

RESILIENT

Home Building Conference
March 19-21, 2010 @ Convention Center, Biloxi, MS



Public Education Sessions: Descriptions & Schedules March 20-21, 2010

Resilient Building: Wood-Frame Construction

Instructor: Mike Rimoldi, Federal Alliance for Safe Homes (FLASH)

Wood-frame construction remains the primary method of residential construction in the U.S. This session will cover some of the techniques available to home-owners for strengthening their homes against natural disasters, specifically high winds and water. These techniques are currently outlined in the FLASH Blueprint for Safety (blueprintforsafety.org). The class will also discuss practical issues such as ease of construction, material availability and cost.

Resilient Building: Wood-Frame Construction	
Saturday, March 20, 2010 Room L2 11:00 a.m. – 11:45 a.m. 2:00 p.m. – 2:45 p.m.	Sunday, March 21, 2010 Room L2 1:00 p.m. – 1:45 p.m.

Retrofitting Your Home to be Resilient and Green

Instructor: Tom Napier, U.S. Army Corps of Engineers, Construction Engineering Research Laboratory / Resilient Home Program

The concepts of “resilience” and “green” have a lot in common because protecting and preserving what we already have is an important sustainability strategy. In addition to reinforcing your home against storm events, retrofitting for resilience can also create opportunities to “green” your home environment. Benefits can include reduction of waste; improved indoor air quality; energy efficiency; reduction of water consumption; and reduction of carbon emissions. A general understanding of resilience and sustainability in residential construction is useful for making the best overall choices. This session will describe opportunities to improve both resilience and sustainability at the same time when performing routine upgrades, upgrades specifically to improve resilience, and/or repairs to damaged homes. Major topics include an overview of resilience and sustainability principles; structural materials and products; interior and exterior materials and products; energy efficiency; water conservation; site landscape features; and important issues for homeowners to consider when contracting for repair, upgrade, or remodeling services.

Retrofitting Your Home to be Resilient and Green	
Saturday, March 20, 2010 Room L1 11:45 a.m. – 12:15 p.m. 2:45 p.m. – 3:15 p.m.	Sunday, March 21, 2010 Room L1 1:45 p.m. – 2:15 p.m.

Substantial Improvement / Substantial Damage and the National Flood Insurance Program

Instructor: Jack Anderson, Federal Emergency Management Agency (FEMA)

Before repairing or making flood protection improvements to a home located in a mapped floodplain, it is vital for homeowners to understand how good building practices and local regulations work together under the National Flood Insurance Program (NFIP). This floodplain management program can significantly reduce the impacts of future flood events. If work on an existing structure constitutes "substantial improvement" or "repair of substantial damage," then the structure must be brought into compliance with NFIP requirements for new construction. Requirements include elevating the lowest floors to or above the base flood elevation. This session will provide an overview of the *Substantial Improvement/Substantial Damage (SI/SD) Desk Reference*, which provides homeowners clear and detailed guidelines to the NFIP, including diagrams, decision charts, illustrations and examples.

Substantial Improvement / Substantial Damage and the National Flood Insurance Program	
Saturday, March 20, 2010 Room L2 12:15 p.m. – 12:45 p.m. 3:15 p.m. – 3:45 p.m.	Sunday, March 21, 2010 Room L2 2:15 p.m. – 2:45 p.m.

Resilient Building: Alternatives to Wood-Frame Construction

Instructor: Leidy Klotz, Clemson University

While wood-frame construction remains the primary method of residential construction in the U.S., there are alternatives available. This session will cover some of these alternatives including insulated concrete forms, structural insulated panels and steel-frame construction. Major topics include the technical properties of each alternative to wood-frame construction, including pros and cons related to building resilience; as well as practical issues such as ease of construction and material availability.

Resilient Building: Alternatives to Wood-Frame Construction	
Saturday, March 20, 2010 Room L1 12:45 p.m. – 1:30 p.m. 3:45 p.m. – 4:30 p.m.	Sunday, March 21, 2010 Room L1 2:45 p.m. – 3:30 p.m.

Site Planning and Foundations (Substructure)

Instructor: James Wheeler, Gulf Coast Community Design Studio

Resilient house design starts with an understanding of the site. Every site has natural forces of sun, wind and rain. Many Gulf Coast sites are in flood zones. A site should be planned to make the best use of natural forces for energy conservation and comfort and be planned to mitigate for the destructive forces of flood water, high winds and falling trees. Resilient foundations should be designed to withstand hurricane wind loads and the force from flood water and debris and protect the house from flood water. The appropriate foundation type should be selected and designing for hurricane loads. Major topics include site factors for any Gulf Coast site (sun orientation, wind loads, storm water management, trees); site factors for sites in flood zones; resilient

landscape planning; foundation types and resilient considerations (slab on grade, footings and stem walls – concrete and masonry); piers; deep foundations (piles and piers); and coastal sites (erosion considerations).

Site Planning and Foundations (Substructure)	
Saturday, March 20, 2010 Room L3 11:00 a.m. – 11:45 a.m. 1:00 p.m. – 1:45 p.m.	Sunday, March 21, 2010 Room L3 1:00 p.m. – 1:45 p.m.

Floor, Wall and Roof Framing (Structure)

Instructor: David Perkes, Gulf Coast Community Design Studio

Resilient house design depends upon a strong structure. Even though wood frame construction is a very familiar building technique, there are many critical details that must be understood and used for the house to resist hurricane-force winds. Wood framed floors, walls and roofs must be designed and built to withstand uplift and lateral loads that in many cases exceed the downward loads from gravity. Strapping, anchoring, and sheathing must work together to resist these wind forces. Major topics include anchoring to foundations; floor, wall, and roof framing spans; uplift load path; lateral resistance (bracing, sheer walls and blocking, roof and floor diaphragms); and typical weak spots (gable ends, porches and overhangs).

Floor, Wall and Roof Framing (Structure)	
Saturday, March 20, 2010 Room L3 12:00 p.m. – 12:45 p.m. 2:00 p.m. – 2:45 p.m.	Sunday, March 21, 2010 Room L3 2:00 p.m. – 2:45 p.m.

Walls, Roof and Fenestration (Enclosure)

Instructor: Mike Grote, Gulf Coast Community Design Studio

Resilient house design requires a strong and tight enclosure. The walls, roof, doors and windows must resist hurricane force winds, wind driven rain, and moisture that can enter the assembly and affect its durability and performance. Because there are many suppliers and manufactures of the component parts of a house enclosure, all in the business of selling their products, it can be confusing to determine the relative strength, durability and energy performance of various products. A general understanding of the physics of enclosures and the performance requirements of resilient assemblies is useful to sort through the many choices. Major topics include the physics of enclosures (moisture and heat); strength of wall component parts; installation of wall component parts; strength of roof component parts; installation of roof component parts; doors and windows; and hurricane shutters.

Walls, Roof and Fenestration (Enclosure)	
Saturday, March 20, 2010 Room L4 1:00 p.m. – 1:45 p.m. 3:00 p.m. – 3:45 p.m.	Sunday, March 21, 2010 Room L3 3:00 p.m. – 3:45 p.m.