**6th Edition (2017) FBC, Existing Building Section 707.3.2**

**Proposed revision**

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**707.3.2 Roof diaphragms resisting wind loads in high-wind regions.**
Where roofing materials are removed from more than 50 percent of the roof diaphragm or section of a building located where the ultimate design wind speed, V*ult*, is greater than 115 mph, as defined in Section 1609 (the HVHZ shall comply with Section 1620) of the *Florida Building Code, Building*, roof diaphragms, connections of the roof diaphragm to roof framing members, and roof-to-wall connections shall be evaluated by a registered design professional for the wind loads specified in the *Florida Building Code, Building*, including wind uplift. If the diaphragms and connections in their current condition are not capable of resisting at least 75 percent of those wind loads, they shall be replaced or strengthened in accordance with the loads specified in the *Florida Building Code, Building*.

 **Exceptions:**

1. This section does not apply to buildings permitted subject to the *Florida Building Code*.
2. This section does not apply to buildings permitted subject to the 1991 *Standard Building Code*, or later edition, or designed to the wind loading requirements of the ASCE 7-88 or later editions, where an evaluation is performed by a registered design professional to confirm the roof diaphragm, connections of the roof diaphragm to roof framing members, and roof-to-wall connections are in compliance with the wind loading requirements of either of these standards or later editions.
3. Buildings with steel or concrete moment resisting frames shall only be required to have the roof diaphragm panels and diaphragm connections to framing members evaluated for wind uplift.
4. This section does not apply to site built single family dwellings. Site-built single-family dwellings shall comply with Sections 706.7 and 706.8.
5. This section does not apply to buildings permitted within the HVHZ after January 1, 1994 subject to the 1994 *South Florida Building Code*, or later editions, or where the building’s wind design is based on the wind loading requirements of ASCE 7-88 or later editions.

**Reason:** This proposed revision resolves a conflict with the mitigation provisions for site-built single family dwellings in Section 706, clarifies who is to perform the evaluation of the structural roof components, and provides additional exceptions for buildings confirmed to be built to modern wind loading criteria.

Where more than 50% of a roof covering is removed, Section 707.3.2 requires specific roof structural elements to be retrofitted where those elements are not capable of resisting at least 75% of the wind loads specified in the FBCB. There is concern that owners will put off needed re-roofing and roof repairs due to the costs associated with the evaluation and retrofitting required in this section. The proposed revisions provide reasonable exceptions to this section while still maintaining the required retrofits for the most vulnerable buildings.

New language is added clarifying that the evaluation of the roof diaphragm, it’s connections to the roof framing members, and roof-to-wall connections is to be performed by a registered design professional. It has been brought to our attention that some jurisdictions are requiring the roofing contractor to perform and verify the capacity of the specified structural roof connections. This new language clarifies that the evaluation is to be performed by a registered design professional.

Two new exceptions are added for correlation with similar requirements for site-built single-family dwellings in Section 706.7 and 706.8. Sections 706.7 and 706.8, often referred to as the mitigation provisions, requires re-nailing of the roof deck, the installation of a secondary water barrier, and the installation of roof-to-wall connections under certain circumstances. However, both Sections provide a blanket exception to these provisions for structures built and permitted to the *Florida Building Code* (any edition). The exception was the result of studies in the aftermath of the hurricanes of 2004 and 2005 which generally revealed that homes built to the FBC and designed to modern wind provisions performed well. New language in Exception 1 simply extends the same benefit to this section for commercial buildings.

New Exception 4 clarifies that Section 707.3.2 does not apply to site-built single-family buildings. While Sections 706.7 and 706.8, are specific to site-built single family dwellings, the provisions of Section 707.3.2 are more restrictive for some cases and therefore may result in a confusing regarding which provisions apply. New Exception 2 aligns with the intent of the code and clarifies it’s applicability to site-built single-family buildings.

New Exception 3 clarifies that buildings with moment resisting frames do not require an evaluation of roof-to-wall connections since these types of buildings will not have roof-to-wall connections.

Exceptions 2 and 5 essentially exempt buildings that are confirmed to be built to modern wind loading criteria. Codes and standards developed in the late 1980’s and early 1990’s (ASCE 7-88, 1994 Standard Building Code, and the 1994 South Florida Building Code) contained wind loading criteria for roof components and cladding that is consistent with current loads on roofs. Roof component and cladding loads in codes and standards prior to these codes were significantly less than current criteria. Evaluations of existing buildings can sometimes be difficult and expensive where certain components are hidden by trim, coverings, or other components. It’s reasonable to provide an exception for structures built to these codes and later editions when it can be confirmed that they were designed and built to meet these codes and standards.