

My Mountain Bungalow

A first-time owner/builder with a modest budget pools talent and resources to create an energy-efficient cottage with rich Craftsman details

BY BRETT SALTER

It started in the late 1970s, when my wife, Sharon Bailey, and I left California and headed east toward the promise of affordable housing. We bought a small house on the north side of Atlanta, where we spent eight years and where everything that could go wrong did. In 1987, we moved into a midtown bungalow that had been painstakingly restored. The bungalow wasn't big either, but it was a jewel of a house with gor-

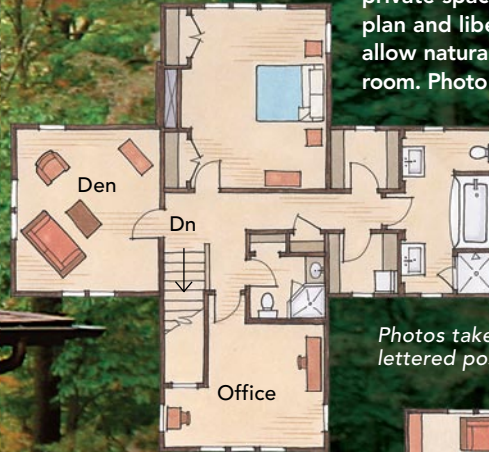
geous details. We spent 14 years there. Living in these two homes, we learned the value of quality construction and fell in love with the Craftsman style.

In 1998, we decided to retire to Asheville, N.C., and started a search for a home with studio space for Sharon and nearby trout streams for me. We didn't want to be far from town, and we wanted a home with the same level of detail as the bungalow we were leaving behind.

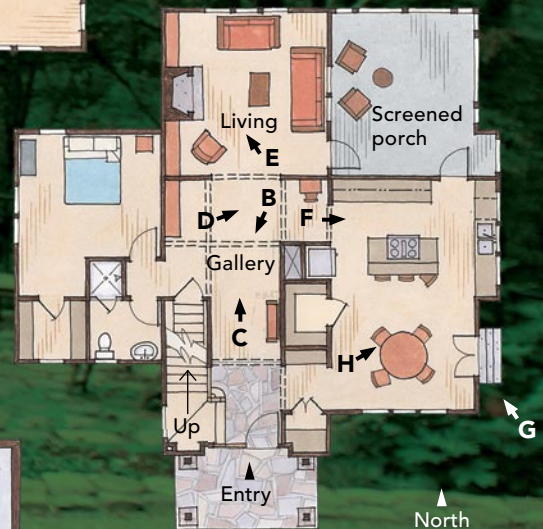


DESIGNED FOR A STEEP SITE AND LOTS OF DAYLIGHT

Where this home differs most from its inspirational single-story bungalow is in the floor plan, which includes three levels, a response to the steep, sloping site. The partially finished basement is where the architect found space for a daylit studio. The main floor is mostly living space, with a guest bedroom tucked away on the west side of the house. Containing the master bedroom and bath, den, and office, the upper floor is primarily private space. Here, the cruciform plan and liberal use of windows allow natural light to penetrate each room. Photo taken at A on floor plan.



Photos taken at lettered positions.



You guessed it. By 2001, we had abandoned our search, hired an architect, purchased land, and decided that I would build the house myself. What did I know about home building? Good question.

With a pro consultant, we took the plunge

We selected Samsel Architects to design the house after spending a weekend at the nearby Sourwood Inn, one

SPECS

Bedrooms: 2, plus den

Bathrooms: 3

Size: 3776 sq. ft., including partially finished basement

Cost: \$109 per sq. ft.

Completed: 2003

Location: Asheville, N.C.

Architect: Samsel Architects, Asheville, N.C.

Builder: Brett Salter



CRAFTSMAN CROSSROADS

Inside the front door, a spacious foyer and gallery with plenty of Craftsman character ease you into the house, whichever way you're headed.

The home's Craftsman aesthetic is reinforced by the authentic style of the interior and exterior doors. At the entry, a durable flagstone landing gives way to honey-colored heart-pine flooring. Photo left taken at B on floor plan.

of their designs. The inn was inspired by the region's Arts and Crafts heritage, and it is quite sensitive to the natural environment.

Initially, we also interviewed builders—until my mother began encouraging me to build the house myself. The idea was exciting but intimidating, until one of the builders we liked, Robin Woodward, offered to act as a consultant. With professional support, I decided to go for it.

During the design process, I enrolled in a course at the Southface Home Building School (www.southface.org) in Atlanta. The nine-day class covered all aspects of home building, but most important, it taught me that a building is a system of components that must work together to create a durable, comfortable, and efficient house.

Sharon and I had high hopes for our new home. We wanted it to feel spacious and to have usable basement space. We wanted it to be filled with sunlight and Craftsman details reminiscent of our Atlanta bungalow. We also wanted it to blend in to the mountainside landscape, to be energy efficient, and to fit our budget.

Finding subs and reining in the budget

About three years passed from the time we purchased land to the time we moved into the house. Much of the first year was spent on site work, finding subcontractors and suppliers, and in design meetings. While the bulldozers rolled, I looked for competent subs and reasonable prices on materials. As an owner/builder, I found it difficult to lure quality subs without the promise of work on future projects. Here, I had to rely on Robin, although in a few cases I just got lucky. (I met my plumber while stocking a trout stream.)

Reining in the budget was a challenge from the start. We were limited to the earnings from the sale of our house in Atlanta. But we wanted lots of amenities, and the initial cost estimate was beyond our means. Our first money-saving

decision was to use limited architectural services. In other words, we requested that Samsel Architects design the complete shell, including the exterior elevations and details, the house's structural aspects, and the building envelope.

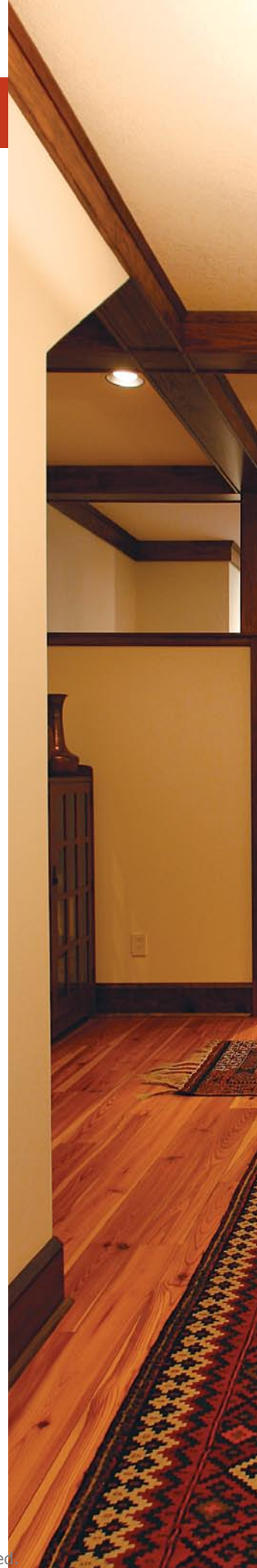
The firm was instrumental in blending the house in to the steep site with a small footprint and a woodsy color palette. Samsel Architects created a spacious feeling on the first floor with a wide entry hall and stairwell, an open kitchen and dining area, and partial living-room walls. On the second floor, the cruciform plan and wise window placement flood every room with daylight. However, the limited service agreement left us to design the electrical, plumbing, heating, and cooling systems as well as to choose cabinet and trim details, hardware, and finishes.

Heating and cooling for \$500 a year

The foundation walls were poured early in 2002, and building began. We wanted an efficient house, so one of my first concerns was to make sure the building envelope was detailed the way the architect intended.

This process began with sealing the sheathing joints with sheathing tape and wrapping the house in building paper to prevent air infiltration. Then I went inside and used expanding foam to seal the studs to the sheathing and to seal around any penetrations. I insulated the 2x6 walls with blown-in cellulose and wrapped the foundation with 2 in. of rigid foam. The siding is detailed with a rain-screen design that allows water behind the siding to drain (bottom drawing, p. 57).

The HVAC system includes a high-efficiency, air-to-air heat pump and a heat-recovery ventilator (HRV) that provides fresh air. The HRV draws stale air from the baths and the kitchen and exchanges it with fresh outside air, minimizing heat and humidity loss in the process. The HRV is triggered by the bath fans and is programmed to operate automatically for 15 minutes every hour.





A heightened experience. Facing a group of three large windows, the long view from the entry is green and gorgeous. Partial living-room walls enhance the gallery's spacious feeling by accentuating the 10-ft. ceilings. Photo taken at C on floor plan.



Defining details. While the heart-pine floors tie all of the rooms together, the stained yellow-pine trim details define individual spaces. Columns signify entry to the living area, and box beams create distinct spaces within the gallery, like the writer's nook outside the kitchen entry. Photo taken at D on floor plan.



Something about stone. The organic color and texture of the fieldstone fireplace surround complement the light and dark wood tones of the floor and trim. On cold mornings, the fireplace (Fireplace Xtrordinair; www.fireplacex.com) produces enough heat to keep the whole house comfortable. Photo taken at E on floor plan.

A KITCHEN WITH CONNECTIONS

The east-facing kitchen is an ideal jumping-off point for dining and entertaining. The foyer and gallery flow naturally into the room, where glass doors lead to a screened porch and an outdoor patio.



Well-lit, any time of day. The kitchen's lighting strategy includes windows at the sink, pendant lights over the island, a chandelier over the table, recessed lights in the ceiling, under-cabinet lights, and lit displays in the upper cabinets. With this variety, the kitchen can be illuminated for any situation, day or night. Photo taken at F on floor plan.

The outdoor option. Just off the kitchen, a flagstone patio extends the cooking and dining spaces outside for fair-weather entertaining. Photo taken at G on floor plan.



Stickley style. With appliances discreetly placed under the countertops, behind the island, and recessed into the walls, the cabinetry assumes a furniturelike quality. Photo taken at H on floor plan.

At Robin Woodward's suggestion, I also installed an antistratification system (top drawing, facing page). This dedicated duct continuously draws air from the top level of the house and pumps it into the basement. It allows us to minimize the temperature differential on our home's three levels without having a zoned HVAC system. All the ductwork is well sealed and within conditioned space; no ducts run in the attic. Finally, we're lucky to have a canopy of deciduous trees to shade the summer sun and, despite the north-facing slope, a bit of passive-solar heat gain in winter.

All the mechanicals run on electricity. We're on time-of-use pricing, so we pay a lower rate for off-peak energy use (that's when we heat our water and dry our clothes). Even with a recent hike in electrical rates, we heat and cool the house for less than \$500 annually.

Saving on materials and labor

Building a house is about making decisions, and cost is a factor in each one. Because I was unwilling to compromise any of the construction or mechanical details that would make our house efficient, many of the cost savings were realized in material choices.

The floors are a good example. While I had hoped to use salvaged heart pine, new heart pine was much less



expensive. I chose southern yellow-pine trim as an affordable alternative to heart pine or oak. Once I got the stain right, I was pleasantly surprised at how well the different woods blended.

To save more money, I ran crown molding in only the public areas on the first floor, and I decided not to expose the outside face of the chimney because stone veneer is more expensive than siding. Although the original design called for most of the single-story roofs to be copper, I decided to use it over the entry only, where it would have the greatest impact. Also, I eliminated a walkway that would have connected the screened porch with the patio.

In general, we tried to choose good-quality but not necessarily top-of-the-line materials. We used GE Profile kitchen appliances instead of more-prestigious brand names, Corian instead of granite countertops, and Hurd instead of Marvin windows.

Of course, the biggest savings was labor. In addition to not paying a contractor's fee, I did a lot of work myself, including the electrical system, foundation waterproofing, and insulation. I was also the carpenter's helper, painter's helper, stone mason's helper, and all-around gofer. □

Brett Salter should be building more homes in Asheville, N.C. Photos by Brian Pontolilo.

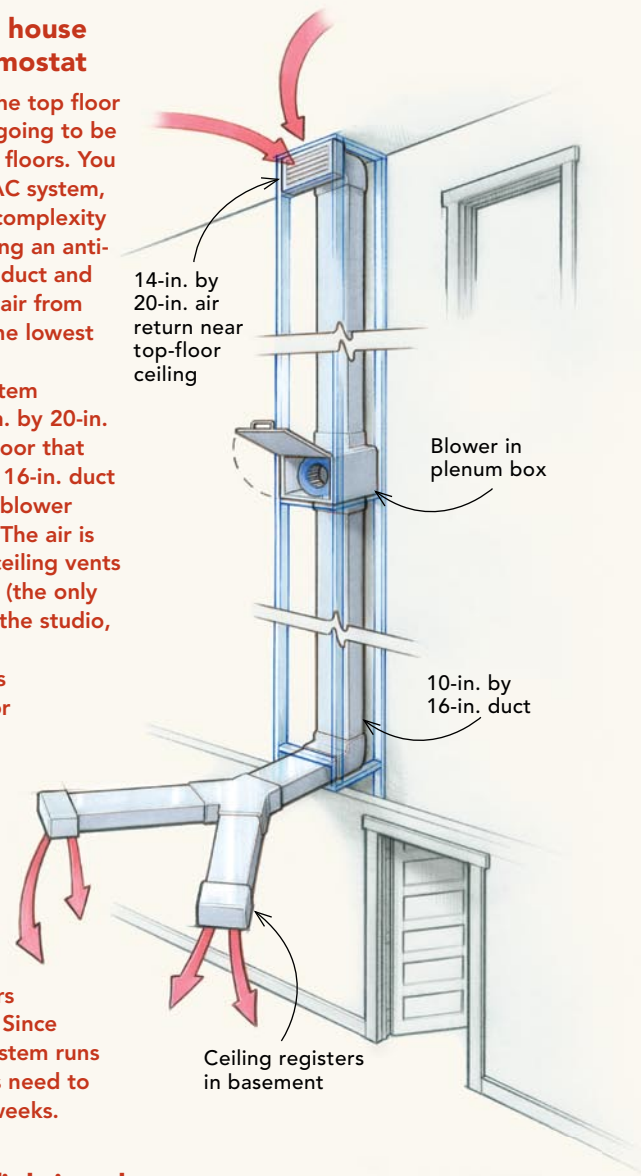
Two solutions for comfort and savings

Heat and cool the house with a single thermostat

Because hot air rises, the top floor of a house is naturally going to be warmer than the lower floors. You can install a zoned HVAC system, or you can avoid such complexity and expense by installing an anti-stratification system: a duct and blower that return hot air from the top floor back to the lowest level of the house.

In this house, the system includes a filtered 14-in. by 20-in. air return in the third floor that connects to a 10-in. by 16-in. duct with a nearby 382-cfm blower in a small plenum box. The air is released through two ceiling vents in the basement studio (the only heating and cooling in the studio, in fact).

Since the blower runs continuously, the author chose a quiet, energy-efficient model rated for continuous duty (Grainger #4YJ3; www.grainger.com). It draws only 93 watts, so it costs a little more than \$5 a month to run. The temperature variation between floors is usually less than 2°F. Since the anti-stratification system runs continuously, the filters need to be changed every six weeks.



Give insulation a fighting chance

Insulation keeps heat in the house during winter and out during summer. For insulation to work most effectively, though, the wall assembly has to stop outside-air infiltration. This is the job of the housewrap or building paper. The author took a couple of more-simple and inexpensive steps to increase the performance of the walls. He sealed the sheathing with sheathing tape (www.venturetape.com) and foamed the studs to the sheathing and around all penetrations with Handi-Foam (www.jrproductsinc.com). Furring strips create space for water to drain behind the siding.

