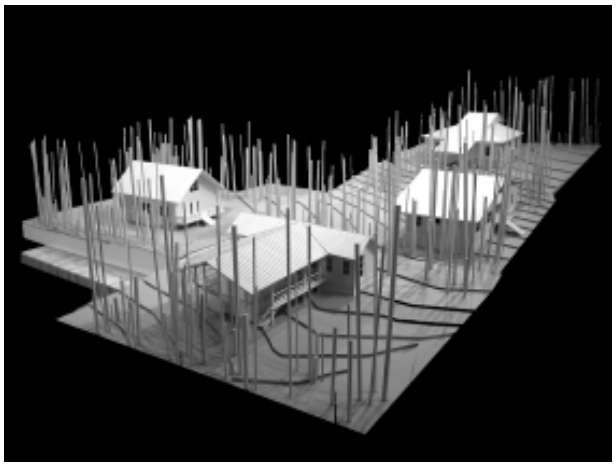
# QUILTING HOME:

## Affordable Single-Family Rural Housing, Eastern Kentucky

MARILYS R. NEPOMECHIE, AIA
MARTA CANAVÉS, MLA,IIDA
Florida International University



**PROJECT SYNOPSIS**

**Location:** Rowan County, Eastern Kentucky

**Site:** Big Woods: A 14-acre tract at the foothills of the Appalachian Mountains, and at the edge of the Daniel Boone National Forrest. It is a rural, largely undeveloped area with scattered farm buildings, and mobile homes

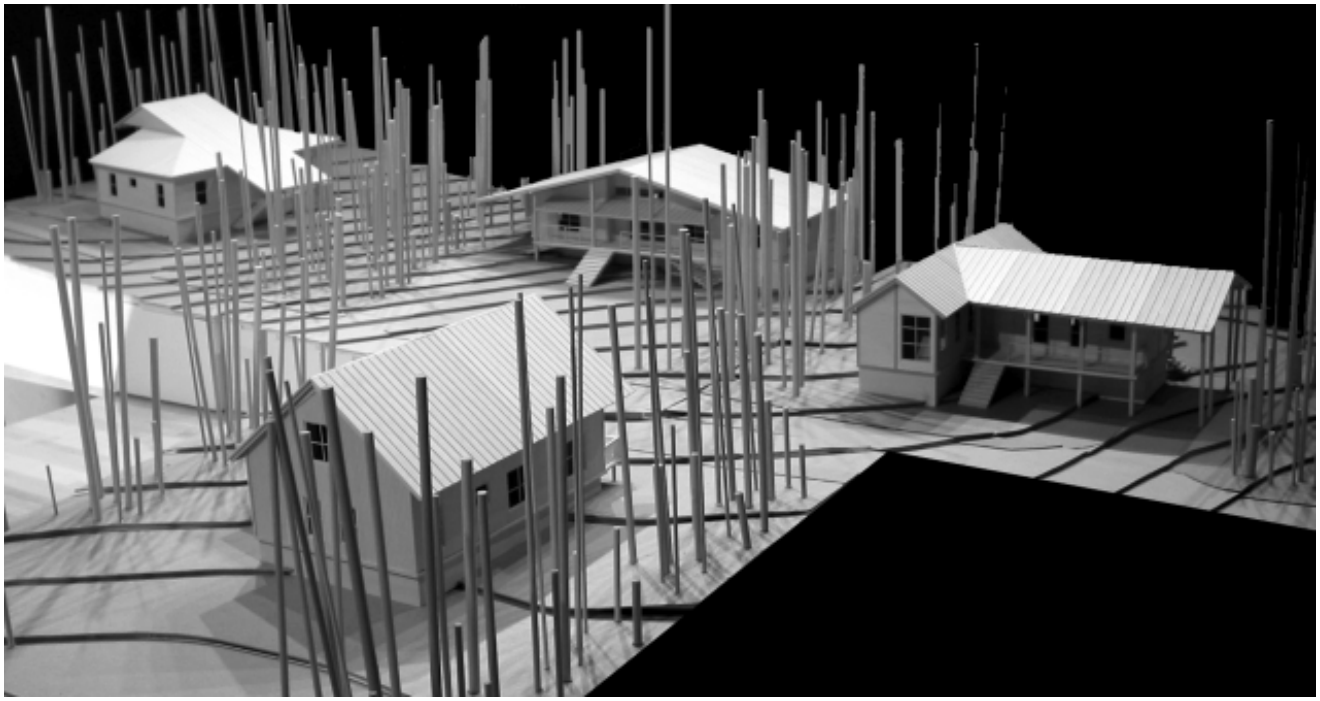
**Zoning:** Currently, there is limited zoning and no effective land-use planning in this rural area. This project proposes new guidelines for rural residential zoning that respond to the cultural needs and desires of area residents.

**Client:** Nonprofit (Federation of Appalachia Housing Enterprises/ FAHE) developer, working with funding from HUD/ RHED and with the financing assistance of the housing agency of the Commonwealth of Kentucky: This is the inaugural project of a groundbreaking research initiative endowed by the housing financing agency of the state, and implemented through the University of Kentucky College of Design. It is a rare instance of a state agency partnering with a public university to support innovation in the approach to design of low cost housing —through a combination of teaching, academic research, and bricks-and-mortar projects. The nonprofit developer of Big Woods, who has served her community for over 25 years, offered this property for the endowment's first case study.

**Residents:** Low-income families with deep roots in eastern Kentucky. They are pre-approved for Federal housing loans and are expected to contribute in sweat equity to the construction of their homes. Average annual income: Approximately $15,000.

**Program:** 28 low-cost, 3-5 bedroom, 2-bath single-family residences, with enclosed areas ranging from 1200 – 1450 sf. These are designed in four (4) models, each based on a local rural building typology. Houses were designed to meet Tier 1 Universal Design standards for accessibility, and sited and detailed for sustainability. Houses were also designed for expansion over time, for adaptability to changing family circumstances, and for aging in place.

Program specifics, project imagery, and the qual-



ity of interior and exterior spaces were all devised through a participatory process of community meetings and workshops held over a 9-month period involving students and faculty at the University of Kentucky –and a visiting faculty critic with expertise in affordable housing (author of the project represented here).

**Construction Systems:** At the request of the client, who will serve as both developer and builder for the project,(and whose workforce expertise demands it), the houses will be stick-built. However, two of the four home models have been dimensioned per FDOT standards to facilitate future off-site manufacture and transport, with on-site assembly.

**Structure:** Wood frame 2 x 6 load-bearing exterior wall construction on concrete footings and CMU base. Crawl space under 2 x 8 floor framing. Roof trusses (scissors trusses for 'cathedral' ceilings) to save on framing costs.

**Building Envelope:** Concrete cement siding (metal siding will be priced and may be donated); standing seam metal roofs (also donated); typical window units (dimensions and assemblies) were mandated by the developer.

**Interior Finishes:** Painted gypsum board walls, wood plank or covered plywood flooring, ceramic tile at baths.

**Funding:** Federal HUD/RHED funding and State financing assistance have been secured for this project. Federal grants are also under review for the extensive planting that is part of the proposal (the project becomes part of a Federal and State re-forestation effort). Donated materials are sought for such enclosure materials as standing seam metal roofs and cement board or metal siding.

**Schedule:** Schematic design, design development, and construction documents are now complete. It is anticipated that construction will begin in spring 2005.

**PROJECT TEAM**

Florida International University

Luis Asturias

Michael Figueredo

Marina Giammattei

Carlo Giammattei