

2011

EXCELLENCE
IN DESIGN
AWARDS



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THE ENVELOPE,

Please

Avid surfers and professors of biology and environmental studies, Arkin Tilt Architects' clients wanted to push the ecological envelope while providing a fun, comfortable house for the family of six, along with a second unit for rental or aging parents. The result is a 2,500-square-foot two-story house that was awarded as this year's winner in the Single-Family Residential category.

Situated in a dense residential neighborhood in Santa Cruz, Calif., the house contains four bedrooms and an office, as well as a small (330 square foot) one-bedroom accessory dwelling unit with its own entrance. The site

borders a linear park that follows a creek two blocks to the ocean. The exuberant south façade and generous terraces play off of the lively public park space while taking advantage of the western shading of the creek-side sycamore.

The street side presence is more subdued with smaller glimpses of the active spaces within — through a thick, insulating strawbale wall.

Combining cutting-edge mechanical technology with natural building techniques, passive solar strategies and locally sourced elements, this house is designed for net-zero energy and minimal carbon footprint. Good daylighting, supplemented by fluorescent and LED lighting, and ENERGY STAR-rated appliances keep internal energy loads low. When needed, an ultra-efficient Altherma electric air-to-water heat pump produces hot water for domestic use and space heating via radiant tubing in the concrete slab on the main level and a topping slab at



A MADROÑE TREE HIGHLIGHTS THE DINING ROOM'S HEIGHT.

The **Single-Family Residential** winner mixes a highly insulated envelope with cutting-edge technology.

THE ENVELOPE, **Please**

the upstairs bath. This usage is offset by a 5.2 kW photovoltaic array mounted on the roofs of the office and the stairwell volume. Natural gas is used only for cooking.

An efficient plan, solar panels and a well-insulated envelope mean that little supplementary heat is needed. Strawbale walls wrap the north and west, while the wood-framed south wall features extensive glazing,

opening up to the sun to bring daylight far into the living spaces. Deep overhangs and trellises shade the spaces in the summer time while still filling the rooms with daylight.

With no mechanical cooling, natural ventilation occurs by simply opening windows, particularly the high windows in the two-story dining space which can be left open for night flushing if necessary.

2011 RESIDENTIAL SINGLE FAMILY CATEGORY WINNER

Name: Santa Cruz Strawbale House

Submitted By: Arkin Tilt Architects

Date Completed: June 2010

Size: 2,170 square feet

Location: Santa Cruz, Calif.

Winning Team

Architects: Arkin Tilt Architects
Partner-in-Charge: Anni Tilt and David Arkin, AIA, LEED, AIA

Clients: Erika Zavaleta and Bernice Tenby
Builder: Marc Susskind of MS Builders

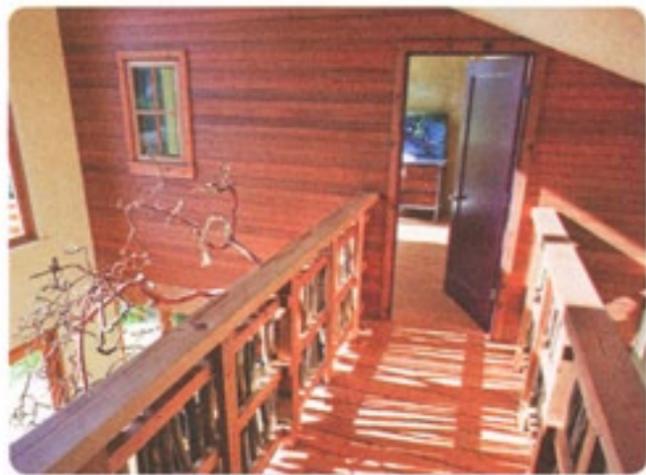
Materials

Flooring: Triangle Coatings (concrete stain)
Roofing: AEP Span (metal roof)
HVAC System and Appliances: Daikin (pump); Frigidaire (Refrigerator); Bosch (dishwasher)
Interior Finishes and Furnishings: Vetrazzo (countertops); Fireclay (tile)
Paints and Wallcoverings: Benjamin Moore (paint); Osmo (finish)
Energy Efficiency: SANYO (PV); Sunny Boy (inverter)
Building Envelope: Sierra Pacific (windows and doors)
Plumbing Fixtures: Toto (toilets)
Landscaping: Turf Block (permeable paving)

Each space serves several functions in the compact house, and the rooms seem to shift and change with the seasons as light and shadow play through them. To wit, the exposed framing in the stairwell becomes a bookcase display, and a built-in bench off the upper hall marks the entry below. The dramatic height of the dining room is accentuated with the natural branching of a madrone tree column, found by the owners on a friend's nearby property. The open dining room is balanced by an intimate living space with a sitting bay rotated toward the park. Recycled and salvaged doors, interior windows, flooring and driftwood pickets, as well as a driftwood column at the entry, reduces the impact of the building and provides character and sense of place.

Open and intimate, flexible and efficient, budget-conscious and playful in overall form and detail, this house speaks to the specificity of its place, reflecting the consciousness and vibe of its urban Santa Cruz site. **EDC**

The above information was provided by Arkin Tilt Architects. For more information on ED+C's annual Excellence in Design Awards contest, visit eid.EDCmag.com.



PUSHING THE ECOLOGICAL ENVELOPE RESULTED IN A FUN AND SUSTAINABLE FAMILY HOME. IMAGES © WWW.EDWARDCALDWELLPHOTO.COM.

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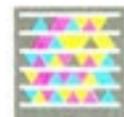
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