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Memo

To: **Florida Building Code Interpretation Department**
From: Brett Newkirk, P.E.
Date: April 25, 2006
Re: **Wall Framing Repairs –Existing Building Code Interpretation**

Please provide an interpretation for the following code provisions as they relate to the general project details below. We have many similar situations and would like a general governing interpretation:

3-story wood framed condominium buildings built prior to 2000. Isolated portions of the first floor and the lower portions of the second floor wall framing contain termite and water damage that has resulted in significant strength reduction of the individual members. (Total repair area is estimated to be less than 20% of the entire vertical/lateral wall support structure for the building.) Subsequently, we are planning to remove the portions of the wall framing containing deterioration (Anywhere from 5' to 30' linear feet of wall, including sill plate, studs, top plate, & sheathing). It is my intention to replace the existing wind uplift strapping **in kind** by the allowance of Existing Building Code Section 407.1.2. The connections of all members for gravity loads will meet the requirements of the current FBC.

The FBC for Existing Building Section 407.1.2 stipulates that wind design for repairs of a building shall be in accordance with the building code that was in effect at the time the building was permitted. However, the code continues to state (407.3.1) that all new framing members and connections used in the repair of damaged areas shall comply with the 2004 FBC, Building. This appears to be a conflict with regard to connections for wind loading, in that Section 407.1.2 requires compliance with a previous code and Section 407.3 requires compliance with the 2004 code.

Is the replacement of wind uplift connections **in kind** acceptable per the 2004 FBC Existing Building Code based on the 407.1.2 wind design provision, assuming the structure was adequately designed in 1996 or is the code stating that because I am replacing damaged members with new, that the uplift strapping connections must also meet the requirements of the 2004 code?

My contention is that the structure's wind uplift resistance is a function of a building wide system. The improvement of this system in an isolated area, at the base of the structure, would not affect the uplift performance of the building. As such, I do not believe an upgrade to the 2004 FBC requirements is appropriate.

If required, proper design of uplift strapping would require that significant destructive observations be performed just to determine the existing load transfer mechanisms from the roof to the base of the structure. Once complete a full wind loading analysis of the entire building would have to be performed to determine the upgrades required in one small repair area. All this adds up to a considerable expense that, in my opinion, would result in zero performance improvement of the building for wind loading. Subsequently, the owner would like to avoid the time and expense required for this evaluation/analysis, if this interpretation is deemed acceptable by you.