



Extreme Makeover Sun Safety Cavalry to the Rescue

With extreme sun allergies, 12-year-old Shelby Pope of Pennngrove, CA sent a video to ABC-TV's *Extreme Makeover: Home Edition*, sharing her struggles living in a 100-year-old farmhouse that offered little relief from the sun's harmful ultraviolet (UV) rays [Figure 1]. When ABC's producers saw no outdoor playing areas she could safely use and a blanket covering her bedroom window, they selected her family for a new home secretly designed by Quattrocchi Kwok Architects of Santa Rosa — giving Shelby indoor and outdoor places to act like a kid and still have a long, skin cancer-free life.

With much fanfare, the family was sent to Disneyland for a week (attending the storied theme park only at night) while the volunteer architects and contractors (Total Concepts) built Shelby a new home *in five days* [Figures 2 and 3]. Amenities include:

- deep porches with broad overhangs that block the sun while allowing daylight and views. As Shelby's mother said, the porches "allow Shelby to go outdoors in shorts and flip-flops and feel the breeze on her face."
- special Low-e glass ("low emissivity" glass) windows that block more than 90 percent of the sun's ultraviolet A and B light. Low-e glass is coated with a microscopic, virtually invisible metallic oxide layer that deflects UV and infrared rays and limits solar heat gain. Most window manufacturers now carry e-glass [Figure 4].
- a covered entry *porte-cochere* – a roofed structure extending from the driveway to the house entrance, allowing Shelby sun protection from the car to her front door [Figure 3].
- a new outdoor pool and sand "beach area" covered by sculptural sails made from Australian "Coolaroo" shade cloth that blocks over 90 percent of the sun's UV rays [Figure 5].

As a bonus, the designers added solar panels that provide the family with electricity. As lead architect Mark Quattrocchi put it, "With the panels added, the sun now works for Shelby instead of against her." ■

