

# JDB CODE SERVICES, INC.

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August 11, 2013

Florida Building Commission C/O Mo Madani, DBPR  
1940 North Monroe Street  
Tallahassee, FL 32399

SUBJECT: Description of Research Project for IHPA Request for Funding

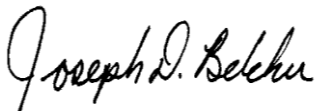
Florida Building Commission:

This is to provide data on the research approach for the requested project funding and how the outcomes will be used to improve the Florida Building Code (FBC). The International Hurricane Protection Association (IHPA) requests up to \$10,000.00 for research on the code specified connections for wood structural panels. IHPA testing conducted in the recent past indicates there is a problem with the ability of the code specified fastening schedule to resist the structural loads specified by the code for opening protection products. The failures noted were under structural loading and would undoubtedly lead to failure of the panel if subjected to the cyclical loading specified by the code for opening protection products. Additionally, it was discovered during the testing that the fasteners specified by the code are not readily available in the marketplace.

The research proposal is to review the findings of the 2003 Loss Relativities for FBC Wood Panel Shutters<sup>1</sup> (LRWPS or the Study). The Study was used to develop the fastening tables for wood structural panels used in the FBC. The Study conducted testing on both the wet and dry condition. The technical approach of this project will involve:

1. Engineering Analysis. The performance of engineering analysis based on a review of the LRWPS and including catenary loading based on the findings of the testing previously sponsored by IHPA<sup>2</sup> to develop values for a table that incorporates edge distance on the buck, edge distance on the panel, tensile strength, deflection, end failure, and yielding or over-pulling of the anchors used for attachment of wood structural panels. A test strategy will be developed based on the final calculations considering appropriate safety factors for wood structural panels installed using common anchors that are widely available in the marketplace.
2. Testing Program. We envision a maximum of three tests to validate the data generated in the engineering analysis. A dry test and a wet test using OSB wood structural panels in accordance with the methodology of the LRWPS and a dry test using a plywood structural panel. A Florida Building Commission approved testing laboratory, Architectural Testing, Inc., has submitted a proposal for testing at \$2,925.00 per test. (Attached) All testing will be on a wood substrate in accordance with the methodology of the Study and the ATI proposal.
3. The results of the engineering analysis and testing will be used to validate the existing values or develop final recommendations for new table values to replace those of Tables 1609.1.2 and R301.2.1.2 of the Florida Building Code, Building and Residential, respectively. Since previous testing indicates the current schedule is inadequate, the program will result in code provisions that improve the health, safety, and welfare of the public.

Respectfully submitted,



Joseph D. Belcher, Code Consultant

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<sup>1</sup> Loss Relativities for FBC Wood Panel Shutters, Department of Community Affairs DCA Contract 03-RC-11-14-00-22-034, ARA IntraRisk June 30, 2003, Final Report, attached.

<sup>2</sup> Architectural Testing, Inc. Test Report dated December 1, 2011, attached.