

THE TIN HOUSE, *miami, fl*

DAVID RIFKIND / FLORIDA INTERNATIONAL UNIVERSITY, *miami, fl*



Front porch and night view of the courtyard. Photos courtesy of the architect.

“I think there are three major themes in this project which make it compelling – social sustainability, ecological sustainability and general design quality. Social sustainability is really important to us, as we are committed to using design to enrich communities. Our house reaches out to engage the street and the adjoining park (rather than hiding behind walls, fences and hedges) in a way that’s analogous to how we engage our neighbors. In terms of ecological sustainability, we’ve designed a house that used little energy to build (through recycled, local and structurally efficient materials), uses little energy and water to operate (through conservation, electricity generation and water filtration), is highly durable (against wind, termites and mold) and provides natural habitat, compared to conventional construction methods in South Florida. In terms of design quality, the house is simply a delight to live in – every room enjoys gorgeous views of the park and gardens, and is filled with light. The house seems generous spatially, yet humble in scale.”

– David Rifkind

The architect and his partner, Holly Zickler, envisioned a home that would be a laboratory for socially and economically sustainable planning and construction in South Florida. Referred to by neighbors as the “tin box” after a popular blog that chronicled its design and construction, the house engages



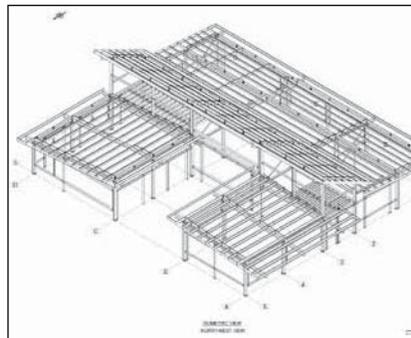
Kitchen and living and dining rooms.

the fabric of the city, integrates with the built and natural environments and experiments with construction materials and methods specifically calibrated to the subtropical climate. The recently completed home was awarded Florida Water Star Gold certification and Florida Yards and Neighborhoods certification that is the measure of commitment to providing habitat for local plant and animal species. The house is soon to be awarded LEED-H Platinum certification.

The house sits at an intersection and opens out toward the corner with a porch. A covered patio extends toward the adjacent park. Rather than being screened by walls or hedges, the house interacts with the street and has visual transparency to promote pedestrian activity in an automobile-centric area.

The dining and living rooms form a single large space that offers views in two directions. On the west, the park is visible and on the east, through a large expanse of sliding doors, the view is into the courtyard. The courtyard is the element around which the house is organized and it provides a fulcrum for the internal spaces. In addition to the eastern and western access to the courtyard, the canopy of a mature tree on the north provides a spatial continuum with the eaves of the house. The courtyard, covered patio and front porch provide three paved exterior spaces, each of which responds to changing climatic conditions throughout the day and across the seasons.

The house has a structural steel frame and the walls and roof are prefabricated



Steel isometric of the house, courtesy of the architect.

panels with thin steel faces on both sides of a thick layer of foam insulation. Among the benefits of using steel in South Florida is its resistance to termites, its resistance to mold growth and its ability to resist hurricane-strength winds with a minimum of material. This house has three-inch thick walls compared with conventional local construction requiring external walls to be 11-to-15 inches thick. The recycled content of structural steel is over 75 percent and its durable finish should last much longer than paint on stucco. Steel also provides an ideal surface for supporting thin film, fully adhered, hurricane-proof photovoltaic panels.

An unintended consequence of the house's steel frame construction is that the process became something of a public spectacle. The house provoked local discussions about sustainable construction and site development strategies and it provided an opportunity for building inspectors to study the successful use of technologies they hadn't previously encountered. ■

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