

## **Louisiana House: Home and Landscape Resource Center A Vital Resource for Disaster Recovery**

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*Sustainability* (meeting current needs without jeopardizing future generations) is an emerging necessity. Natural disasters such as hurricanes Katrina and Rita in 2005 cause billions of dollars in damages to homes and lost productivity. The average repair cost for homes infested by Formosan termites is \$11,000. Mold litigation and claims have prompted their exclusion from homeowners' insurance, and in south Louisiana, homeowners' insurance is either unavailable or costly. Rising energy, water and waste management costs create an economic burden for families and local governments. The high rate of asthma and the aging population increase family and public health costs. The list of state and national challenges does not stop there.

Sustainable housing and development must integrate and balance resource efficiency, durability, and health with practicality and convenience. Typical new housing either ignores or addresses these criteria in a piecemeal manner because of multiple barriers, including increased production costs and learning curve; confusing, multiple options; complexity of building systems; and limited local market awareness and demand. Yet, it is projected that 40% of the American housing stock in 2030 is yet to be built.

To address these issues, the LSU AgCenter is spearheading an interdisciplinary public-private partnership initiative to create Louisiana House – Home and Landscape Resource Center (LaHouse). Now under construction on the Louisiana State University campus, it will include a permanent demonstration house with changing exhibits, seven acres of environmental landscape exhibits and a multi-media teaching center. LaHouse will be operated by the LSU AgCenter as a southern region educational and applied research center and outreach program to stimulate both consumer demand and industry change for sustainable homes and development. Progress on the LaHouse project can be viewed at <http://www.LouisianaHouse.org>.

### **Shaping the Future**

The LaHouse vision is to shape the future by demonstrating ways to combine environmental stewardship with economic benefits and enhanced quality of life – showing how it's possible to have more comfort, durability, value, convenience, and better health with less property damage, energy, water, pollution and waste. The LaHouse marketing slogan – shaping the future for Louisiana living – reflects the growing consumer desire to have a sense of control and to make a difference. LaHouse capitalizes on that sentiment to motivate and equip citizens with the research-based knowledge they need to distinguish and demand higher-performance homes.

LaHouse features a range of alternative solutions along the cost-benefit and technology continuum, from low-cost to high-end.

- Four wind-, water- and termite-resistant, energy-efficient building systems (borate-treated 2x4 wood frame with engineered wood products, 2x6 advanced framing, structural insulated panels and insulating concrete forms) – all with hurricane connectors, rain screen drainage planes and other details that demonstrate EnergyStar and Fortified for Safer Living guidelines (130 mph wind resistance) as well as moisture control and mold prevention.
- Nine types of energy-efficient windows and a variety of impact-resistant protections.
- Two long-life, hail- and hurricane-resistant, cool roofing systems with upgraded underlayments.
- Three heating, cooling, ventilation and dehumidification systems for high comfort, efficiency and indoor air quality.
- A low-cost severe-weather safe room suitable for Louisiana risk levels.
- Three elevated foundation systems for flood zones, dry-floodproofing, and wet-floodproofing demonstrations.
- High performance, low-water fixtures and rainwater harvesting systems.
- A universal design and family-friendly features.
- Advanced, energy-efficient appliances, lighting, controls and structured wiring.
- Low maintenance, long-life, environmentally friendly and locally produced products.

### Partnerships

Both a means to and outcome of the LaHouse initiative is development of many new partnerships and a broad base of support from all segments of stakeholders. Construction is funded by private individual and industry donors. Collaborators in the planning and development of LaHouse have included:

- An AgCenter team of faculty in housing, engineering, disaster education, environmental sciences, wood products, entomology, horticulture, family economics and communications.
- Local professionals (practicing architects, home builders and landscape designers)
- Nationally recognized Building Science Consortium of U.S. Department Of Energy Building America Program, Institute of Business and Home Safety, and Florida Solar Energy Center.
- Agency partners: Louisiana Department of Natural Resources and U.S. Department of Energy, La. Office of Emergency Preparedness and Federal Emergency Management Agency, U.S. Environmental Protection Agency, United States Department of Agriculture-Cooperative State Research, Education, and Extension Service, Louisiana Department of Environmental Quality, and U.S. Department of Housing and Urban Development Healthy Homes Program.
- University allies: Louisiana State University's School of Architecture, School of Human Ecology, Department of Biological and Agricultural Engineering, Department of Civil and Environmental Engineering, Department of Construction Management, Department of Horticulture, Department of Interior Design, Hurricane Center, Institute for Ecological Infrastructure Engineering, Office of Parking, Traffic and Transportation, Real Estate Research Institute, University of Louisiana at Lafayette's School of Architecture, and Campus Federal Credit Union.
- 108 participants in an initial strategic planning process (representatives of related industries, agencies, educators, organizations and consumers).

### Anticipated Impacts

LaHouse will stimulate change in the marketplace and housing stock to produce these benefits:

- Homeowners will have more comfortable and durable homes with lower utility bills and higher resale value.
- Children will grow in healthy, safe homes free of mold and asthma triggers.
- The elderly will live in homes that accommodate their changing needs and facilitate independent living.
- Future generations will enjoy the environmental quality and natural resources we have preserved and protected.
- Communities will save public dollars with lower requirements for waste disposal, water treatment, flood control and disaster recovery.
- Insurance companies will have lower losses, helping to stem premium increases and policy writing restrictions.
- Mortgage lenders will have better collateral and fewer delinquencies on loans secured by homes that preserve their value and cost less to operate and maintain.
- Home builders, designers and suppliers will profit from increasing demand for their sustainable products by a growing market segment.
- Energy companies will reduce peak demand loads and generation emissions.
- Housing and horticulture professionals will have new continuing education opportunities.
- Teachers will have a unique educational resource in environmental science, building science, horticulture and technology.
- Tourism and economic development initiatives will gain from the recognition, visitation, and economic activity generated by LaHouse.

Note. From "LaHouse Paves the Way for Sustainable Housing," by C. H. Reichel and F. C. Lawrence, 2005, *Louisiana Agriculture*, 48 (2), pp. 17-19. Copyright 2005 by LSU AgCenter. Adapted with permission.

*Endnotes*

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