



FOUNDATION

CASE STUDY

2009 AWARDS OF EXCELLENCE

AFFORDABLE HOUSING BUILT RESPONSIBLY

PROJECT AT A GLANCE

Location: Loudon County, TN

Project Type: New Construction

Ownership/Rental: Home Ownership

Project Completion Date: Dec. 2008

Size:

6 single family homes

1.1 Acres (total)

5.8 units/acre

Affordability:

< 30% of AMI: 1 Unit

31-50% of AMI: 4 Units

51-80% of AMI: 1 Unit

Retention of Affordability: At resale, Habitat usually requires < 50% AMI.

Project Team:

Developer and Contractor:

Loudon County Habitat for Humanity

Architect: Elizabeth Eason

Development Cost (per unit):

Land cost: \$2,800

Hard costs: \$68,300

Soft costs: \$5,400

Total Costs: \$76,500

Grants/Incentives: \$60,000

Net Costs: \$16,500

Cost of Greening (per unit):

Total Cost of Greening: \$5,400

Rebates/Incentives: \$4,200

Net Cost of Greening: \$1,200

Percent of Total: 7%

Standards Used:

EarthCraft House – Certified

ENERGY STAR for Homes – Certified

2008 Hope Haven

Loudon County Habitat for Humanity



While Loudon County Habitat achieved its primary goal of building energy efficient homes, they also created a noteworthy example of sustainable site development for rural areas. The project team preserved a large forested area, managed erosion and stormwater by installing grass swales and permeable surfaces, and provided a landscaping manual to residents and volunteers to educate the community about planning and maintaining sustainable landscaping. The project team worked with code officials so that several green features (density, strategies for permeability) could be permitted. The officials now use the project as an example to other builders.

Outstanding Attributes

- Excellent example of stormwater management, tree preservation, preservation of open space, and other sustainable site features
- Developed key partnerships to promote dense, low-impact development and spread sustainability techniques

Measurable Performance Achievements Relative to Code

| | |
|--------------------------------|-----|
| Energy savings: | 30% |
| Water savings: | 35% |
| Construction waste reduction: | 50% |
| On-site surface water capture: | 50% |

“Rural locations face the threat of sprawl. This project did something different compared with neighboring developments.”

– Awards Committee member



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Green Features

Sustainable Site Development in a Rural Area

The project team started by choosing a well-located site. The area is across the street from two schools and two miles from downtown Loudon. The project team then evaluated the site to determine how development could be located to minimize its environmental impact. They located the development to fit in with existing contours and to preserve a large, 2nd growth forest. They then located homes and designed fairly small lots (7500 sq ft – half the national average) to further preserve trees and retain open spaces.

The team also transplanted some trees to non-construction areas. In particular, shade trees were retained or planted strategically to provide cooling for the homes. Trees that needed to be cut were sold as timber; or chipped and used as mulch in the tree nursery or to temporarily protect topsoil. The team added new drought tolerant plants and trees.

To manage stormwater and reduce sediment run-off, the team installed permeable gravel alleyways and grass swales along roadways. All topsoil was preserved and re-used on-site.

The project encourages pedestrian use with tree-lined, narrow streets and a limited number of common parking spaces. Homes have front porches and parking pads in the back off of alleyways. This both matches the “old town” architecture of the revitalized City of Loudon, and creates a greater sense of community. Many of the homes are designed and orientated to be “solar ready” (i.e., to facilitate the future installation of a solar panel).

The Habitat for Humanity volunteers developed a manual specifically for landscaping. This was given to the homeowners, and also to other volunteers to help educate the larger community on choosing appropriate plants, plant placement, and maintenance. The staff also follows up with homeowners on landscaping maintenance and other issues.

Partnerships

The property was originally in Loudon County, which required 1 acre per home and use of a septic system. The project team collaborated with city and county officials to annex the area to the city and to enable the project to tie into the city’s sewer lines. They then worked to re-zone the area, to allow for 0.17 acre lots. The team also collaborated with code enforcers so that the permeable pavers and swales would be accepted. The code enforcer now uses Hope Haven as an example for other builders. The project team has provided tours of Hope Haven to other Habitat affiliates, commercial builders, and affordable housing providers, and has provided other training on green building techniques.

Financial Information

- Federal Home Loan Bank, Zero Interest Loan
- Seedco Financial grant
- HUD Self-Help Homeownership Program
- Tennessee Housing Development Agency’s New Start & Housing Trust Fund
- Donated materials from Dow, Square D, Whirlpool

GREEN HIGHLIGHTS

- Tree preservation
- Preservation and creation of open spaces
- Relatively dense development for the area (1 unit / 0.17 acre)
- Simple homes designed to fit dimensional lumber sizes minimized waste
- Energy efficiency measures (e.g., 14 SEER equipment, Low-E windows, Energy star products)
- 8 hours training from National Center for Healthy Housing, and provided healthy homes manual
- On-going partnership with Oak Ridge National Laboratory

PRIMARY CONTACT

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