (0.93 m<sup>2</sup>).

##### **1410.3 Vinyl and aluminum soffit panels.**

Vinyl and aluminum soffit panels shall comply with Section 1410.2 and shall be installed using fasteners specified by the manufacturer and shall be fastened at both ends to a supporting component such as a nailing strip, fascia or subfascia component in accordance with Figure 1410.3.1(1). Where the unsupported span of soffit panels is greater than 12 inches (406 mm), intermediate nailing strips shall be provided in accordance with Figure 1410.3.1(2) unless a larger span is permitted in accordance with the manufacturer's product approval specification and limitations of use. Vinyl and aluminum soffit panels shall be installed in accordance with the manufacturer's product approval specification and limitations of use. Fasteners shall be corrosion resistant. Fascias shall comply with Section 1410.7 and the manufacturer's product approval specification and limitations of use. In the HVHZ, vinyl and aluminum soffit panels shall also comply with TAS 202 and TAS 203.

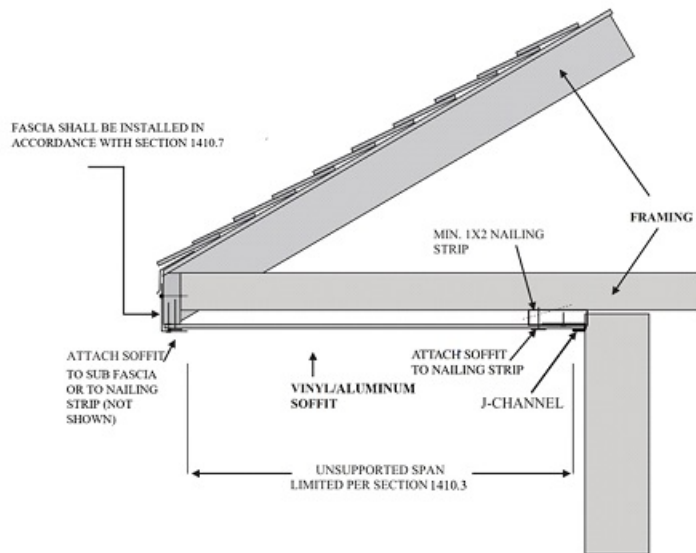


FIGURE 1410.3(1) TYPICAL SINGLE-SPAN VINYL OR ALUMINUM SOFFIT PANEL SUPPORT

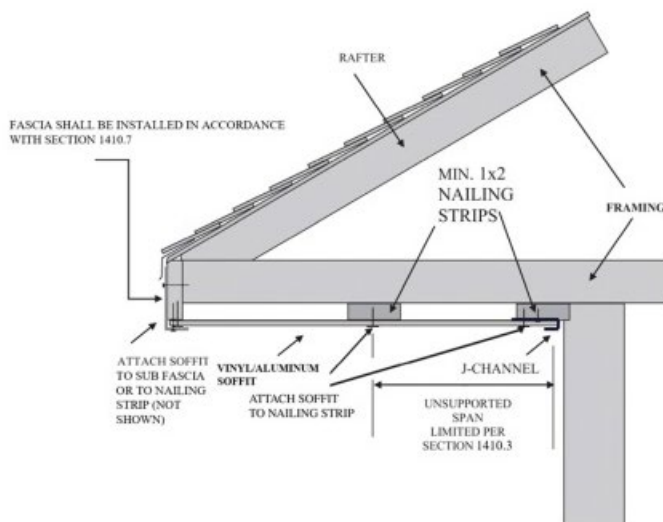


FIGURE 1410.3(2) TYPICAL MULTI-SPAN VINYL OR ALUMINUM SOFFIT PANEL SUPPORT

## Significant code changes to Chapter 15

### 1504.2.1.4 Underlayment testing

New section added requiring underlayment for concrete and clay tile to be tested for uplift resistance in accordance with FM 4474 or UL 1897.

#### 1504.2.1.4 Underlayment testing.

Adhered or mechanically attached tile underlayment or underlayment assemblies shall be tested in accordance with FM 4474 or UL 1897.

### 1507.1.1 Underlayment

The entire section and subsections have been reformatted to simplify the requirements and provide clarity.

The reference to synthetic underlayment has been deleted and has been replaced with a reference to ASTM D8257 which applies to synthetic underlayment.

The minimum width of self-adhering strips of polymer-modified bitumen membrane used with Table 15071.1 has been reduced from 4 inches to 3 ¾ inches.

#### 1507.1.1 Underlayment.

Underlayment for roof slopes 2:12 and greater shall conform to the applicable standards listed in this chapter. Underlayment materials required to comply with ASTM D226, D1970, D4869, D6757 and D8257 shall bear a label indicating compliance to the standard designation and, if applicable, type classification indicated. Underlayment for roof slopes 2:12 and greater shall be applied and attached in accordance with Section 1507.1.1.1 or 1507.1.1.2, as applicable.

#### Exceptions:

1. For areas of a roof that cover exterior walkways and roofs of agricultural buildings, underlayment shall comply with the manufacturer's installation instructions.
2. Compliance with Section 1507.1.1.1 is not required for structural metal panels that do not require a substrate or underlayment.

1507.1.1.1 Underlayment for asphalt shingles, metal roof panels or shingles, mineral surfaced roll roofing, slate and slate-type roof shingles, wood shakes and wood shingles.

Underlayment for asphalt shingles, metal roof panels or shingles, mineral surfaced roll roofing, slate and slate-type shingles, wood shakes and wood shingles shall comply with one of the following methods:

1.The entire roof deck shall be covered with an approved self-adhering polymer modified bitumen underlayment complying with ASTM D1970 installed in accordance with both the underlayment manufacturer's and roof covering manufacturer's installation instructions for the deck material, roof ventilation configuration and climate exposure for the roof covering to be installed.

Exceptions:

1.This method is not permitted for wood shingles or shakes.

2.An existing self-adhering modified bitumen underlayment that has been previously installed over the roof decking and, where it is required, reroofing off the roof sheathing in accordance with Section 706.7.1 of the Florida Building Code, Existing Building can be confirmed or verified. An approved underlayment in accordance with Table 1507.1.1.1 for the applicable roof covering shall be applied over the entire roof over the existing self-adhered modified bitumen underlayment.

2.A minimum 33/4-inch-wide (95 mm) strip of self adhering polymer-modified bitumen membrane complying with ASTM D1970 or self-adhering flexible flashing tape complying with AAMA 711, Level 3 [for exposure up to 176°F (80°C)], installed in accordance with the manufacturer's instructions for the deck material, shall be applied over all joints in the roof decking. An approved underlayment in accordance with Table 1507.1.1.1 for the applicable roof covering shall be applied over the entire roof over the membrane strips.

3.Two layers of ASTM D226 Type II or ASTM D4869 Type III, Type IV or ASTM D8257 underlayment shall be installed as follows: Apply a strip of underlayment for the first course that is half the width of a full sheet parallel to and starting at the eaves, fastened sufficiently to hold in place. Starting at the eave, apply a full sheet of underlayment for the second course. Apply the third course of underlayment overlapping the second course half the width of a full sheet plus 2 inches (51 mm). Overlap all successive courses half the width of a full sheet plus 1 inch (25 mm). End laps shall be 6 inches (152 mm) and shall be offset by 6 feet (1829 mm). Underlayment shall be attached to a nailable deck with corrosion-resistant fasteners with a maximum fastener spacing measured horizontally and vertically of 12 inches (305 mm) o.c. between side laps, and one row at the end and side laps fastened 6 inches (152 mm) o.c. Underlayment shall be attached using annular ring or deformed shank nails with metal or plastic caps with a nominal cap diameter of not less than 1 inch (25.4 mm). Metal caps are required where the ultimate design wind speed, Vult, equals or exceeds 170 mph. Metal caps shall have a thickness of not less than 32-gage sheet metal. The minimum thickness of the outside edge of

plastic caps shall be 0.035 inch (0.889 mm). The cap nail shank shall be not less than 0.083 inch (2.1082 mm) for ring shank cap nails. The cap nail shank shall have a length sufficient to penetrate through the roof sheathing or not less than 3/4 inch (19.05 mm) into the roof sheathing.

Exception:

1. Use of ASTM D8257 underlayment is not permitted for wood shingles or shakes.

**TABLE 1507.1.1.1 UNDERLAYMENT WITH SELF-ADHERING STRIPS OVER ROOF DECKING JOINTS**

Roof Covering	Underlayment Type	Underlayment Attachment	
		Roof Slope 2:12 and Less Than 4:12	Roof Slope 4:12 and Greater
Asphalt Shingles, Metal Roof Panels, Photovoltaic Shingles	ASTM D226 Type II ASTM D4869 Type III or IV ASTM D6757 ASTM D8257	Apply in accordance with Section 1507.1.1.1, Item 3.	Underlayment shall be applied shingle fashion, parallel to and starting from the eave and lapped 4 inches; end laps shall be 6 inches and shall be offset by 6 feet. Underlayment shall be attached to a nailable deck with corrosion-resistant fasteners with a maximum fastener spacing measured horizontally and vertically of 12 inches o.c. between side laps and one row at the end and side laps fastened 6 inches o.c. Underlayment shall be attached using annular ring or deformed shank nails with metal or plastic caps with a nominal cap diameter of not less than 1 inch. Metal caps are required where the ultimate design wind speed, $V_{ult}$ , equals or exceeds 170 mph. Metal caps shall have a thickness of not less than 32-gage sheet metal. Power-driven metal caps shall have a minimum thickness of 0.010 inch. The minimum thickness of the outside edge of plastic caps shall be 0.035 inch. The cap nail shank shall be not less than 0.083 inch for ring shank cap nails. The cap nail shank shall have a length sufficient to penetrate through the roof sheathing or not less than $\frac{3}{4}$ inch into the roof sheathing.
Metal Roof Shingles, Mineral-Surface Roll Roofing, Slate and Slate-type Shingles	ASTM D226 Type II ASTM D4869 Type III or IV ASTM D8257		
Wood Shingles, Wood Shakes	ASTM D226 Type II ASTM D4869 Type III or IV		

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s.

### 1518.2 Underlayments ( HVHZ roof Slopes 2.12 or greater)

Underlayment types and installation for all roof coverings have been revised to be consistent with areas outside the HVHZ in Section 1507.1.1. 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).
- Underlayment complying with ASTM D8257 (synthetic underlayment) has been added as an option for some roof coverings.
- Lapping and fastening requirements for the double layer underlayment system (Item 3, Section 1518.2.1) has been revised to accommodate underlayment products that are wider than 36 inches.

- 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 706.7.1 of the FBCEB can be confirmed or verified. An approved underlayment for the applicable roof coverings is required to be applied over the existing self-adhered membrane.

### **1518.2 Underlayments ( HVHZ roof Slopes 2:12 or greater)**

Underlayment for roof slopes 2:12 and greater shall conform to the applicable standards listed in this chapter. Underlayment materials required to comply with ASTM D226, D1970, D4869, D6757 and D8257 shall bear a label indicating compliance with the standard designation and, if applicable, type classification indicated. Underlayment for roof slopes 2:12 and greater shall be applied and attached in accordance with Section 1518.1, 1518.2, 1518.5, 1518.6, 1518.7, 1518.8, 1518.9, 1518.10 or 1518.11, as applicable.

Exceptions:

1. For areas of a roof that cover exterior walkways and roofs of agricultural buildings, underlayment shall comply with the manufacturer's installation instructions.
2. Compliance with **Section 1518.2.1** is not required for structural metal panels that do not require a substrate or underlayment.

**1518.2.1 Underlayment for asphalt shingles, metal roof panels or shingles, mineral surfaced roll roofing, slate and slate-type shingles.**

Underlayment for asphalt shingles, metal roof panels or shingles, mineral surfaced roll roofing, slate and slate-type shingles shall comply with one of the following methods:

1. The entire roof deck shall be covered with an approved self-adhering polymer modified bitumen underlayment complying with ASTM D1970 installed in accordance with both the underlayment manufacturer's and roof covering manufacturer's installation instructions for the deck material, roof ventilation configuration and climate exposure for the roof covering to be installed.

**Exception:** An existing self-adhering modified bitumen underlayment that has been previously installed over the roof decking and, where it is required, re-nailing of the roof sheathing in accordance with Section 706.7.1 of the *Florida Building Code, Existing Building* can be confirmed or verified. An approved underlayment in accordance with Table 1507.1.1.1 for the applicable roof covering shall be applied over the entire roof over the existing self-adhered modified bitumen underlayment.



2. 2.A minimum 3<sup>3</sup>/<sub>4</sub>-inch-wide (95 mm) strip of selfadhering polymer-modified bitumen membrane complying with ASTM D1970 or self-adhering flexible flashing tape complying with AAMA 711, Level 3 [for exposure up to 176°F (80°C)], installed in accordance with the manufacturer’s instructions for the deck material, shall be applied over all joints in the roof decking. An approved underlayment in accordance with Table 1518.2.1 for the applicable roof covering shall be applied over the entire roof over the membrane strips.
  
3. 3.Two layers of ASTM D226 Type II, D4869 Type III or IV, or D8257 underlayment shall be installed as follows: Apply a strip of underlayment for the first course that is half the width of a full sheet parallel to and starting at the eaves, fastened sufficiently to hold in place. Starting at the eave, apply a full sheet of underlayment for the second course. Apply the third course of underlayment overlapping the second course half the width of a full sheet plus 2 inches (51 mm). Overlap all successive courses half the width of a full sheet plus 1 inch (25.4 mm). End laps shall be 6 inches (152 mm) and shall be offset by 6 feet (1829 mm). Underlayment shall be attached to a nailable deck with corrosion-resistant fasteners with a maximum fastener spacing measured horizontally and vertically of 12 inches (305 mm) o.c. between side laps, and one row at the end and side laps fastened 6 inches (152 mm) o.c. Underlayment shall be attached using annular ring or deformed shank nails with metal or plastic caps with a nominal cap diameter of not less than 1 inch (25.4 mm). Metal caps are required where the ultimate design wind speed, *V<sub>ult</sub>*, equals or exceeds 170 mph (76 m/s). Metal caps shall have a thickness of not less than 32-gage sheet metal. The minimum thickness of the outside edge of plastic caps shall be 0.035 inch (0.889 mm). The cap nail shank shall be not less than 0.083 inch (2.1082 mm) for ring shank cap nails. The cap nail shank shall have a length sufficient to penetrate through the roof sheathing or not less than 3/4 inch (19.05 mm) into the roof sheathing.

**TABLE 1518.2.1 UNDERLAYMENT WITH SELF-ADHERING STRIPS OVER ROOF DECKING JOINTS**

ROOF COVERING	UNDERLAYMENT TYPE	UNDERLAYMENT ATTACHMENT	
		Roof Slope 2:12 and Less Than 4:12	Roof Slope 4:12 and Greater
Asphalt Shingles, Metal Roof Panels, Photovoltaic Shingles	ASTM D226 Type II ASTM D4869 Type III or IV ASTM D6757	Apply in accordance with Section 1518.2.1, Item 3	Underlayment shall be applied shingle fashion, parallel to and starting from the eave and lapped 4 inches; end laps shall be 6 inches and shall be offset by 6 feet. Underlayments shall be fastened with approved minimum 12 gage by 1 <sup>1</sup> / <sub>4</sub> in. corrosion-resistant annular ring shank roofing nails fastened through minimum 32 gage by 1 <sup>5</sup> / <sub>8</sub> in. diameter approved tin caps. Underlayment shall be attached to a nailable deck in a grid pattern of 12 inches between the overlaps, with 6-inch spacing at the overlaps. Nails shall be of sufficient length to penetrate through the sheathing or wood plank a minimum of 1/8 in. or penetrate 1 inch or greater thickness of lumber a minimum of 1 in., except where architectural appearance is to be preserved, in which case a minimum of 3/4 in. nail may be used.
Metal Roof Shingles, Mineral-Surface Roll Roofing, Slate and Slatetype Shingles, Wood Shingles, Wood Shake	ASTM D226 Type II ASTM D4869 Type III or IV ASTM D8257		

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s.

1518.3 Self-adhering membrane required to be applied over mechanically attached anchor sheet

1518.3 Section deleted

## Significant Changes to Chapter 16

**Table 1604.5 Risk Category of Buildings and Other Structures**

RISK CATEGORY	NATURE OF OCCUPANCY
I	<p>Buildings and other structures that represent a low hazard to human life in the event of failure, including but not limited to:</p> <ul style="list-style-type: none"> <li>•Agricultural facilities.</li> <li>•Certain temporary facilities.</li> <li>•Minor storage facilities.</li> <li>•Screen enclosures.</li> </ul>
II	Buildings and other structures except those listed in Risk Categories I, III and IV.
III	<p>Buildings and other structures that represent a substantial hazard to human life in the event of failure, including but not limited to:</p> <ul style="list-style-type: none"> <li>•Buildings and other structures whose primary occupancy is public assembly with an occupant load greater than 300.</li> <li>•Buildings and other structures containing one or more public assembly spaces each having an occupant load greater than 300 and a cumulative occupant load of these public assembly spaces of greater than 2,500.</li> <li>• Buildings and other structures containing Group E or Group I-4 occupancies or combination thereof, with an occupant load greater than 250.</li> <li>•Buildings and other structures containing educational occupancies for students above the 12th grade with an occupant load greater than 500.</li> <li>•Group I-2 occupancies with an occupant load of 50 or more resident care recipients but not having surgery or emergency treatment facilities.</li> <li>•Group I-3 occupancies.</li> <li>•Any other occupancy with an occupant load greater than 5,000.<sup>a</sup></li> <li>•Power-generating stations, water treatment facilities for potable water, wastewater treatment facilities and other public utility facilities not included in Risk Category IV.</li> <li>•Buildings and other structures not included in Risk Category IV containing quantities of toxic or explosive materials that: Exceed maximum allowable quantities per control area as given in Table 307.1(1)</li> </ul>

or 307.1(2) or per outdoor control area in accordance with the *Florida Fire Prevention Code*; and  
 Are sufficient to pose a threat to the public if released.<sup>b</sup>

IV

Buildings and other structures designated as essential facilities, including but not limited to:

- Group I-2 occupancies having surgery or emergency treatment facilities.
- Fire, rescue, ambulance and police stations and emergency vehicle garages.
- Designated earthquake, hurricane or other emergency shelters.
- Designated emergency preparedness, communications and operations centers and other facilities required for emergency response.
- Power-generating stations and other public utility facilities required as emergency backup facilities for Risk Category IV structures.
- Buildings and other structures containing quantities of highly toxic materials that:
  - Exceed maximum allowable quantities per control area as given in Table 307.1(2) or
  - per outdoor control area in accordance with the *Florida Fire Prevention Code*; and
  - Are sufficient to pose a threat to the public if released.<sup>b</sup>
- Aviation control towers, air traffic control centers and emergency aircraft hangars.
- Buildings and other structures having critical national defense functions.
- Water storage facilities and pump structures required to maintain water pressure for fire suppression.

**Table 1604.5 Risk Category of Buildings and Other Structures**

New occupancy type added to Risk Category III - buildings and other structures containing one or more public assembly spaces each having an occupant load greater than 300 and a cumulative occupant load of these public assembly spaces of greater than 2,500.

Buildings and structures containing a Group I-4 occupancy with an occupant load greater than 250 have been added as Risk Category III.

**1604.5 Risk category of Building and other structures**

Each building and structure shall be assigned a risk category in accordance with Table 1604.5. Where a referenced standard specifies an occupancy category, the risk category shall not be taken as lower than the occupancy category specified therein. Where a referenced standard specifies that the assignment of a risk category be in accordance with ASCE 7, Table 1.5-1, Table 1604.5 shall be used in lieu of ASCE 7, Table 1.5-1.

**TABLE 1604.5  
 RISK CATEGORY OF BUILDINGS AND OTHER STRUCTURES**

- 1.a.For purposes of occupant load calculation, occupancies required by Table 1004.5 to use gross floor area calculations shall be permitted to use net floor areas to determine the total occupant load.
- 2.b.Where approved by the building official, the classification of buildings and other structures as Risk Category III or IV based on their quantities of toxic, highly toxic or explosive materials is permitted to be reduced to Risk Category II, provided it can be demonstrated by a hazard assessment in accordance with Section 1.5.3 of ASCE 7 that

a release of the toxic, highly toxic or explosive materials is not sufficient to pose a threat to the public.

### **1606.2 Design dead load**

Reference to weight of fixed service equipment **has been removed** from Section 1606.2 and new section specific to fixed service equipment has been added for correlation with ASCE 7

New section **1606.3** specifically addresses variable weight fixed service equipment.

### **1606.3 Weight of fixed service equipment.**

In determining *dead loads* for purposes of design, the weight of fixed service equipment, including the maximum weight of the contents of fixed service equipment, shall be included. The components of fixed service equipment that are variable, such as liquid contents and movable trays, shall not be used to counteract forces causing overturning, sliding, and uplift conditions in accordance with Section 1.3.6 of ASCE 7.

**Exception:** Where force effects are the result of the presence of the variable components, the components are permitted to be used to counter those *load effects*. In such cases, the structure shall be designed for force effects with the variable components present and with them absent.

### **1606.4 Photovoltaic panel system**

New section requiring weight of photovoltaic panel systems, their support system, and ballast to be considered as dead load.

### **1606.4 Photovoltaic panel systems.**

The weight of *photovoltaic panel systems*, their support system, and ballast shall be considered as *dead load*.

### **1606.5 Vegetative and landscaped roofs**

Criteria from Section 1607.12.3.1 regarding vegetative and landscaped roof dead loads has been relocated to new Section 1606.5

### **1606.5 Vegetative and landscaped roofs.**

The weight of all landscaping and hardscaping materials for vegetative and landscaped roofs shall be considered as *dead load*. The weight shall be computed considering both fully saturated soil and drainage layer materials and fully dry soil and drainage layer materials to determine the most severe *load effects* on the structure.

### 1607.14.2 Vertical Impact force

Section revised to clarify that increasing the wheel loads determines the total load, not just the increase due to impact or vibration.

#### 1607.14.2 Vertical impact force.

The maximum wheel loads of the crane shall be increased by the following percentages to account for the effects of vertical impact or vibration:

Monorail cranes (powered)	25 percent
Cab-operated or remotely operated bridge cranes (powered)	25 percent
Pendant-operated bridge cranes (powered)	10 percent
Bridge cranes or monorail cranes with hand-gearred bridge, trolley and hoist	0 percent

### 1607.16 Fixed ladders

New live loads added for fixed ladders to coordinate with ASCE 7.

#### 1607.16 Fixed ladders.

Fixed ladders with rungs shall be designed to resist a single concentrated *load* of 300 lb (1.33 kN) in accordance with Section 4.5.4 of ASCE 7. Where rails of fixed ladders extend above a floor or platform at the top of the ladder, each side rail extension shall be designed to resist a single concentrated *load* of 100 lb (0.445 kN) in accordance with Section 4.5.4 of ASCE 7. Ship's ladders shall be designed to resist the *stair loads* given in Table 1607.1.

### 1607.21 Seating for assembly uses

Live load criteria for bleachers, folding and telescopic seating and grandstands has been relocated from Table 1607.1 to new Section 1607.21.

#### 1607.21 Seating for assembly uses.

Bleachers, folding and telescopic seating and grandstands shall be designed for the loads specified in ICC 300. Stadiums and arenas with fixed seats shall be designed for the horizontal sway loads in Section 1607.21.1.

#### 1607.21.1 Horizontal sway loads

New section requires the design of stadiums and arenas with fixed seats to be designed for sway loads that are consistent with ICC 300

### **1607.21.1 Horizontal sway load.**

The design of stadiums and arenas with fixed seats shall include horizontal swaying forces applied to each row of seats as follows:

1. 24 pounds per linear foot (0.35 kN/m) of seat applied in a direction parallel to each row of seats.
2. 10 pounds per linear foot (0.15 kN/m) of seat applied in a direction perpendicular to each row of seats.

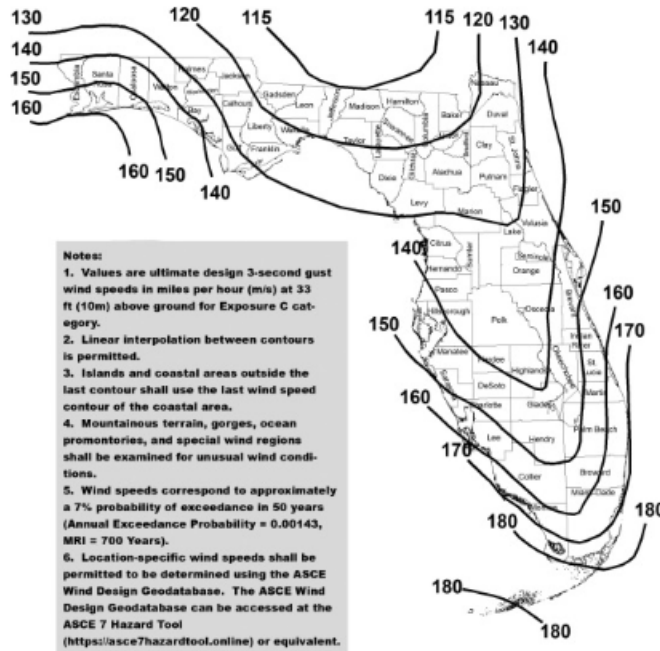
The parallel and perpendicular horizontal swaying forces are not required to be applied simultaneously.

### **1609.3 Ultimate design wind speed**

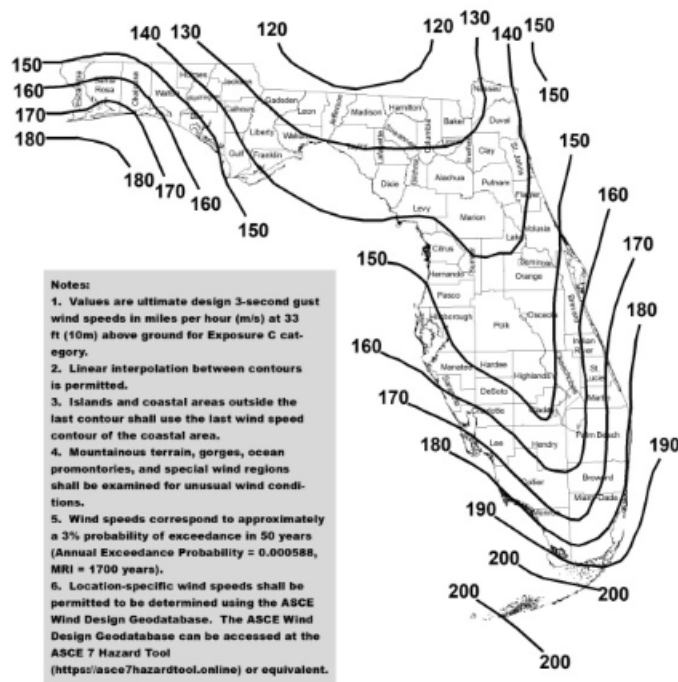
Ultimate design wind speeds have been updated to correlate with ASCE 7-22. Wind speeds are unchanged for most of Florida except for the panhandle area where wind speeds have increased slightly in some areas. A new note has been added permitting location-specific wind speeds to be determined using the ASCE Wind Design Geodatabase.

### **1609.3 Ultimate design wind speed.**

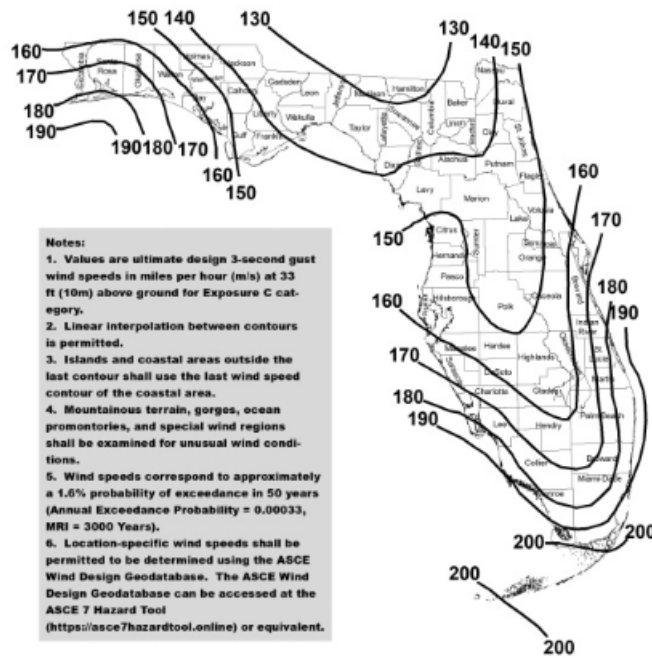
The ultimate design wind speed,  $V_{ult}$ , in mph, for the determination of the wind loads shall be determined by Figures 1609.3(1), 1609.3(2), 1609.3(3) and 1609.3(4). The ultimate design wind speed,  $V_{ult}$ , for use in the design of Risk Category II buildings and structures shall be obtained from Figure 1609.3(1). The ultimate design wind speed,  $V_{ult}$ , for use in the design of Risk Category III buildings and structures shall be obtained from Figure 1609.3(2). The ultimate design wind speed,  $V_{ult}$ , for use in the design of Risk Category IV buildings and structures shall be obtained from Figure 1609.3(3). The ultimate design wind speed,  $V_{ult}$ , for use in the design of Risk Category I buildings and structures shall be obtained from Figure 1609.3(4). The ultimate design wind speed,  $V_{ult}$ , for the special wind regions indicated near mountainous terrain and near gorges shall be in accordance with local jurisdiction requirements. The ultimate design wind speeds,  $V_{ult}$ , determined by the local jurisdiction shall be in accordance with Chapter 26 of ASCE 7. The exact location of wind speed lines shall be established by local ordinance using recognized physical landmarks such as major roads, canals, rivers and lake shores wherever possible.



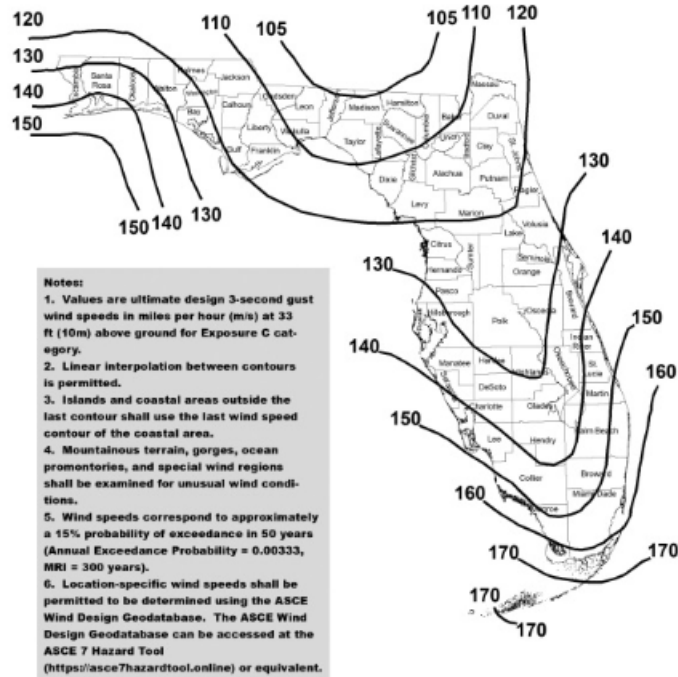
**1609.3 (1) Ultimate Design Wind Speed,  $V_{ult}$ , for Risk Category II Buildings and Other Structures**



**1609.3(2) Ultimate Design Wind Speed,  $V_{ult}$ , for Risk Category III Buildings and Other Structures**



**1609.3(3) Ultimate Design Wind Speed,  $V_{ult}$ , for Risk Category IV Buildings and Other Structures**



**1609.3(4) Ultimate Design Wind Speed,  $V_{ult}$ , for Risk Category I Buildings and Other Structures**



### **1609.5 Tornado loads**

New section added requiring the design and construction of Risk Category III and IV buildings and structures to be in accordance with Chapter 32 (Tornado Loads) of ASCE 7.

#### **1609.5 Tornado loads.**

The design and construction of *Risk Category III and IV buildings and other structures shall be in accordance with Chapter 32 of ASCE 7, except as modified by this code.*

### **1609.6 Roof systems.**

Roof systems shall be designed and constructed in accordance with Sections 1609.6.1 through 1609.6.3, as applicable.

#### **1609.6.1 Roof deck.**

The roof deck shall be designed to withstand the wind pressures determined in accordance with ASCE 7. Where design for tornado loads is required, the roof deck shall be designed to withstand the greater of wind pressures or tornado pressures determined in accordance with ASCE 7.

### **1610.2 Uplift loads on floor and foundations**

New section added addressing uplift loads on floors and foundations due to hydrostatic pressure and expansive soils.

#### **1610.2 Uplift loads on floor and foundations.**

Basement floors, slabs on ground, foundations, and similar approximately horizontal elements below grade shall be designed to resist uplift *loads* where applicable. The upward pressure of water shall be taken as the full hydrostatic pressure applied over the entire area. The hydrostatic *load* shall be measured from the underside of the element being evaluated. The design for upward *loads* caused by expansive soils shall comply with Section 1808.6.

### **1611 Rain loads**

Section revised to correlate the rain load provisions with ASCE 7-22.

New language adds the ponding head deflection ( $d_p$ ) into the rain load calculation. from the AISC Specification. A new SDSL pointer has been added to serve as a warning that the primary drainage system is blocked.

The design storm return period for determination of hydraulic head is now based on risk category.

Figure 1611.1 has been deleted.

## **SECTION 1611 RAIN LOADS**

### **1611.1 Design rain loads.**

Each portion of a roof shall be designed to sustain the load of rainwater as per the requirements of Chapter 8 of ASCE 7. Rain loads shall be based on the summation of the static head,  $d_s$ , hydraulic head,  $d_h$ , and ponding head,  $d_p$  using Equation 16-19. The hydraulic head shall be based on hydraulic test data or hydraulic calculations assuming a flow rate corresponding to a rainfall intensity equal to or greater than the 15-minute duration storm with return period given in Table 1611.1. The ponding head shall be based on structural analysis as the depth of water due to deflections of the roof subjected to unfactored rain load and unfactored dead load.

$$R = 5.2(d_s + d_h + d_p)$$

Equation 16-19(Equation 16-19)

For SI:  $R = 0.0098(ds + dh + dp)$

where:

$d_h$  = Hydraulic head equal to the depth of water on the undeflected roof above the inlet of the secondary drainage system for structural loading (SDSL) required to achieve the design flow in inches (mm).

$d_p$  = Ponding head equal to the depth of water due to deflections of the roof subjected to unfactored rain load and unfactored dead load in inches (mm).

$d_s$  = Static head equal to the depth of water on the undeflected roof up to the inlet of the secondary drainage system for structural loading (SDSL) in inches (mm).

$R$  = Rain load in psf (kN/m<sup>2</sup>).

SDSL is the roof draining system through which water is drained from the roof when the drainage systems listed in ASCE 7, Section 8.2(a) through (d) are blocked or not working.

**TABLE 1611.1 DESIGN STORM RETURN PERIOD BY RISK CATEGORY**

RISK CATEGORY	DESIGN STORM RETURN PERIOD
I & II	100 years
III	200 years
IV	500 years

**1612.50 Flood hazard documentation**

New language added permitting licensed professional surveys or mappers to prepare and seal flood hazard documentation.

For dry floodproofed nonresidential buildings construction documents are now required to include the flood emergency plan specified in Chapter 6 of ASCE 24 and the elevation to which the building is dry floodproofed.

In coastal high hazard areas and coastal A zones, construction documents are required to include a statement that the design will provide for equalization of hydrostatic flood forces in accordance with Section 2.7.2.2 of ASCE 24 for breakaway walls where provisions to allow for the automatic entry and exit of floodwaters do not meet the minimum requirements in Section 2.7.2.1 of ASCE 24.

**1612.5 Flood hazard documentation.**

The following **documentation shall be prepared and sealed by a licensed professional surveyor and mapper or a registered design professional**, as applicable, and submitted to the building official:

1.For construction in flood hazard areas other than coastal high hazard areas or coastal A zones:

1.1.The elevation of the lowest floor, including the basement, as required by the lowest floor elevation inspection in Section 110.3, Building, 1.1 and for the final inspection in Section 110.3, Building, 5.1.

1.2.For fully enclosed areas below the design flood elevation where provisions to allow for the automatic entry and exit of floodwaters do not meet the minimum requirements in Section 2.7.2.1 of ASCE 24, construction documents shall include a statement that the design will provide for equalization of hydrostatic flood forces in accordance with Section 2.7.2.2 of ASCE 24.

1.3. For dry floodproofed nonresidential buildings, construction documents shall include a statement that the dry floodproofing is designed in accordance with ASCE 24 and shall include the flood emergency plan specified in Chapter 6 of ASCE 24.

1.4. For dry floodproofed nonresidential buildings, the elevation to which the building is dry floodproofed as required for the final inspection in Section 110.3, Building, 6.1.

2. For construction in coastal high hazard areas and coastal A zones:

2.1. The elevation of the bottom of the lowest horizontal structural member as required by the lowest floor elevation inspection in Section 110.3, Building, 1.1 and for the final inspection in Section 110.3, Building, 5.1.

2.2. Construction documents shall include a statement that the building is designed in accordance with ASCE 24, including that the pile or column foundation and building or structure to be attached thereto is designed to be anchored to resist flotation, collapse and lateral movement due to the effects of wind and flood loads acting simultaneously on all building components, and other load requirements of Chapter 16.

2.3. For breakaway walls designed to have a resistance of more than 20 psf (0.96 kN/m<sup>2</sup>) determined using allowable stress design, construction documents shall include a statement that the breakaway wall is designed in accordance with ASCE 24.

2.4. For breakaway walls where provisions to allow for the automatic entry and exit of floodwaters do not meet the minimum requirements in Section 2.7.2.1 of ASCE 24, construction documents shall include a statement that the design will provide for equalization of hydrostatic flood forces in accordance with Section 2.7.2.2 of ASCE 24.

#### **1616.2.1 Fences**

Section revised to clarify that the minimum design wind speeds for fences not exceeding 6 feet height are “allowable wind speeds.”

#### **1616.2.1 Fences.**

Fences not exceeding 6 feet (1829 mm) in height from grade may be designed for allowable wind speeds of 75 mph (33 m/s) fastest mile wind speed or 115 mph (40 m/s) 3-second gust.

### **1620.7 Tornado loads**

New section added requiring the design and construction of Risk Category III and IV buildings and structures to be in accordance with Chapter 32 (Tornado Loads) of ASCE 7.

### **1620.7 Tornado Loads.**

The design and construction of Risk Category III and IV buildings and other structures shall be in accordance with Chapter 32 of ASCE 7.

### **Conclusion:**

This concludes the course Advanced 2023 8th Edition FBCB Significant Code Changes. For more information on the Florida Building Code, visit [www.floridabuilding.org](http://www.floridabuilding.org).

