

## AAA Construction School

## 2010 Florida Building Code, Building Building/Structural Summary

**Provider No.:** 

**Contact Hours: 1 hour (1 CEH)** 

Title: 2010 FBC, Building, Building/Structural

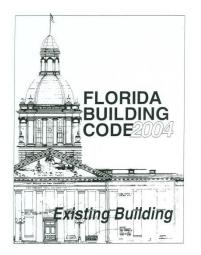
**Summary** 

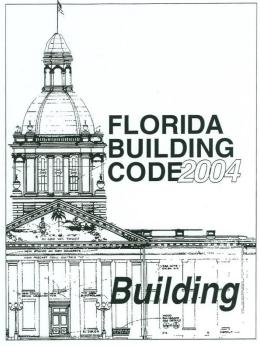
**CEU: 1 Hour Advanced Module** 

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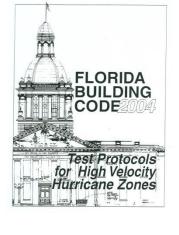
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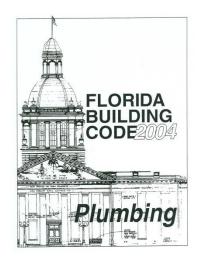
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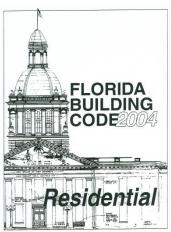


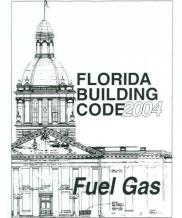












- This course is an summary of significant changes in the 2010 Florida Building Code, Building.
- The changes reflect changes in the base code and Florida Specific Amendments (FSA).
- Implementation Date March 15, 2012.



- The 2009 International Building Code (IBC) is the base code for the Florida Building Code, Building (FBCB).
- The 2009 International Residential Code (IRC) is the base code Florida Building Code, Residential (FBCR).



- The Florida Building Code, Building provisions apply to every building except:
  - Detached one- and two-family dwellings, and townhouses of not more than 3 stories.
    - Requires compliance with the Florida Building Code, Residential.
  - Existing buildings.
    - Requires compliance with Chapter 34 which refers to the Florida Building Code, Existing Buildings.



- Chapter 1 of the Florida Building Code, Building, is the administrative chapter for all volumes of the FBC.
- Chapter 1 of the Residential, Mechanical, Plumbing, Existing Building, and Gas volumes of the FBC refer to Chapter 1, Administration, of the Florida Building Code, Building, to govern the administration and enforcement.



- Accessibility and energy are now separate volumes of the code.
- Chapter 11 refers to the 2012 Florida Accessibility Code.
- Chapter 13 refers to the Florida Building Code, Energy Conservation.



#### **102 APPLICABILITY**

- 102.2 Building.
- 102.2(i) New subsection adding family mausoleums to list of exemptions.
  - 250 sq. ft. or less.
  - prefabricated and assembled on site or preassembled and delivered on site.



# 102 APPLICABILITY 102.2 Building.

- 102.2(j) New subsection adding temporary prisoner housing to list of exemptions.
  - Provided by DOC to any prisoner in state correctional system.



- 102.8 Existing Mechanical Equipment.
- New provision prohibiting jurisdictions from requiring upgrade of the installation of roof mounted equipment until equipment is removed or replaced.



- 105.15 Opening Protection.
- SFR permits applied after July1, 2008.
  - In Wind-Borne Debris Region.
  - Estimated cost of all work  $\geq$  \$50,000.
  - Insured or ad valorem value ≥ \$750K
- Opening protection required.
- Exception for SFR permitted under FBC.

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- 107.3 Examination of Documents.
- Photocopies of plans approved by DBPR (formerly DCA) are permitted for modular buildings for permit application.
- Plans approved per FAC 9-B.1.009, F.A.C.



- 107.3.5 Minimum plan review criteria for buildings.
- Adds new items required to plan review list for commercial and residential buildings.
- Flood hazard areas.
- Impact resistant coverings or systems.



- 110.3 Required inspections.
- Building Foundation Inspection.
- Adds Item 1.1 for flood hazard areas.
- Submission of elevation certificate AHJ upon placement lowest floor.
- Required to be submitted prior to further vertical construction.



- 110.3 Required inspections.
- Building Item 9:
- Adds impact resistant systems.
- Modifies Item 9 to apply to all impact resistant coverings and systems.



- 110.3 Required Inspections.
- Building Item 9 (cont.)
- Hurricane protection required to comply with
  - Plans,
  - Product Approval,
  - Manufacturer's installation instructions.



- 111.2 Certificate issued.
- Adds 111.2 Item 6 for flood hazard area.
- Requires statement that documentation of the as-built lowest floor was provided and is retained in building department records prior to issuance of C of O.



### Chapter 2: Addition

- Add number of stories to definition.
- ADDITION. An extension or increase in floor area, <u>number of stories</u> or height of a building or structure.



### Chapter 2: Flood Hazard Area

- Definition of existing construction changed from Reserved to reference to Section 1612.2.
- Adopts definition of base code.
- Adds definition of Floodplain Management Ordinance.



## Chapter 2: Means of Escape

- Definition modified to limit application to when installing protection during threat of storm.
- Definition modified to clarify during threat of storm with hurricane protection installed means of escape is in lieu of means of egress, not in addition.

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### Chapter 2: Definitions

- Substantial Improvement.
  - Deletes reference to Ch. 161.54(12)FS.
  - Adopts base code definition.



#### 503.1.1 Special industrial occupancies.

- Florida Specific Amendment.
- Base code text allowing unlimited height and area deleted and section reserved.



#### 507 Unlimited Area Buildings.

507.4 Two Story.

- Previously Reserved.
- Base code language adopted.

#### **507 Unlimited Area Buildings.** (cont.)

- Permits unlimited area for two story Group B, F, M, or S of any construction type when fully sprinklered and surrounded by public ways or yards not less than 60 feet.
- 60 feet clear space may be reduced to 40 feet for 75% of building perimeter.



#### 507 Unlimited Area Buildings.

507.11 Motion Picture theaters.

- Adopts language of base code.
- Delete reference to proscenium opening.
- Deletes Types IIIA and IV construction.
- Limits to one story above grade plane.
- Fully Sprinklered.
- 60 feet clear space on perimeter.
  - May be reduced to 40 feet for 75% of perimeter.



- Provides data on how to apply the specific requirements for structural fire resistance and to safeguard against the spread of fire and smoke from building to building and within buildings.
- Provides prescriptive fire-resistance based on materials and calculated fire-resistance data.



## 703 FIRE-RESISTANCE RATING AND FIRE TESTS

- Required to meet ASTM E 119
- Evaluates ability of element or assembly to meet structural integrity and fire containment criteria based on time.
- Alternate methods provided at Section 703.3.



#### 706 Fire Walls – Party Walls.

 Deletes Florida Specific Amendment (FSA) requiring 4-hour fire walls for creating separate buildings when related to building height and area.



#### 706 Fire Walls – Party Walls. (cont.)

- Deletes FSA requiring party walls to provide 4-hour fire resistance rating.
- Deletes FSA Note e to Table 706.4, Fire Walls, requiring 4-hrs for separate building.

#### TABLE 706.4: FIRE WALL FIRE-RESISTANCE RATINGS <sup>c</sup>

GROUP	FIRE-RESISTANCE RATING (hours)						
A, B, D, E, H-4, I, R-1, R-2, U	3 <b>a</b>						
F-1, H-3 <b>b</b> , H-5, M, S-1	3						
H-1, H-2	4 b						
F-2, S-2, R-3, R-4	2						

- <sup>a</sup> Walls shall be not less than 2-hour fire-resistance rated where separating buildings of Type II or V construction.
- **b** For Group H-1, H-2 or H-3 buildings, also see Sections 415.4 and 415.5.
- For the purposes of determining height and area in accordance with Table 503, fire walls dividing buildings into separate building shall provide a 4-hour fire resistance rating.

  Base Code



#### **707 FIRE BARRIERS**

- Assemblies with required fire resistance rating used to separate fire areas, exits, and mixed use areas.
- Similar to requirements for fire walls, but less restrictive.



The required locations of fire barriers are generally provided in other sections of the Code, such as Chapter 10 for exits and Chapter 5, Table 508.4 for mixed occupancy separation.

#### TABLE 508.4 REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

OCCUPANCY	A <sup>d</sup> , E		I-1, I-3, I-4		I-2		R		F-2, S-2 <sup>b</sup> , U		B, F-1, M, S-1		H-1		H-2		H-3, H-4, H-5	
	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS
A <sup>d</sup> , E	N	N	1	2	2	NP	1	2	N	1	1	2	NP	NP	3	4	2	3ª
I-1, I-3, I-4		-	N	N	2	NP	1	NP	1	2	1	2	NP	NP	3	NP	2	NP
1-2	_	100		-	N	N	2	NP	2	NP	2	NP	NP	NP	3	NP	2	NP
R	-	<u>1930</u>	623	3 <u>—</u> 3		-	N	N	1 <sup>c</sup>	2c	1	2	NP	NP	3	NP	2	NP
F-2, S-2 <sup>b</sup> , U	128	=	-	-	_	523	_	_	N	N	1	2	NP	NP	3	4	2	3ª
B, F-1, M, S-1	_	-		_	_	-	-		_	_	N	N	NP	NP	2	3	1	2ª
H-1	-	_	-	S	-	-	_	-	-	-	2-3	-	N	NP	NP	NP	NP	NP
H-2	17-24	-			_		-	- <del>- 1111</del>		_		_	_	-	N	NP	1	NP
H-3, H-4, H-5	9 <u>—</u> 8	(53)	<u>[624</u>	8_8	<u>- 1</u>	<u>-</u>	802	<u>[625</u>	35 <u>—3</u> 5	8_8	<u> 2</u> 3	8023	3000	2_2	<u> </u>	<u></u>	1e, f	NP

For SI: 1 square foot =  $0.0929 \text{ m}^2$ .

- S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
- NS = Buildings not equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
- N = No separation requirement.
- NP = Not permitted.
- a. For Group H-5 occupancies, see Section 903.2.5.2.
- b. The required separation from areas used only for private or pleasure vehicles shall be reduced by 1 hour but to not less than 1 hour.
- c. See Section 406.1.4.
- d. Commercial kitchens need not be separated from the restaurant seating areas that they serve.
- e. Separation is not required between occupancies of the same classification.
- f. For H-5 occupancies, see Section 415.8.2.2.



#### **709 FIRE PARTITIONS**

- Sections 708.14.1, 709.1, and 1018.1 establish where fire partitions are required.
- 709.1 General. Exception 4 Modified in FBC 2010:
- Deletes requirement for tenant separation in all fully sprinklered buildings except those with dwelling units or sleeping units.



#### 712 Horizontal Assemblies.

- 712.3 Fire-resistance rating.
- Deletes requirement for floor assemblies between tenants to be fire rated except dwelling and sleeping units.
- Deletes Exception from tenant separation in Type IIB, IIIB, and VB covered mall buildings.



# CHAPTER 8: INTERIOR FINISHES

#### 801.5 Applicability.

 Add reference to the elevation required by Section 1612.4



### Chapter 9: Fire Protection Systems

#### 903 AUTOMATIC SPRINKLER SYSTEMS

- 903.2.1. Group A-3.
- Removes Exception for assembly occupancies used for worship with fixed seating from sprinkler requirements.

# Chapter 9: Fire Protection Systems

## 903 AUTOMATIC SPRINKLER SYSTEMS

- Provisions for buildings three stories or more in height (§903.6) to formerly reserved §903.2.11.3.
- Provisions related to townhouses and sprinklers relocated to §903.2.11.3.



#### 905 STAND PIPE SYSTEMS.

- Standpipe provisions rewritten to clarify.
- 907.2.2 Group B Manual Fire Alarm.
- Exception added for fully sprinklered buildings where occupant notification appliances will activate throughout notification zones with water flow.



### 909 Smoke Control Systems

- Special inspections and tests required to verify smoke control system design in final installed condition.
- Construction documents of design to detail procedures and methods to be used and items subject to inspections and tests.



## Chapter 9: Fire Protection Systems

#### 916 Carbon monoxide protection.

Adds provisions for the power source for carbon monoxide alarms.



#### **1001 ADMINISTRATION**

• **[F] 1001.3 Maintenance.** Means of egress shall be maintained in accordance with the *Florida Fire Prevention Code*.



- 1001 ADMINISTRATION (cont.)
- **1001.4 Alterations.** A building shall not hereafter be altered to reduce the capacity of the means of egress to less than required by this chapter nor shall any change of occupancy be made in any building unless such building conforms with the requirements of this chapter.



- 1001 ADMINISTRATION (cont.)
- Exception: Existing stairs shall be permitted to remain in use provided they comply with the requirements of the building code in effect at the time of original construction.



- 1001 ADMINISTRATION (cont.)
- **1001.5** Where approved by the Building Official, existing stairs shall be permitted to be rebuilt in accordance with the dimensional criteria of the building code in effect at the time of original construction provided: (see notes)



- Numerous changes to delete Florida Specific Amendments and adopt base code language.
- 1003.3.3 Horizontal Projections.
- 1003.3.4 Clear Width.
- 1003.4 Walking surface.
- 1003.5 Elevation change.

#### 1008.1.10 Panic and fire exit hardware.

- Florida Specific Amendment.
- Requires panic hardware on gates for residential and commercial swimming pool decks that:
- Serve as portion of means of egress from building; or,
- Have an occupant load of 300 or more.



- 1009 Stairways
- 1009.4.2 Riser height and tread depth
- Eliminates Florida Specific Amendment permitting 9" treads and configuration of the sum of two risers and a tread at not less than 24" nor more than 25".

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- 1009.4.2 Riser height and tread depth
- Minimum tread depth 10".
- Min winder tread depth at walk line 10".
- Nosing not less than ¾".
- Nosing not more than 1 ¼ " for stairways with solid risers and treads less than 11".



- 1009.13 Stairway to roof.
- Deletes Florida Specific Amendment in favor of base code.
- Adds alternating tread device for stairways to unoccupied roofs.
- Deletes requirement for signage indicating stair goes to roof.



- 1011 Exit Signs.
- Deletes Florida Specific Amendment adopting provisions of fire code.
- Adds new Exceptions.



- 1013.3 Opening limitations.
- Adds reference to HVHZ sections of code for HVHZ guard provisions.
  - 1618.4.3 other than Group R 6" sphere.
  - 1618.4.4 Group R 4" sphere.



### CHAPTER 12: Interior Environment

#### **1202.1 Sunroom.**

- Definition modified.
- Roof panels changed from structural to solid.
- Glass, windows side-hinged and sliding and glass doors added to open areas.

### CHAPTER 12: SUNROOM DEFINITION

2. A one-story structure added to a dwelling with structural solid roof panels without sloped glazing. The sunroom walls may have any configuration, provided the open areas with operable or fixed glass or windows or side hinged or sliding glass doors of the longer wall and one additional wall is equal to at least 65 percent of the area below 6 foot 8 inches of each wall, measured from the floor. For the purposes of this code the term sunroom as used herein shall include conservatories, sunspaces, solariums, and porch or patio covers or enclosures

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### CHAPTER 12: Interior Environment

#### 1203.3 Underfloor Ventilation

- 1203.3.2 Exceptions:
- Renumbers Item 5 related to design by Florida architect or engineer to eliminate venting.
- Adds new Number 5 for flood hazard areas.



### **1210** Surrounding Materials.

- 1210.1 Floors and wall base.
- Formerly smooth, hard, non-absorbent floor only with non-absorbent material extending 6 inches up wall.
- Changed to extending 4" up wall.



### 1210 Surrounding Materials.

- 1210.2 Walls and partitions.
- Walls and partitions within 2 ft. of urinals and water closets required to have smooth, hard, non-absorbent surface not affected by moisture to height of 4 feet above floor.



### CHAPTER 12: Interior Environment

### **Exceptions**

- 1. Dwelling units and sleeping units.
- 2. Toilet rooms that are not accessible to the public and which have not more than one water closet.
- Accessories such as grab bars, towel bars, paper dispensers and soap dishes, provided on or within walls, shall be installed and sealed to protect structural elements from moisture. For walls and partitions also see Section 2903.



- Section 1403.2 Weather protection.
- Removes Florida Specific Amendment requiring exterior finishes to be applied in accordance with manufacturer's instructions.



- Section 1403.2 Weather protection.
- Removes Florida Specific Amendment reference to non-porous masonry in Exception to weather resistant exterior wall envelope.



- 1404.5.1 Aluminum Siding.
- Modifies reference standard AAMA 1402 test criteria.
  - Deletes reference to ASCE 7-98 and refers to FBCB Section 1609.1.1.
  - Deletes 0.5 "pressure equalization" factor which resulted in 50% reduction of design pressure.



- **1404.9 Vinyl siding and soffit.** (FSA)
- Adds soffit to section on vinyl siding.
- 1404.9.2 Adds requirement for labeling of manufactured soffit materials and systems.
- 1404.10 Adds base code language for fiber-cement siding correcting the type material to Type A. (Base Code)

#### 1405.5 Wood Veneers.

- Types I, II, III, and IV Construction Item 1.
- Base code changed allowing wood veneer to 40 feet above grade
  - FBCB 2007 limited to three stories.
- Base code changed allowing fire retardant treated wood veneer to 60 feet above grade
  - FBCB 2007 limited to four stories.



### **1405.6.2** Wind Requirements.

- Modifies wind speeds of referenced standard TMS 402 for anchored veneer to reflect adoption of ASCE 7-2010.
- From 110 mph to 130 mph (§6.2.2.1).
- Range of 110 mph to 130 mph changed to 130 mph to 150 mph (§6.2.2.11).



#### 1405.9 Terra cotta.

- Specifies tied terra cotta or ceramic veneer units to be not less than 1 <sup>5</sup>/<sub>8</sub> inches in thickness.
- Adds anchorage requirement's for terra cotta and ceramic units ≥ 1 <sup>5</sup>/<sub>8</sub> inches in thickness.



### 1405.14 Vinyl Siding.

 Provides for use of nominal design wind speed, V<sub>asd</sub>. For vinyl siding.

### **1405.14.1** Application.

Adopts language of base code.

### Chapter 15: Roof Assemblies and Rooftop Structures

#### 1503.6 Crickets and saddles.

- Requires cricket or saddle at the ridge side of any chimney or roof penetration greater than 30" wide.
  - Measured perpendicular to slope.
- Cricket or saddle covering shall be sheet metal or same material as roof covering.



### Chapter 15: Roof Assemblies and Rooftop Structures

- 1504.5 Edge securement for low slope roofs.
- Adds reference to new wind speed maps.
- Figures 1609B and 1609C, as applicable.

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### Chapter 15: Roof Assemblies and Rooftop Structures

#### 1505.8 Photovoltaic systems.

Rooftop installed photovoltaic systems adhered or attached to roof coverings or modules/shingles installed as roof covering to be labeled for fire classification IAW §1505.1.



- 1507.2.8.1 High wind attachment.
- Provides reference to nominal wind speeds (V<sub>asd</sub>) for underlayment in areas subject to winds greater than 110 mph as determined in accordance with Section 1609.3.1.



### Chapter 15: Roof Assemblies and Rooftop Structures

 A number of changes to roof tile provisions updating the FRSA/TRI 07320 manual and allowing RAS 118, 119, or 120.



## Chapter 15: Roof Assemblies and Rooftop Structures

- 1507.15.3 Roof coating.
- Florida Specific Amendment permitting elastomeric and/or maintenance coating systems over existing asphalt shingles in accordance with shingle manufacturer's approved installation instructions.



## Chapter 15: Roof Assemblies and Rooftop Structures

- 1507.17 Building integrated photovoltaic roofing modules/shingles.
- A new Florid Specific Amendment addressing labeling, attachment, and wind resistance.



ASCE 7-2005 updated to ASCE 7-2010

# Changes ASCE 7-10

- Changes building classification to Risk Category.
- Reorganization of wind load provisions.
- Reintroduction of Exposure D.
- Changes to basic wind speed map.
- Changes to wind-borne debris regions.
- Introduction of new simplified methods.

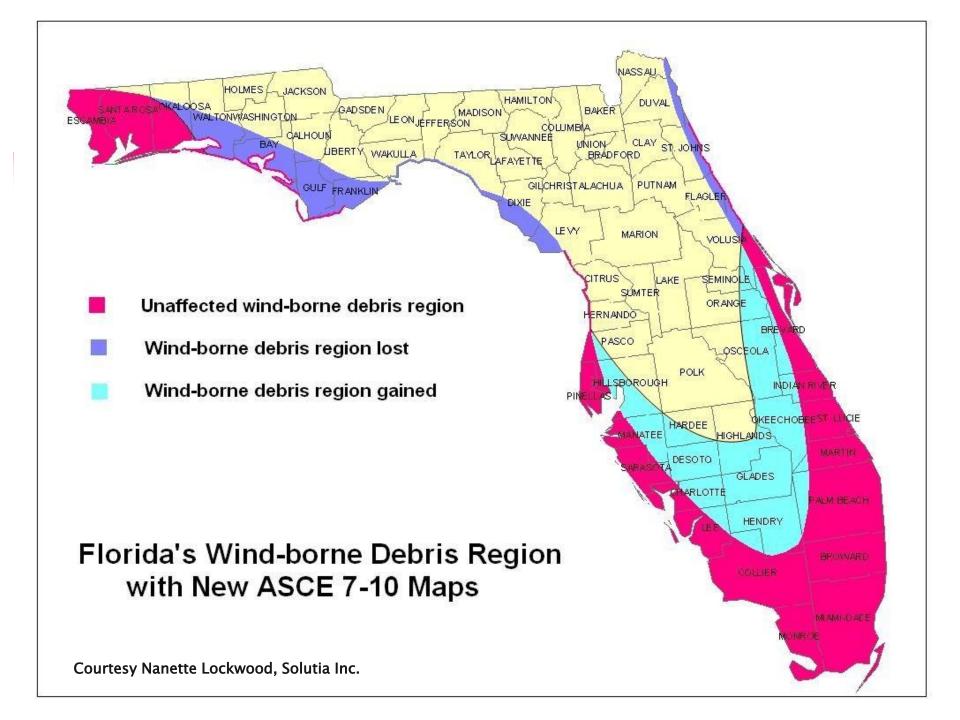


# Wind-Borne Debris Region

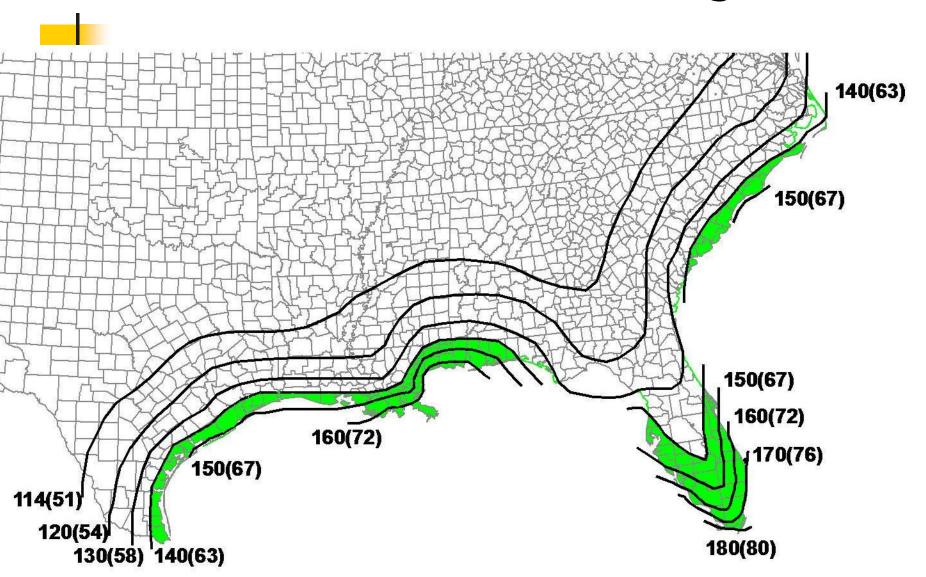
- Wind-borne debris region triggered by wind speed
- New wind speeds necessitate recalibration of the trigger.
- Map used to determine if in wind-borne debris region will vary by building Risk Category.



- WIND-BORNE DEBRIS REGIONS: Areas within hurricane prone regions located:
- Within 1 mile of the coastal mean high water line where the basic wind speed, for the building category under consideration, is equal to or greater than 130 <del>110</del> mi/h and in Hawaii, or
- In areas where the basic wind speed, for the building category under consideration, is equal to or greater than 140 <del>120</del> mi/h.



### New Wind-borne Debris Region



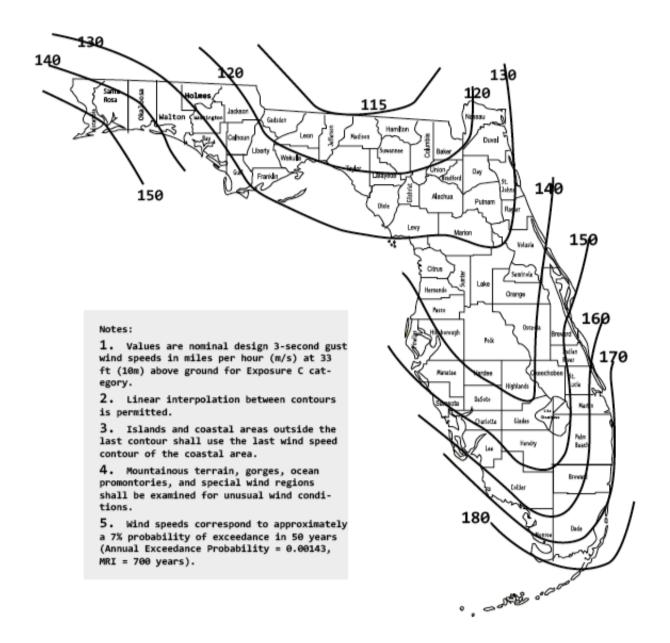


Figure 1609A Ultimate Design Wind Speeds,  $V_{ult}$  for Risk Category II Buildings and Other Structures

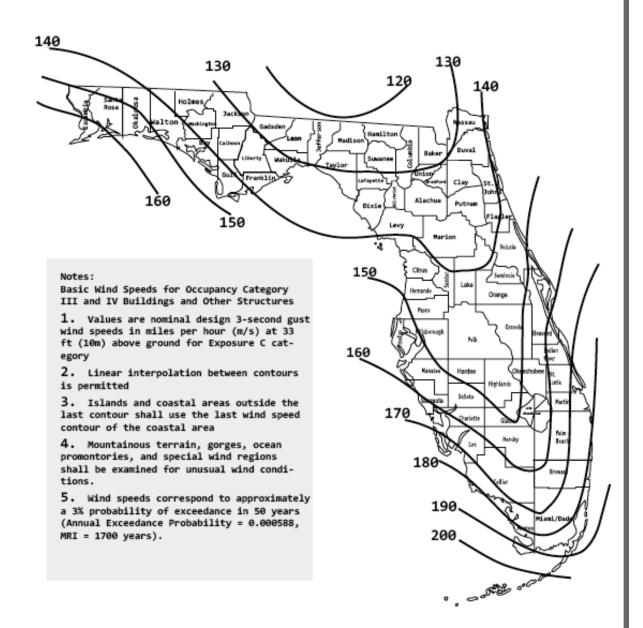


Figure 1609B Ultimate Design Wind Speeds, V<sub>ult</sub>, for Risk Category III and IV Buildings and other Structures

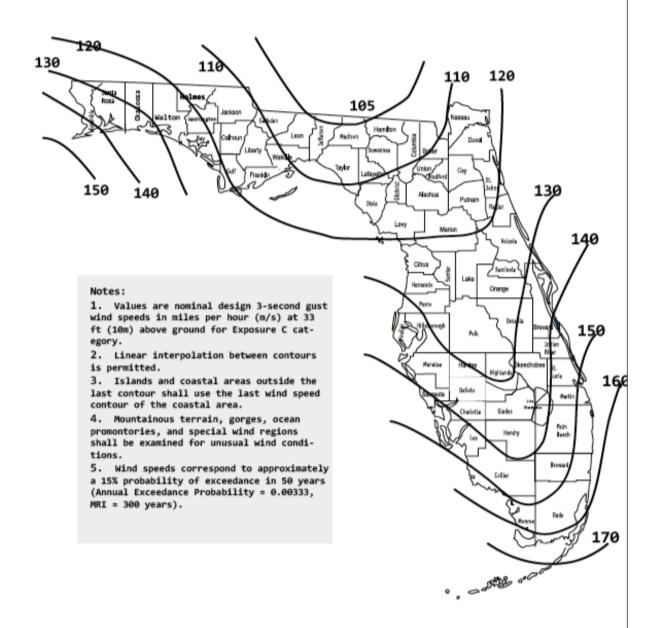


Figure 1609C Ultimate Design Wind Speeds,  $V_{ult}$  for Risk Category I Buildings and other Structures



#### CHAPTER 17: STRUCTURAL TESTS & SPECIAL INSPECTIONS

- Adds provisions for tubular daylighting devices under skylight section.
- Adopts AAMA 501 for testing of glazed curtain wall, window wall and storefront systems
- 1715.9 FSA establishing requirements for product approval, labeling, and installation of soffits.



#### CHAPTER 20: LIGHT METAL ALLOYS

#### 2002 STRUCTURAL ALUMINUM.

- Reduces design load downward for purlins from 300 lb. to 200 lb.
- Clarifies application of categories of sunrooms in AAMA 2100.



### **CHAPTER 20: LIGHT METAL ALLOYS**

#### 2002 STRUCTURAL ALUMINUM.

- Modifies AMAA 2100 deleting reference to ASCE 7-98 and adding reference to FBCB §1609.1.1 for determining wind loads for sunrooms.
- Update Table 2002.4 to ASCE 7-2010.



#### **CHAPTER 21 MASONRY.**

- Updates to reflect changes in reference standard section numbers and standard designation.
- HVHZ provisions for unit masonry rewritten to comply with TMS 402/ACI 530/ASCE 5.

#### **CHAPTER 22 STEEL.**

 Florida Specific Amendments deleting seismic provisions carried forward.



# CHAPTER 23: WOOD CHAPTER 24: GLASS & GLAZING

#### **CHAPTER 23 WOOD.**

 Changes to reflect wind speeds of ASCE 7-2010.

#### **CHAPTER 24 GLASS AND GLAZING.**

Added tubular daylighting devices.



# CHAPTER 26: PLASTICS CHAPTER 27: ELECTRICAL

#### **CHAPTER 26 PLASTICS.**

Modifies termite protection provisions.

#### **CHAPTER 27 ELECTRICAL**

 Deletes Exception for pool pumps of oneand-two-family dwellings from GFCI Protection.



# CHAPTER 30: ELEVATORS AND CONVEYING SYSTEMS

- Requires all existing elevators to comply with ASME A17.3.
- Adds definition for alteration related to elevators and conveying systems.
- Amends Rule 3.11.3 of ASME A17.3 relate to the enforcement of Phase II Firefighters' Service.



### CHAPTER 31: SPECIAL CONSTRUCTION

 Adds methods of certifying noise attenuation levels near airports when required by local ordinance.



# CHAPTER 31: SPECIAL CONSTRUCTION



# CHAPTER 31: SPECIAL CONSTRUCTION



**CHAPTER 32: ENCROACHMENT INTO THE** 

**PUBLIC RIGHT OF WAY** 

CHAPTER 33: SAFEGUARDS DURING

CONSTRUCTION

**CHAPTER 34: EXISTING STRUCTURES** 

**CHAPTER 35: REFERENCED STANDARDS** 

**CHAPTER 36: FLORIDA FIRE PREVENTION** 

CODE



# 2010 Florida Building Code, Building Building/Structural Summary

#### Please complete course evaluations