Mitigation Options: (Example) Wind Retrofit Product List

The following products are examples of the types of products available for the wind retrofit of WTJX Channel 12, Public Broadcast System (PBS) facility on St. Croix. (See product functional specifications, evaluation reports, drawings, etc. in this Appendix for more information).

WTJX will only use envelope protection and/or continuous load path products (below) that are Miami-Dade rated for use in the High Velocity Hazard Zone (HVHZ) and meet or exceed the 180 mph design wind speed established in ASCE 7-16 and the IBC 2018 for retrofitting (risk category IV buildings) in the USVI (wind zone 4). However, these are only examples - additional products and systems will be considered by WTJX through consultation with the engineering firm to be procured. WTJX will utilize only those products or systems which meet or exceed all relevant IBC-2018 and ASCE 7-16 design standards and wind load requirements.

Final decisions about mitigation products or systems and vendors will be made through the Engineering Analysis and Design to be conducted by the consulting engineering firm to be procured upon approval and obligation of FEMA funding for this project. For mitigation products or systems selected, the engineering analysis will provide all necessary information regarding functional specifications, design and installation, Codes and Commission approvals and performance test results.

Continuous Load Path Systems (CLP):

Simpson Strong Tie, Inc., offers a variety of building retrofit options for hardening connections between all types of building framing materials, sizes and configurations. New products for building retrofits include prefabricated shear walls, anchor systems for concrete and masonry, collated fastening systems and repair, protection and strengthening systems for concrete and masonry. Products are among the most rigorously tested, highest performing and cost effective in the industry, consistent with wind load requirements of the 2018 South Florida and Miami - Dade County Building Codes, the 2018 International Building Code (IBC), ASCE 7-16, and are approved products by the Florida Building Commission.

Continuous load path products and systems include:

- High Performance Adhesive Anchors such as the ET and AT Blue High Performance epoxy and methacrylate anchoring adhesives
- Restoration Systems such as the Crack Pac and EZ Click (wall injection strengthening)
- Mechanical Anchors and Threaded Rod Systems such as the Blue Banger Hanger for concrete and masonry
- Screw Driving Systems for concrete and masonry such as Quick Drive and Titan

Continuous Load Path (CLP) and Roof Protection:

Simpson Strong Tie, Inc. Models H1 – H14 harden the roof system and/or its connection to the supporting walls, and walls to flooring and foundation to create a continuous load path and reducing the vulnerability of the roof to wind uplift and downward vertical forces, and the vulnerability of supporting walls to lateral wind loads while transferring wind loads to the foundation. By strengthening these connections, the straps increase the overall strength of the structure, and are designed to transfer wind pressure transfers from the roof peak to the foundation. Simpson straps are approved by the Miami-Dade and South Florida Building Code and IBC 2018, and approved
by the Florida Building Commission for CAT 5 hurricane building envelope protection in the High Velocity Hazard Zone (HVHZ).

**Lomanco, Inc.**’s Whirlybird turbine roof vents are approved by the Miami-Dade and South Florida Building Codes and IBC 2018. The vents are also designed to prevent water entry. Lomanco’s complete line of on-ridge and off-ridge roof intake/exhaust pop vents approved by the Miami-Dade and South Florida Building Codes and IBC 2018, and are wind rated up to 200MPH.

**Door Protection:**

The **Cookson Company, Inc.** manufactures both non-insulated and insulated overhead/roll-down doors with wind load ratings of 65PSF (160mph) and 120PSF (217mph) respectively. The test results were produced by the National Standards Testing Laboratory through ASTM E-330-90, TAS 202 and other test protocols including large and small missile impact testing. Both products are approved by the Miami-Dade and South Florida Building Code and IBC 2018, and approved by the Florida Building Commission for CAT 5 building envelope protection in the High Velocity Hazard Zone (HVHZ).

The **Schlage Company’s Steelcraft Series** steel, single and double-door products are approved for use by the Miami-Dade and South Florida Building Code and IBC 2018 for protection from CAT 5 hurricane windborne debris and air pressure. It also can be integrated with additional bracing provided by Secure Door, Inc. with ASTM E330-90 test results by the National Standards Testing Laboratory.

**Window Protection:**

National Approved Shutter Association, LLC manufactures a variety of roll-down shutters with wind ratings over 200 mph. This mitigation measure is approved for use by the Miami-Dade and South Florida Building Codes for window protection from CAT 5 hurricane windborne debris and air pressure and is an approved product by the Florida Building Commission.
**Wind speeds for RCII Buildings, corrected by ASCE in ASCE 7-16 Errata dated July 9, 2018. The correct design wind speed for RCII buildings in the USVI is 180 mph.**

Minimum Design Loads and Associated Criteria for Buildings and Other Structures

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