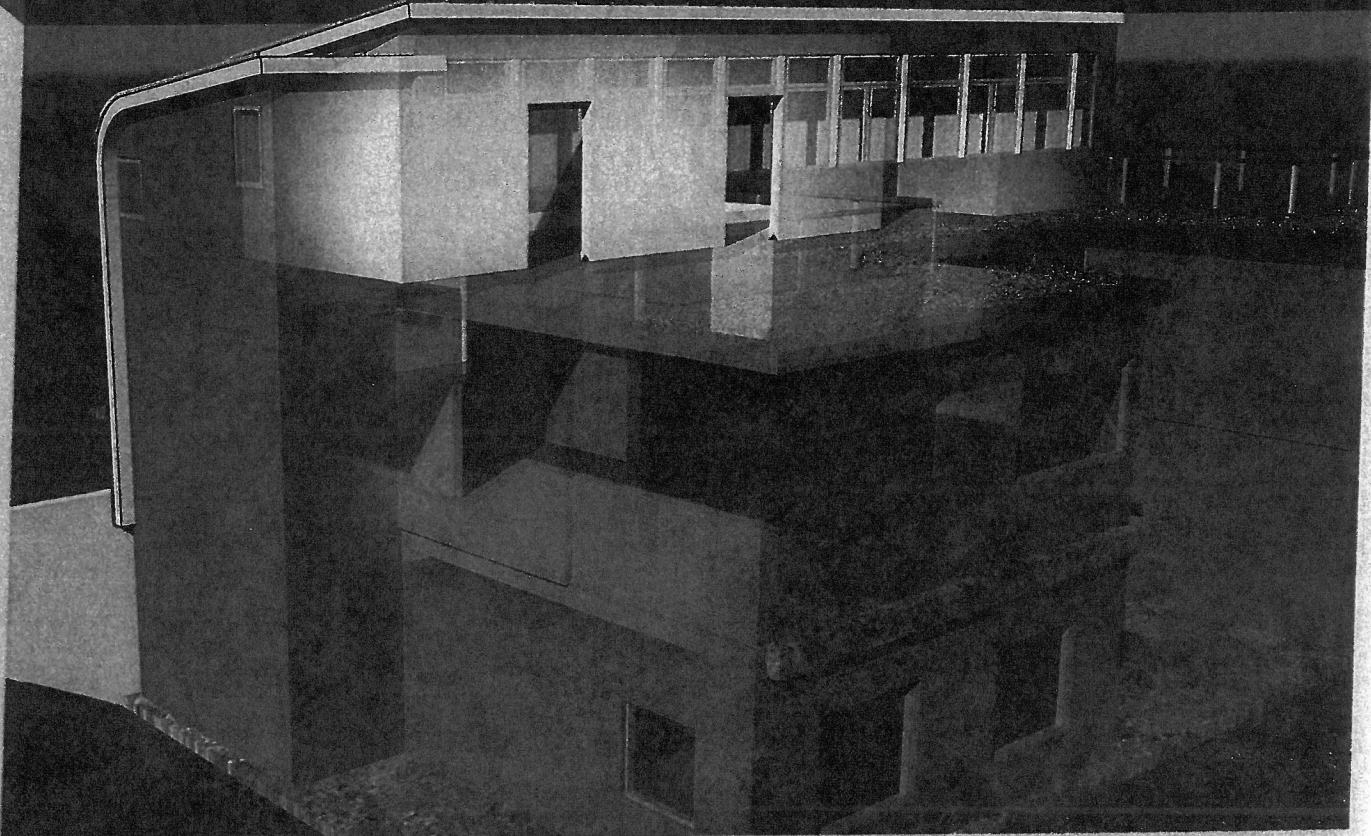


THE GREEN DREAM

ONE MAN'S MISSION TO BUILD AN ECO-FRIENDLY, AFFORDABLE HOME



STAGE #8

POWER WALLS

Sheetrock that cools or heats a house by changing when the temperature does

THE CONCRETE structural walls and cement floors in my newly built green home function as natural air conditioners, passively absorbing heat and slowly releasing it as the temperature in the house drops each evening. As a result, the bones of my home go a long way toward keeping it cool through the summer. Now I've discovered wall panels that do the same thing, and I'm installing 300 square

JOHN B. CARNETT, PopSci's staff photographer, is using the latest green technology to build his dream home. Visit popsci.com/greendream for John's blog.

feet of them in rooms with the most sun exposure to reduce air-conditioning costs and energy use.

Drywall covers the structural beams of a house to create a smooth, insulated and fireproof surface. Typically, it consists of gypsum mineral sandwiched between two sheets of paper or fiberglass. Drywall manufacturer National Gypsum is developing a new product, ThermalCore, that looks similar, but embedded

inside are wax-filled capsules, called Micronal. When the surrounding temperature hits 73°F, the wax liquefies and absorbs thermal energy, cooling the room in the same way an ice cube cools water when it melts. As the temperature drops, the wax solidifies again and gradually releases heat back into the room.

The Green Dream is one of several test cases to determine how different amounts of wax