

SENATE STAFF ANALYSIS AND ECONOMIC IMPACT STATEMENT

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

Prepared By: Community Affairs Committee

BILL: CS/SB 1232

SPONSOR: Community Affairs Committee and Senator Lynn

SUBJECT: Wind-Protection Provisions of the Florida Building Code

DATE: March 21, 2005

REVISED: _____

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Vickers	Yeatman	CA	Fav/CS
2.			RI	
3.				
4.				
5.				
6.				

I. Summary:

This committee substitute (CS) directs the Florida Building Commission to update the Florida Building Code with the most recent and relevant design standards for wind resistance of buildings issued by the American Society of Civil Engineers (ASCE Standard 7). The CS also repeals the current option for designing buildings to resist internal pressures when the Commission adopts the relevant national standards prohibiting such design options.

The CS appropriates \$200,000 to the Department of Financial Services to develop a joint program between the Florida Insurance Council and the Florida Home Builders to educate builders on the benefits and options of designing buildings for windborne debris protection. The CS also requires the Commission and local building officials to evaluate the damage from Hurricane Ivan and make recommendations to the Legislature for changes to the Building Code as it relates to the region from the eastern border of Franklin County to the Florida-Alabama line. Finally, the CS instructs the Commission to evaluate the definition of “exposure category C” in the Florida Building Code and make recommendations for changing the definition to the Legislature.

This CS amends section 109, Chapter 2000-141 of the Laws of Florida. This CS also creates unnumbered sections of the Florida Statutes.

II. Present Situation:

The Florida Building Commission established standards for hurricane protection in the Florida Building Code that are based on a national model building code, federal regulations, and standards evolving out of southeast Florida's experience with Hurricane Andrew. Specifically, for protection against hurricane waters, the Code incorporates the flood plain management

standards of the Federal Emergency Management Agency's National Flood Insurance Program for the entire state. For coastal construction it incorporates the Florida "coastal building zone" storm surge protection standards for coastal construction.

Design Standards for Wind Resistance - For protection against hurricane winds, the Florida Building Code adopts the national model building code engineering standard (American Society of Civil Engineers Standard 7, or "ASCE 7-98"). Buildings constructed in regions that are expected to experience hurricane winds of less than 120 mph must be designed to withstand external wind pressures identified for their location. Buildings constructed in regions that are expected to experience hurricane winds of 120 mph or greater must not only be able to withstand external wind pressures but also internal pressures that may result inside a building when a window or door is broken or a hole is created in its walls or roof by large debris. Areas within one mile of the coast that experience at least 110 mph winds are also required to meet the 120 mph standards for external and internal pressures.

The Florida Building Code requires that new homes throughout the state be designed to resist external wind speeds that the standard predicts these homes will experience sometime within a 50 to 100-year time period. In November of 1999, the Commission agreed with the developers of ASCE 7-98 and applied additional requirements in what is called the "wind-borne debris region" to ensure that buildings inside this region will also be able to withstand internal wind pressure caused by the penetration of flying debris. This region includes areas expected to experience winds of 120 mph or greater as well as areas within one mile of the coast that experience at least 110 mph winds.

Wind-Borne Debris Protection - Subsection (3) of s. 109 of ch. 2000-141, L.O.F., directs the Commission to adopt for areas of the state not within the high velocity hurricane zone, pursuant to s. 553.73, F.S., the wind protection requirements of the ASCE, Standard 7, 1998 edition as modified by the Commission in its February 15, 2000, adoption of the Florida Building Code. However, the Legislature stipulated that from the eastern border of Franklin County to the Florida-Alabama line, only land within 1 mile of the coast is subject to the windborne-debris requirements adopted by the Commission. This subsection provides for the exact location of wind speed lines to be established by ordinance using specified physical landmarks, and provides that buildings constructed within the windborne debris region must be either designed for internal pressures resulting from a broken window or door or a hole in the walls or roof, or be designed with protected openings. The subsection further provides that except in the high velocity hurricane zone, local governments may not prohibit the option of designing buildings to resist internal pressures.

Exposure Category C – The ASCE 7 standard considers both wind speeds that can be developed by hurricanes and factors such as terrain and shielding by other buildings which effect the strength of those winds when they impact buildings. Exposure A is characteristic of large cities with large expanses of tall buildings. Exposure B is characteristic of suburban areas with large expanses of short and medium height buildings and wooded areas. Exposure C is characteristic of areas of exposed expanses of open terrain or open water. Section 553.71, F.S., defines "exposure category C" to mean, except in the high velocity hurricane zone, that area which lies within 1,500 feet of the coastal construction control line, or within 1,500 feet of the

mean high tide line, whichever is less. On barrier islands, exposure category C is applicable in the coastal building zone set forth in s. 161.55(5), F.S.

Commission Recommendations - In January, the Commission issued a report entitled, *The Florida Building Code Commission Report to the 2005 Legislature*. This report contained a number of recommendations to improve the effectiveness of the code. The report included the following specific recommendations relating to wind protection provisions:

- Eliminate the edition designation and referenced amendments of the American Society of Civil Engineers, Standard 7 (ASCE 7) currently in Section 109, 2000-141, Laws of Florida, and allow updated editions of the standard to be adopted through updates to the Florida Building Code.
- Eliminate the designation of the wind-borne debris region for the panhandle of Florida from Chapter 2000-141, Laws of Florida, and allow the wind-borne debris region for that area to be determined by the Florida Building Code.
- Eliminate the definition of the wind exposure class C from s. 553.73, F.S., and allow the definition of ASCE 7 as adopted by the Florida Building Code to be used.
- Authorize the Commission to make determinations related to designing for internal pressures.

III. Effect of Proposed Changes:

Section 1 amends s. 109, ch. 2000-141, L.O.F., to require the Florida Building Commission to adopt the most current edition of the wind protection requirements of the American Society of Civil Engineers (ASCE) 7 Standard for the Minimum Design Loads for Buildings and Other Structures as the basis for structural design for wind in the Florida Building Code and removes the obsolete standard (1998 edition) from the Laws of Florida.

Section 2 creates a new section of law to remove the option for designing for internal pressure for buildings within the windborne debris region consistent with the International Building Code and International Residential Code. This section also requires the Commission to initiate rulemaking to incorporate the prohibition into the Florida Building Code when the base code is updated.

Section 3 appropriates \$200,000 from the Insurance Regulatory Trust Fund to the Department of Financial Services to be used to develop a joint program between the insurance industry and the homebuilding industry to educate contractors on the benefits and options available for designing buildings for windborne protection to reduce property loss during a windstorm and to develop a standardized affidavit for verifying insurance discounts for storm-resistant residential construction techniques.

Section 4 provides that the Florida Building Commission, in conjunction with local building officials, shall conduct a review of damage resulting from the Hurricane Ivan and make recommendations to the Legislature for changes to the Florida Building Code as it relates to

region from the eastern border of Franklin County to the Florida-Alabama line. The Commission must issue a report summarizing its findings and recommendations prior to the 2006 Regular Session.

Section 5 creates a new section to require the Florida Building Commission to evaluate the definition of “exposure category C” as currently defined in s. 553.71(10), F.S., and make recommendations for a new definition that more accurately depicts the Florida-specific conditions prior to the 2006 Legislative Session.

Section 6 provides for an effective date of July 1, 2005.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

V. Economic Impact and Fiscal Note:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

None.

C. Government Sector Impact:

The CS appropriates \$200,000 to the Department of Financial Services to develop a joint program between the Florida Insurance Council and the Florida Home Builders to educate builders on the benefits and options of designing buildings for windborne debris protection and to develop an affidavit for verifying insurance discounts for techniques demonstrated to reduce the amount of loss during a windstorm.

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

This Senate staff analysis does not reflect the intent or official position of the bill's sponsor or the Florida Senate.

VIII. Summary of Amendments:

None.

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