

Task 1: Defining the problem, literature review, identification of knowledge gaps

This task will include a detailed literature review of the performance of glass sliding door systems against WDR. This literature review will include investigating the performance of historical mitigation measures as well as current advances in sliding glass door rainfall protections. This literature review will also cover any published results from previous testing.

Task 2: Forming a technical advisory committee

A 5-8 member technical advisory committee will be formed that will represent different groups of practitioners and academics. This may include representatives from industry, agencies, and academia. The role of this committee will be to evaluate various methods of WDR testing and inform a testing protocol for studying WDR intrusion through tracks of sliding glass door systems.

Task 3: Validate existing standards and how retrofit devices can be tested to them ~~Developing a testing protocol~~

Based on the recommendations from the technical advisory committee, validate whether existing WDR standards can be used for aftermarket mitigation devices. If existing standards are deemed inadequate, recommendations can be made to update current industry testing standards to address testing of aftermarket devices on existing sliding glass door products. If that is not feasible, a testing protocol can ~~will~~ be developed for WDR intrusion through tracks of sliding glass door systems both with and without mitigation devices. This testing protocol could ~~will~~ include WDR parameters based on previous studies at the NHERI Wall of Wind Experimental Facility (WOW EF) at FIU, and previous studies at UF; holistic model design including sliding glass door(s); measurement systems; and data analysis methods to investigate WDR intrusion and effectiveness of mitigation technologies. The protocol will be approved by the technical advisory committee before any testing is undertaken.

Task 4: Testing WDR intrusion through tracks of sliding glass door systems

Based on the literature review and the approved testing protocol and methodology, an initial proof-of-concept testing could ~~will~~ be conducted to evaluate the methodology. Next, one or more mitigation devices (as per availability to the team) for WDR intrusion could ~~will~~ be tested at the NHERI Wall of Wind Experimental Facility using the approved test protocol, instrumentation, and methodology. The test results will include WDR intrusion measurements with and without the mitigation devices.