To: Cindy Walden
Subject: RE: OIR B1-1802 comments

From: Darius Grimes [mailto:darius@disaster-smart.com]
Sent: Friday, July 08, 2011 8:23 PM
To: Michael Milnes; Cindy Walden
Cc: 'Bill York'
Subject: OIR B1-1802 comments

This version contains additional changes as a result of editing and comments from others and while it does comes in after the deadline we did manage to get Section 7 Opening Protection figured out to include the ARA recommended chart for identifying the methodology of determining the weakest form of opening protection. This is a significant improvement but needs some industry input to determine if we have missed any important considerations. We reduced the number of Answers in Section 7 and made them correspond to the chart selections.

There are really only 2 levels of credits 9 lb and 4 lb in the 2002 LRS, the 2008 LRS adds some calculations for FBC Wood Structural Panels. Everything else that is some type of protection system falls into the "other" category for which there is no corresponding credit. And there are only 2 applications of the 2 levels of credit ALL or ALL Glazed. We simplified the section to reflect only the data that is needed to determine the above. We also cleaned up the language to make it less confusing and more direct.

The only question is how to deal with structures that have openings located above the first 30 feet from grade that only require small missile protection where the lower 30 feet requires large missile protection. In this case you really need 2 answers but a much different definition, with time this could be worked into a separate section of Opening Protection for buildings 4 or more stories. The current form and even this one are not designed for use on commercial residential structures 4 stories or more, for that reason we recommend that this form should be clearly identified as "Not for use on buildings with more than 3 stories".

For Wood Structural Panels- The FBC 2007 has adopted the same language for the FBC 2004 with 2006 supplements. It just makes sense to point to the current version since it is less confusing and much less wordy. We could of course also state FBC 2004 (with 2006 amendments) or later versions but these are the same requirements either way. There are no changes in this language for the FBC 2010.

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Uniform Mitigation Verification Inspection Form

Maintain a copy of this form with the insurance policy

Inspection Date:		
Owner Information		
Owner Name:		Contact Person:
Address:		Home Phone:
City:	Zip:	Work Phone:
County:		Cell Phone:
Insurance Company:		Policy #:
Year of Home:	# of Stories:	Email:

NOTE: Provide documentation used in validating the compliance or existence of each visible and accessible construction or mitigation attribute. Your insurer may ask additional questions regarding your mitigated feature/s.

1. **Building Code:** Was the structure built in compliance with the Florida Building Code (FBC 2001 or later) OR for homes located in the HVHZ, South Florida Building Code (SFBC-94)?

   Building Permit Application Date MM/DD/YYYY ____/____/_____ or Year Built YYYY _____

   - ☐ A. For the HVHZ Only- Meets the SFBC or has a permit application date after 9/1/1994 and before 3/1/2002
   - ☐ B. Meets the FBC or has a permit application date after 3/1/2002
   - ☐ C. Does not meet the requirements of Answer "A" or "B"
   - ☐ D. Unknown or unable to determine compliance or no building permit was available.

2. **Roof Covering:** Select all roof covering types in use. Provide the permit application date or FBC/MDC Product Approval number, or indicate that no documentation was available to verify compliance.

2.1 Roof Cover Type:	**Permit Application Date**	**FBC or MDC Approval**	**No Documentation**
☐ 1. Asphalt/Fiberglass Shingle	____/____/_____	_____	____
☐ 2. Concrete/Clay Tile	____/____/_____	_____	____
☐ 3. Metal	____/____/_____	_____	____
☐ 4. Built Up	____/____/_____	_____	____
☐ 5. Membrane	____/____/_____	_____	____
☐ 6. Other_____	____/____/_____	_____	____

   - ☐ A. All roof coverings listed above meet the FBC or SFBC and have a Miami-Dade NOA or FBC Product Approval listing current at time of installation OR a have a roofing permit application date later than March 1, 2002 (for the HVHZ only, a roofing permit application after 9/1/1994).
   - ☐ B. One or more roof coverings do not meet the requirements of Answer "A".
   - ☐ C. No roof coverings meet the requirements of Answer "A".

3. **Roof Deck Attachment**: What is the **weakest** form of roof deck attachment?

   - ☐ A. Plywood/Oriented strand board (OSB) roof sheathing attached to the roof truss/rafter (spaced a maximum of 24" o.c.) by staples or 6d nails spaced at 6" along the edge and 12" in the field. **-OR-** Batten decking supporting wood shakes or wood shingles.**-OR-** Any system of screws, nails, adhesives, other deck fastening system or truss/rafter spacing that has an equivalent mean uplift resistance of 55 psf.
   - ☐ B. Plywood/OSB roof sheathing with a minimum thickness of 7/16" attached to the roof truss/rafter (spaced a maximum of 24" o.c.) by 8d common nails spaced 6" along the edge and 12" in the field**.-OR-** Any system of screws, nails, adhesives, other deck fastening system or truss/rafter spacing that has an equivalent mean uplift resistance of 103 psf.

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- ☐ C. Plywood/OSB roof sheathing with a minimum thickness of 7/16" attached to the roof truss/rafter (spaced a maximum of 24" o.c.) by 8d common nails spaced 6" along the edge and 6" in the field. **-OR-** Dimensional lumber/Tongue & Groove decking with a minimum of 2 nails per board. **-OR-** Any system of screws, nails, adhesives, other deck fastening system or truss/rafter spacing that has an equivalent mean uplift resistance of 182 psf.
- ☐ D. Reinforced Concrete Roof Deck.
- ☐ E. Other: _____
- ☐ F. Unknown or unidentified.
- ☐ G. No attic access.

4. **Roof to Wall Attachment:** What is the **WEAKEST** roof to wall connection? (Definition: "on every truss/rafter" excludes hip/valley jacks within 5 feet of the inside or outside corner of the roof.)

- ☐ A. Toe Nails: Rafter/truss anchored to top plate of wall using nails driven at an angle through the rafter/truss and attached to the top plate of the wall OR any type of attachment that does not meet the minimum requirements for Answer "B".
- ☐ B. Clips: (Metal attachments including clips or non-wrap straps) on every rafter/truss that are nailed with a minimum of three nails to at least one side of the rafter/truss and attached to the top plate of the frame wall or embedded in the bond beam. This includes single wraps or other type of attachments that have a minimum of three nails but do not meet the conditions for "C" or "D" and are properly aligned to the truss rafter or blocking and free of severe corrosion (flaky red rust).
- ☐ C. Single Wraps Metal Straps must be secured to every rafter/truss with a minimum of 3 nails, 2 nails on one side wrapping over and secured to the opposite side of the rafter/truss with a minimum of 1 nail. The Strap must be attached to the top plate of the wall frame or embedded in the bond beam in at least one place. For conditions where placement of the wrap is greater than ¼ inch from the blocking or the truss/rafter OR where the blocking is greater than 1.5 inches Or where severe corrosion (flaky red rust) is present use Answer F.
- ☐ D. Double Wraps: Both Metal Straps must be individually secured to every rafter/truss with a minimum of 3 nails, 2 nails on one side wrapping over and secured to the opposite side of the rafter/truss with a minimum of 1 nail. Each Strap must be embedded in the bond beam or attached to the top plate of the wall in at least one place. For conditions where placement of the wrap is greater than ¼ inch from the blocking or the truss/rafter OR where the blocking is greater than 1.5 inches OR where severe corrosion (flaky red rust) is present use Answer F.
- ☐ E. Structural: Anchor bolts structurally connected or reinforced concrete roof.
- ☐ F. Other: _____
- ☐ G. Unknown or Unidentified
- ☐ H. No attic access

5. **Roof Geometry:** What is the roof shape(s)? (Porches or carports that are attached only to the fascia or wall of the host structure and not structurally connected to the main roof system are not considered in the roof geometry determination.)

- ☐ A. Hip Roof: Hip roof and has no other roof shapes greater than 10% of the total roof perimeter.
  Total length of Non-Hip features: _____, feet. Total roof perimeter: _____ feet.
- ☐ B. Non-Hip Roof: Any other roof shape or combination of roof shapes including hip, gable, gambrel, mansard, flat and other roof shapes greater than 10% of the total roof perimeter. (for flat roofs on multi-family structures see Answer "C")
- ☐ C. Flat Roof: Roof shape on a multi-family homes where at least 90% of the total roof area has a slope of less than 2:12
  Roof areas with slope less than 2:12: _____, sq ft. Total roof area: _____ sq ft.

6. **Sealed Roof Deck (SRD):** (standard underlayment's or hot mopped felts do not qualify as an SRD)

- ☐ A. SRD Self adhering polymer modified bitumen roofing underlayment applied directly to the sheathing or foam adhesive SRD barrier (not foamed on insulation) applied as a secondary means to protect the dwelling from water intrusion in the event of roof covering loss.
- ☐ B. No SRD
- ☐ C. Unknown or undetermined.

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7. Opening Protection: What is the **weakest** form of wind borne debris protection installed on the structure? Use the chart to determine the weakest form of protection for each category of opening then check only one answer below based upon the lowest form of overall opening protection for either ALL openings or ALL glazed openings.

Windborne Debris Protection Level Chart **Place only one "X" in each column to identify the weakest form of protection for each opening type.**		Glazed Openings				Non-Glazed Openings	
		Windows or Entry Doors	Garage Doors	Skylights	Glass Block	Entry Doors	Garage Doors
N/A	Not Applicable- there are no openings of this type on the structure						
A	Verified cyclic pressure & large missile (9-lb for windows doors/4.5 lb for skylights)						
B	Verified cyclic pressure & large missile (4-8 lb for windows doors/2 lb for skylights)						
C	Verified plywood/OSB meeting Table 1609.1.4 of the FBC 2007						
D	Other protective coverings that cannot be identified as A, B, or C						
E	No Windborne Debris Protection						

A. Exterior Openings Cyclic Pressure and 9-lb Large Missile (4.5 lb for skylights only)

☐ A.1 All Exterior Openings

☐ A.2 All Glazed Openings

Are protected at a minimum, with impact resistant coverings or products listed as wind borne debris protection devices in the product approval system of the State of Florida or Miami-Dade County and meet the requirements of one of the following for "Cyclic Pressure and Large Missile Impact". For the HVHZ, systems must have either a Miami-Dade NOA or FBC Approval marked "*For Use in the HVHZ*".

- Miami-Dade County PA 201, 202, **and** 203.
- Florida Building Code Testing Application Standard (TAS) 201, 202, **and** 203
- American Society for Testing and Materials (ASTM) E 1886 **and** ASTM E 1996
- Southern Standards Technical Document (SSTD) 12
- For Skylights Only: ASTM E 1886/E 1996
- For Garage Doors Only: ANSI/DASMA 115

B. Exterior Opening Protection- Cyclic Pressure and 4 to 8-lb Large Missile (2-4.5 lb for skylights only)

☐ B.1 All Exterior Openings

☐ B.2 All Glazed Openings

Are protected, at a minimum, with impact resistant coverings or products listed as windborne debris protection devices in the product approval system of the State of Florida or Miami-Dade County and meet the requirements of one of the following for "Cyclic Pressure and Large Missile Impact":

- ASTM E 1886 and ASTM E 1996 (Large Missile – 4.5 lb.)
- SSTD 12 (Large Missile – 4 lb. to 8 lb.)
- For Skylights Only: ASTM E 1886/E 1996 (Large Missile - 2 to 4.5 lb.)

C. Exterior Opening Protection- Wood Structural Panels meeting FBC 2004 with 2006 supplements

☐ C.1 All Exterior Openings

☐ C.2 All Glazed Openings

Are covered with plywood/OSB meeting the requirements of Table 1609.1.4 of the FBC 2007

D. Exterior Opening Protection (unverified shutter systems with no documentation)

☐ D.1 All Exterior Openings

☐ D.2 All Glazed Openings

Are protected with protective coverings not meeting the requirements of Answer "A", "B", or C".

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E. None or Some Glazed Openings

- ☐ E.1 At least one glazed exterior opening does not have wind-borne debris protection.
- ☐ E.2 No glazed exterior openings have wind-borne debris protection.
- ☐ E.3 Unknown or undetermined.

MITIGATION INSPECTIONS MUST BE CERTIFIED BY A QUALIFIED INSPECTOR. ***Section 627.711(2), Florida Statutes, provides a listing of individuals who may sign this form.***		
Qualified Inspector Name:	License Type:	License or Certificate #:
Inspection Company:		Phone:

Qualified Inspector – I hold an active license as a: (check one)

- ☐ Home inspector licensed under Section 468.8314, Florida Statutes who has completed the statutory number of hours of hurricane mitigation training approved by the Construction Industry Licensing Board and completion of a proficiency exam.
- ☐ Building code inspector certified under Section 468.607, Florida Statutes.
- ☐ General, building or residential contractor licensed under Section 489.111, Florida Statutes.
- ☐ Professional engineer licensed under Section 471.015, Florida Statutes.
- ☐ Professional architect licensed under Section 481.213, Florida Statutes.
- ☐ Any other individual or entity recognized by the insurer as possessing the necessary qualifications to properly complete a uniform mitigation verification form pursuant to Section 627.711(2), Florida Statutes.

Individuals other than licensed contractors licensed under Section 489.111, Florida Statutes, or professional engineer licensed under Section 471.015, Florida Statues, must inspect the structures personally and not through employees or other persons. Licensees under s.471.015 or s.489.111 may authorize a direct employee who possesses the requisite skill, knowledge, and experience to conduct a mitigation verification inspection.

I, _____ am a qualified inspector and I personally performed the inspection or (*licensed*
(print name)
***contractors and professional engineers only*) I had my employee (_____) perform the inspection**
(print name of inspector)
and I agree to be responsible for his/her work.

Qualified Inspector Signature: _____ Date: _____

An individual or entity who knowingly or through gross negligence provides a false or fraudulent mitigation verification form is subject to investigation by the Florida Division of Insurance Fraud and may be subject to administrative action by the appropriate licensing agency or to criminal prosecution. (Section 627.711(4)-(7), Florida Statutes) The Qualified Inspector who certifies this form shall be directly liable for the misconduct of employees as if the authorized mitigation inspector personally performed the inspection.

Homeowner to complete: I certify that the named Qualified Inspector or his or her employee did perform an inspection of the residence identified on this form and that proof of identification was provided to me or my Authorized Representative.

Signature: _____ Date: _____

An individual or entity who knowingly provides or utters a false or fraudulent mitigation verification form with the intent to obtain or receive a discount on an insurance premium to which the individual or entity is not entitled commits a misdemeanor of the first degree. (Section 627.711(7), Florida Statutes)

The definitions on this form are for inspection purposes only and cannot be used to certify any product or construction feature as offering protection from hurricanes.

Inspectors Initials _____ Property Address_____

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