

Making the Grade

Hillside development often involves a profitable, but rugged, path.

With available flat land getting more expensive and scarcer, some residential developers reckon there's gold in them hills.

"These parcels are hard to develop and tend to have more environmental and geological issues, especially on the West Coast," notes Randy Jackson, president and principal in charge of design for The Planning Center in Costa Mesa, Calif. "So many hillside sites have been passed over until their value has gotten so high that someone goes after them."

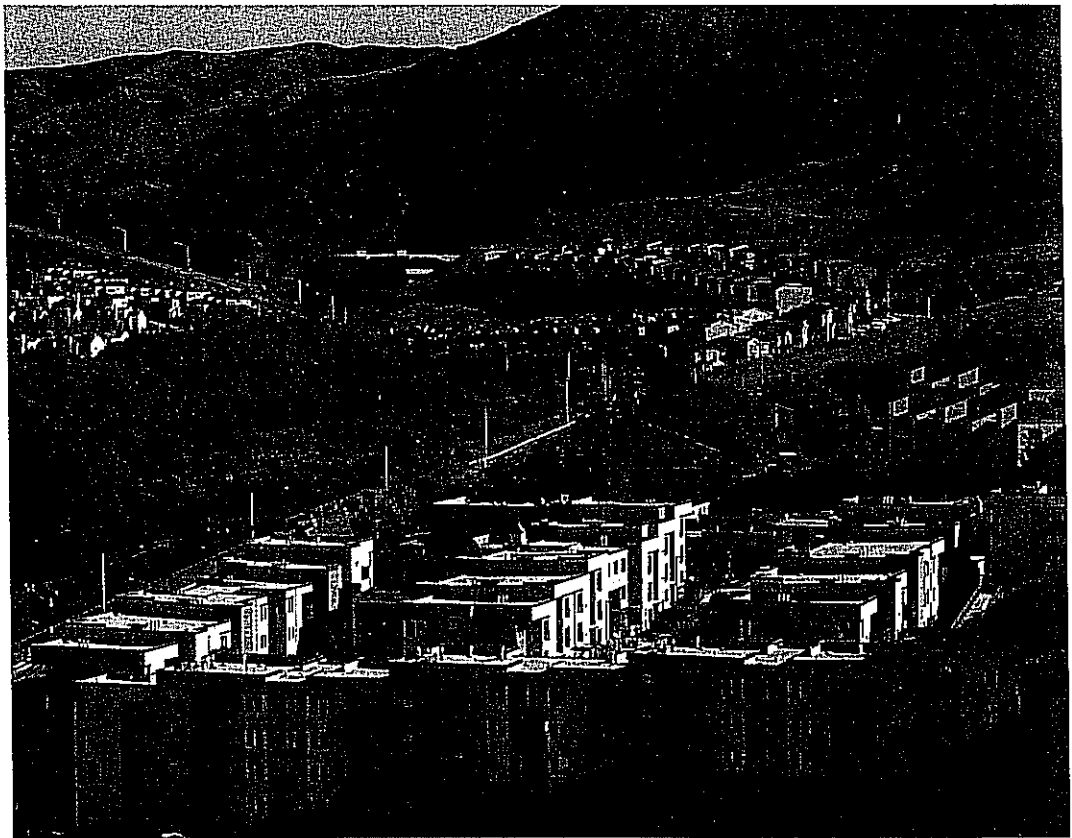
Still, even if a hillside property sells for less than available flat land, the development costs can whittle away profitability. "You have to address the hassle factor," Jackson explains. "You've got to make sure the challenges and the costs are worth it. Can you get the higher densities and clustering of product to create views people will pay a premium to see?"

For smart developers, the answer is yes—if they follow a few essential steps.

SEEK PROFESSIONAL HELP

The first item on any hillside developer's punch list should be consulting with geologic engineers and experienced builders.

"To assure we get the home started on a solid foundation, [we] always get a geotechnical engineer involved," says Allan Cox, vice president of Knoxville's Denark Construction, which has built several single-family projects on rugged terrain in and near the Great Smoky Mountains. The company is currently



HIGH AND MIGHTY: With level land at a premium in San Francisco, Mercy Housing California headed for the hills. Its affordable housing community, Carter Terrace, perches on a hillside in the Visitacion Valley neighborhood.

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working on the Estates at Norton Creek, a 750-unit single-family development perched in the hills of Gatlinburg, Tenn.

Engineers determine if the soil can support the load and that slopes are stable. They can also identify the flow of water and the location of bedrock and other subterranean issues. Finally, engineers estimate how much dirt needs to be moved to create pads and

where fill should go to create ridges, and figure out how to address the slope for maximum density.

"There are so many i's to dot and t's to cross," says Tim Reese, owner of Centerline Development, a developer/builder in Crescent Springs, Ky. "You have to trust your engineers."

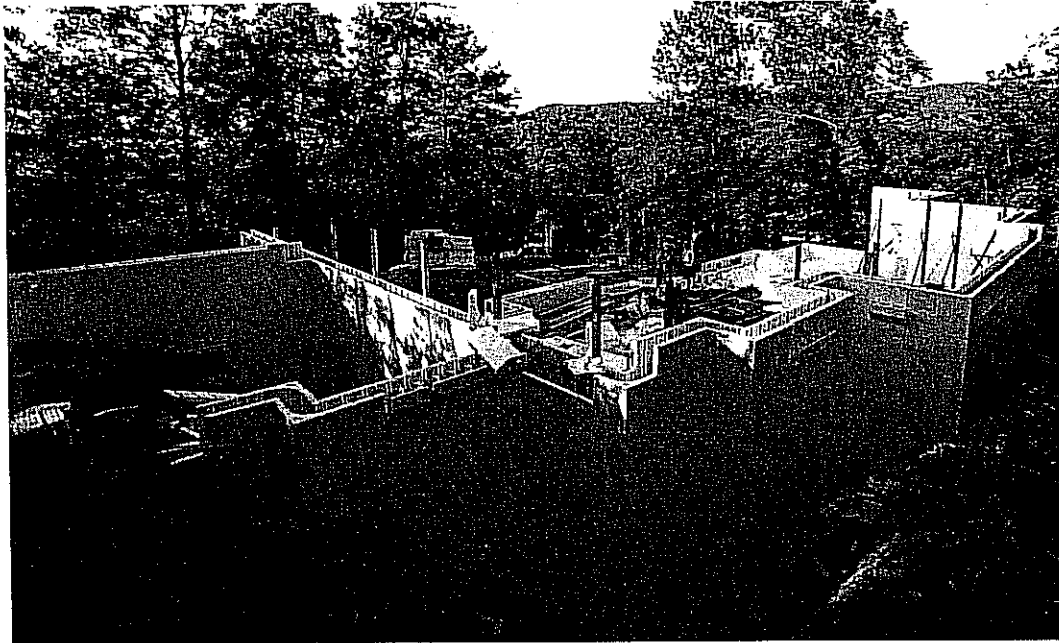
After one successful hillside project, the Devou Lofts in Ft. Wright, Ky., Reese considered

another site nearby. "We spent two-and-a-half years working it out before deciding to let it go," he recalls. "When the engineers are skeptical, it's not a good idea to move forward."

ADD TIME AND MONEY

While every developer has a contingency, hillside projects require even more cushion. "The additional expense will vary depending on the severity

EWEN YACERIS OF MERCY HOUSING CALIFORNIA



STEP BY STEPPE: Denark Construction uses an insulated concrete form system to build on the rugged terrain of the Estates at Norton Creek in Gatlinburg, Tenn. The building system reduces on-site material handling.

of the slope," Cox explains. More complex foundation systems, retaining walls, drainage systems, material handling, and site logistics all add to the price tag. "As a rule, the premium should range from 10 percent to 20 percent," he advises.

Even with a healthy contingency, budgets can be squeezed tight. "We spent half a million just on retaining walls," Reese says of the 49-unit, \$9 million Devou project. "Plus, we removed 70,000 yards of dirt at \$10 per yard. That adds up."

So does time. "Big grading projects can take as much as a year to compact, and you can't do anything until the fill is settled," Jackson explains. "That can slow you down."

Many builders work with suppliers to get more versatile terrain-tolerant vehicles to deliver the products, or they spread deliveries out. More trips means less progress.

"If you need 10 semis of material, you'll probably have to

order ... one truck 10 days in a row," Reese laments.

FOLLOW THE SLOPE

Creating enough flat grade to build on is difficult without extensive grading and excavating, which is not only expensive but also prohibited for environmental and aesthetic reasons in some cases. This forces developers to think more creatively about density and design.

"You have to match the product to the land," Jackson asserts. "If you create a perfectly flat pad, you lose the value of the hillside. But if you can step the product front and back or side to side, the buildings pick up grade as they go, so you maximize the horizontal land."

Carter Terrace is a 101-unit affordable housing community in San Francisco's Visitacion Valley neighborhood. "The initial design concept was to cut the site into various flat terraces to deal with the hillside," explains Ramie Dare, housing

developer for Mercy Housing California, the project's creator.

But that was too expensive, so they decided to "follow the slope," building separate structures along the rise, mirroring the city's famed row houses.

But going with the flow can create its own problems, Dare points out. "Consideration must be given to the type of community you want to create: who your residents will be, how physically connected they need to be to the neighbors and the amenities of the area, and how connected you want your development to be to the area."

Carter Terrace residents are seniors and families. "We had to grapple with maximizing an accessible path of travel for people with disabilities on a sloping site," Dare says.

At Devou Lofts, Reese used long stairways at the entrance of his units. "People loved the units but thought there were too many steps," he says. "We had to redesign the floor plans for the

next two buildings to change the elevations. That slowed us down about a year."

CONSIDER THE VIEWS

Views are the selling point for any hillside project. "We recommend a 30-foot split between pads so you can get the views from any unit," Jackson says. "If you're in a premium-loving community, people will pay more to be looking at the city lights, the coast, the mountains. In California, we're getting \$10,000 per square foot for rooms with views."

While residents want new views, neighbors want to preserve old ones. "Neighbors will moan about your taking away their visual open space," Jackson says. "But it's pretty workable if you take it from their [point of view]." For a hillside project located in Simi Valley, Calif., Jackson's team modeled every 100 feet of the view to the development from the freeway and adjacent neighborhoods.

"Using that information, we moved buildings out of the sight line and left the ridge intact so when we were done, you couldn't really see the buildings. In fact, we actually enhanced the view with additional trees."

By doing so much advance work, Jackson created a final development concept that showed attention to views to and from the property and, as a result, kept community opposition to a minimum.

A hillside development is more complicated than a flatland project, but for visionary developers with budgeting smarts and expert assistance, it can be a profitable line of business. Says Jackson, "This kind of development isn't for the faint of heart, but the rewards are phenomenal." ▶

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