



the  
**green**  
house

NEW DIRECTIONS IN SUSTAINABLE ARCHITECTURE

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David Hertz calls it “McKinley 2.0.”

The Southern California architect runs a firm called Syndesis that is well known for its sustainable design expertise and for developing a “green” concrete called Syncrete. He first designed a 2,400-square-foot house for himself and his family in 1996 in Venice, California, which he dubbed the McKinley House after the street on which it sits, just a stone’s throw from the Pacific Ocean. Since then, his family has expanded—he and his wife now have three children between the ages of eight and twelve—and after a while he decided maybe the house needed expanding too. Luckily enough, the property directly north of the existing house became available. Hertz bought it and found himself with a lot that had precisely doubled in size, from 40-by-90 feet to 80-by-90 feet.

Hertz’s original design for the house featured two separate volumes: one holding the main residence and the other, a ground-level garage below children’s bedrooms, with the two boxes linked by a second-story bridge and passageway. In designing an addition, he decided to extend that theme of separate, smallish structures, each with its own use, and created two new buildings on the new lot. By pushing them to the periphery of the property, he opened up space in between for a semi-enclosed courtyard.

The result, which Hertz says was inspired by Indonesian architecture and is executed in a style that might be called Balinese Modern, with mahogany stairs and trellises, is a compound made up of four discrete two-story buildings linked by three enclosed bridges. All four structures face onto the courtyard, which now includes a thin lap pool with its own open-air shower. On the exterior the buildings feature rough, poured-in-place concrete walls. On the interior courtyard side, they are

covered with cast concrete that is smooth and polished enough to be nearly reflective.

One of the new buildings holds a play room on the ground floor and two bedrooms for the kids on the upper story; it is connected to the original children’s bedroom above the garage by a glass-enclosed breezeway, which means that a new “children’s axis” now runs along the eastern edge of the property on the second story. The second new building holds a pool house with a studio above, which can also be used as a guest house for visitors or even, as Hertz puts it, “for a garage band once the kids get a little older.” It is connected to the kids’ building by a third bridge that echoes the bridge linking the two parts of the original house and includes a second-floor bathroom designed to glow, like a lantern floating above the ground, at night.

There was only one snag in the whole process, Hertz says. As an architect who thinks of himself as a staunch proponent of green design, the mere fact of adding that much space, however much his family needed it, nagged at him. “There’s no getting around the fact,” he says, “that on a purely ecological level 4,400 square feet is a lot of house by most of the world’s standards.”

His solution was to try to make it the greenest house of its size he’d ever seen. “I employ green techniques in all my work,” he says, “but I’ve thought of my own house—both the original and now this addition—as a kind of case study, even a working laboratory, for me to live with environmental systems, materials, and methodologies.”

An array of twenty solar panels on the roof generates about 70 percent of the house’s energy needs. Other sections of the roof are given over to flat-plate collectors that provide hot water to the water heater, which then sends it into the concrete floors as part of a radiant heating system. Additional hot water is provided by vacuum tubing on the roof, which uses a parabolic collector to focus the sun’s rays. All the wood used in the house has been sustainably harvested, and much

← The pool house features doors of certified, sustainably harvested mahogany that slide on custom-designed tracks, allowing nearly the entire ground floor to be opened to the outdoors. Solar panels hidden on the roof heat the pool itself.



➤ Hertz used certified epe, a tropical hardwood, on the balcony railings.

➤ The same wood makes up the slats that help shade the breezeway running along the length of the new wing.

➤ The ground floor reuses an existing foundation slab as a finish floor, negating the need for additional flooring.

➤ Natural light is abundant in the top floor of the pool house, which includes a "frameless" skylight above the stair and windows placed to maximize natural ventilation.



↑ The combined living-dining room is hidden from the street by a poured-in-place concrete slab, but light, air, and a sliver of palm-tree view are brought in by operable clerestory windows.

of the concrete is Hertz's own Syndecrete, which contains about 41 percent recycled content and is twice as light, with twice the compressive strength, of normal concrete. The material acts inside the house as a kind of "solar sink" for passive solar energy transfer, storing up the sun's warmth during the day—thus keeping it from overheating the interior—and then slowly releasing that heat during the night.

Hertz hopes that by using Syndecrete in architecturally sophisticated projects like his own residence, he can help speed the adoption of recycled and environmentally friendly products to what he calls "a high-end, design-oriented market segment" that in the past has turned up its nose at green architecture.

He won't be hurt in that effort by the charisma of the house as a whole, which takes full advantage of the balmy coastal climate of Southern California. Wherever possible, Hertz's design blurs the

distinctions between inside and out. "I designed the house in the spirit of architects like Rudolf Schindler, trying to match that manner of living in the California climate, where the building just opens up to the outside," Hertz says. "Being in this climate zone near the ocean allows for a lot of these energy-efficient methodologies to be used."

Indeed, while Hertz says he was careful to keep the literal green-design elements hidden, that strong regional sense helped shape the architecture of the extension as well as the original house, with walkways and sliding doors designed to catch the ocean breezes and the ground-floor rooms flowing seamlessly into the courtyard.

"I always try to make the sustainable elements, even if they're ambitious, subservient to the aesthetic of the architecture," Hertz says. "But you could also say that the way this house responds to the climate became the progenitor of its form."



Exterior Perspective



First Floor Plan



Second Floor Plan