

Lessons From a



Proof that a home can be more livable and more versatile without more cost

BY DAVE OTTE

My parents like suburbia. They work there, they shop there, they understand there. They just don't like the houses there. This story is about how my parents' wish for a good house in suburbia came true.

Two years ago, my wife, Jessica, and I visited my parents at their home in Fountain Hills, Arizona. I was bringing in luggage from the garage and got stuck in the front hall/laundry closet. After bemoaning the bad design and espousing the impor-

tance of an entry, Jessica and I got out our pencils and designed a new one.

The more time we spent discussing the house, the more my parents realized just what didn't work. My brother's wheelchair could not fit in half the rooms. My mother's piano was in a back bedroom where no one could hear it. The living room offered no views of the wonderful mountains nearby. The outdoor space felt disconnected and uncomfortable; built on top of a hill, the house was more driveway than home. My par-



Suburban House



ents were beginning to see the big picture.

Two years and thousands of long-distance minutes later, my parents have moved into their dream home. It's not perched on a view-commanding cliff or nestled in a quiet, secluded river valley. Rather, it is in the middle of suburbia, right down the street from the house where my luggage got stuck.

Make the house flexible and accessible

We needed to overcome two obstacles in designing for accessi-

bility. First, my brother does not live at home every day. He visits each weekend, meaning the design had to work just as well for two people during the week as it did for three people on the weekend. We achieved this goal by getting double duty out of the study and the entry.

With its own half-bath, a built-in desk, and a pair of sliding barn doors that can close off or open up the space, the study is an ideal home office (floor plan, p. 97). But it also doubles as a guest bedroom, thanks to a bench that turns into a bed. Putting the

piano in the entry at the center of the house lets my brother hear it (one of his greatest pleasures) from any room he's occupying.

The sloping lot, our second accessibility obstacle, was not ideal for a single-story house or for navigating a large wheelchair. So we tailored the site. Cutting into the uphill side of the lot left us enough fill to build up the lower parts, which made every portion of the home accessible on one level. Because the detached garage had to be lower than the house to meet height restrictions, a slight ramp leads

Shed roofs keep a low profile. In a neighborhood filled with faux Spanish-colonial houses, this modern home places the garage at the lower end of the lot, where it forms the eastern boundary of an interior courtyard. The low roof helped to preserve the views from homes up the hill. Photo above taken at A on floor plan. Photo facing page taken at B on floor plan.

We built the house around what my parents love: the mountain views,



Like the brim of a hat, canvas awnings on this house help to mitigate the Arizona sun, as does the sound of bubbling water from the fountain near the entry gate (above). A paved ramp (right) leads from the garage, past a small patio, and to the heart of the house. Double doors open into the piano room (facing page), with its high ceiling and shafts of daylight. To the left, barn doors tucked into a pocket can be rolled across the opening to the office, turning it into a private guest room. Photos taken at C, D, and E on floor plan.



their family, and their piano.



to the entry by way of a small courtyard.

Sustainable materials can make economic sense

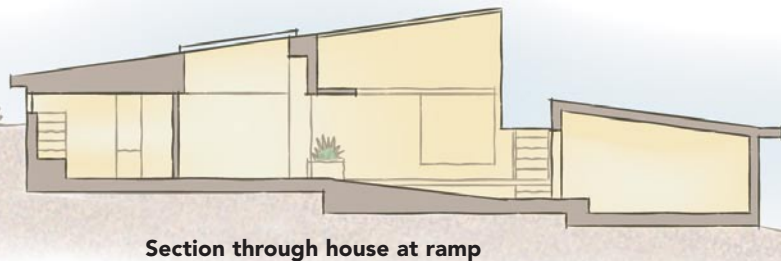
While our first ideas were noble, such as rammed earth or adobe walls, they were expensive. After a few doses of reality regarding exotic products and construction methods, we settled on material and design choices that would help us get the most bang for our buck.

We chose Rastra walls for exterior construction (www.rastra.com; 505-792-5554). Similar to concrete block, only larger, these units are made from a mixture of recycled polystyrene and cement. They are made locally in the Southwest and can be stacked easily to about 18 ft. After the blocks are reinforced with steel and filled with concrete, the wall has an impressive

insulation value of R-40. The thermal mass of these walls tempers Arizona's intense climate, absorbing extreme heat during the day and releasing it into the home when the temperature is cooler at night. Also, the blocks can be finished with stucco on the outside and plaster on the inside, minimizing materials and labor.

Using the concrete-slab floor as the finished floor also eliminated unnecessary materials. After a simple polyurethane finish, the floors unify the spaces, are easy to maintain, and keep feet cool in a hot climate. Rugs are in key spots where it's preferable to have something soft underfoot.

Yes, the concrete cracks. This was my mother's main concern when we told her what we wanted to do. But after spending time in the house, she has come to the conclusion that the



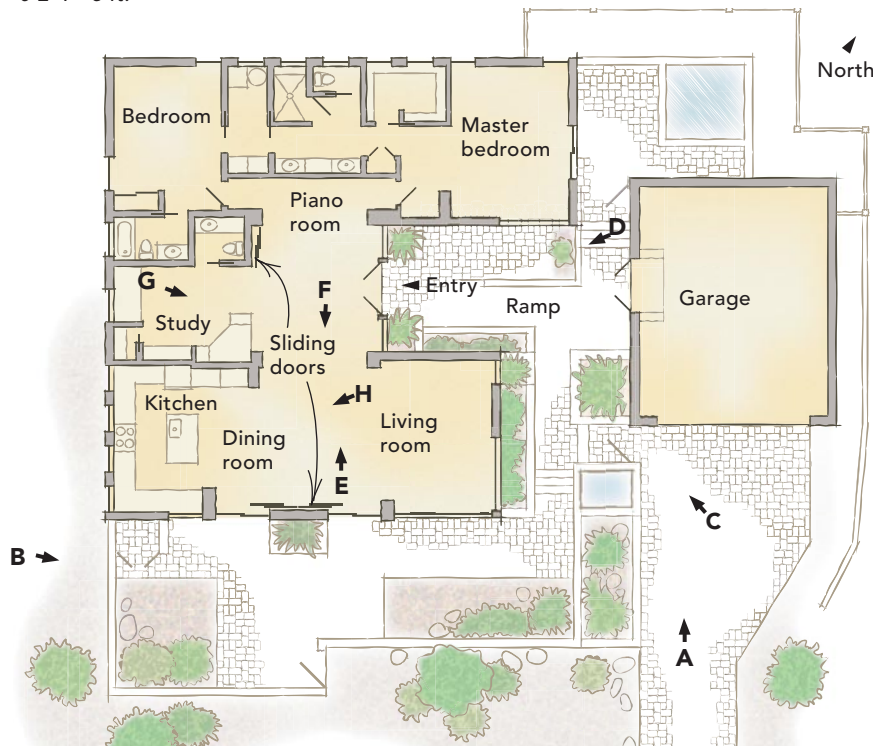
Section through house at ramp

Staying level on a sloped lot

Digging the house 6 ft. into the hill on the west side shields the house from the afternoon sun. Fill from the cut was used to build up the lower portions of the lot to the same floor level. Big sliding doors (photo above right) can be rolled in front of the glass doors for privacy. Photo taken at F on floor plan.



0 2 4 8 ft.



SPECS

Bedrooms: 2 or 3 (study converts to bedroom)

Bathrooms: 2½

Size: 2400 sq. ft., including garage

Cost: \$112 per sq. ft.

Completed: 2003

Location: Fountain Hills, Ariz.

Architects: Dave Otte and Jessica Molinar

Builder: Edbear Construction

Photos taken at lettered positions.

A desk with a view. Adjacent to the piano entry, the study has one of the best seats in the house. In the center of the photo, the living-room windows are arranged to take best advantage of views of distant mountains and a nearby arroyo that will remain off limits to future development. Photo taken at G on floor plan.



cracks add character and have their own innate beauty.

Because we used exposed concrete inside the house, it didn't seem right to use it outside, too. By substituting dry-laid pavers on the patios and driveway, we limit runoff from heavy desert rains and minimize the amount of impervious cover. Also, native plants and landscaping are used rather than the standard suburban lawn. A modest fountain anchors the corner of the house near the garage and splashes a refreshing backdrop of water music around the patios.

While the surrounding houses have red-clay tile roofs, we chose to use standing-seam metal roofing. This choice resulted in a lighter roof structure with a neutral color choice that also helps the house to blend in with the surrounding landscape, especially when seen from the busy street above.

The biggest splurge turned out to be something my parents now consider necessary. We wrapped the south and east facades of the exterior with canvas awnings to mitigate heat and brightness from the Arizona sun (www.coolaroo.com; 800-560-4667). Although the initial investment was significant (\$13,500, plus \$1,000 for engineering), these awnings allowed us to use more windows to gain expansive views,



You wouldn't know it's mostly underground. Windows at the top of the west wall let in plenty of light without grabbing valuable cabinet space. The recessed overhead fan is tucked into its own cavity to keep it from looming too large in the lower ceiling. Photo taken at H on floor plan.

and they give a glowing light without the glare, not to mention a reduction in cooling costs.

Making it affordable

All our ideas to create a home specifically for my parents and brother hinged on being able to afford it. While I remind my dad that the architectural

services were free, he prefers to focus on other aspects of the house that made it fit the budget. After reading books on being your own contractor, he decided to give it a try. While this decision caused more work and headaches for my parents, it saved them half of the typical general-contractor costs.

Larger, more expensive lots had better views and were easier to build on, but we made an affordable one work just as well. For example, putting the kitchen on the west wall (photo left) where it could have high windows gave it plenty of daylight without sacrificing cabinet space.

By minimizing materials, simplifying the layout and structure, and compressing the home's uses into a tighter footprint, we gained an economic efficiency that functions better, too. Carefully chosen off-the-shelf appliances and fixtures were installed, and my parents used an eclectic collection of existing furniture rather than buying new. In the end, the house cost the same as comparably sized homes for sale in the neighborhood, which made my parents very happy. □

Dave Otte and his wife, Jessica Molinar, collaborated on the design of this house. They are both architects in Portland, Ore. Photos by Charles Miller.

Would we be our own contractors again?

Deciding to build our house without a turnkey contract with a general contractor was not our first choice. But when we showed our plans to recommended local contractors, the response was disappointing. Our house was too small for some and too custom for others. In the end, we chose to act as our own general contractors. We hired a project manager who had a general contractor's license and would work on a fixed fee. Any unforeseen expenses, mistakes, and cost overruns became our responsibility.

When construction began, we relied on the project manager and his subcontractors to get the house out of the ground. We spent most of our time shopping for custom fixtures and appliances as well as finding and obtaining bids from subcontractors for the more custom aspects of the house.

Because our project manager did not have a sense of urgency, delays occurred. We became involved on a daily basis, and our initial six-month plan stretched to over 11 months. During the final month, we were working with the subcontractors directly, trying to complete the last details and satisfy the inspectors. We finally celebrated when our certificate of occupancy was issued the same day we had to vacate our previous residence.

We love our new home, but if we were to build again, we definitely would be the owner-builder. We saved at least 8% of the construction cost, maybe more, because we got bids from many subcontractors and suppliers. There are risks, and it takes a lot of effort. But the potential savings and satisfaction of being directly involved make it worthwhile.

—James Otte