CROSSROADS

A SHELTER AT THE INTERSECTION OF ENVIRONMENTAL RESPONSIBILITY AND SOCIAL JUSTICE *Oakland, CA*

On a nondescript section of Oakland's bustling International Boulevard, one building catches the eye from blocks away. A vivid yellow wall juts out at a sharp angle near the fourth-story roof line, signaling that this is no ordinary place. The facility, Crossroads, is Alameda County's newest and largest homeless shelter. With that yellow wall standing out like a beacon of hope, Crossroads' new building provides dignified temporary housing for homeless people seeking to regain their self-reliance.

Owned and run by the not-for-profit East Oakland Community Project (EOCP) and designed by Kodama Diseño Architects and Planners, the 125-bed facility may be the first green homeless shelter in the country. Crossroads was built from the ground up by general contractor Oliver and Company using environmentally responsible design principles and construction technologies. All the green strategies support EOCP's service mission, from solar electric panels that defray the high energy costs of operating a large, 24-hour residential facility, to nontoxic building materials and furnishings that contribute to healthier living spaces.

LOCATION
7515 International Boulevard, Oakland, CA

PARCEL SIZE
0.3 acres (13,492 sq. ft.)

BUILDING TYPE
Four-story building with dormitory housing; 17 parking spaces for employees including 3 spaces on parking lifts

TOTAL SQ. FT.
24,324 sq. ft.

TARGET POPULATION
People in need of transitional or emergency housing, including single men and women, families, and persons with HIV/AIDS

CAPACITY
125 residents; 47 part and full-time employees

COMPLETION DATE
January 2008

OWNER/DEVELOPER
East Oakland Community Project

ARCHITECT
Kodama Diseño Architects and Planners

GENERAL CONTRACTOR
Oliver and Company

PROJECT MANAGER
Jonathan Austin,
JSA Consulting Services

ORGANIZATIONAL/FUNDRAISING CONSULTANT
Natalia López

CONTACT FOR MORE INFO
Wendy Jackson
Executive Director
East Oakland Community Project
7515 International Blvd.
Oakland, CA 94621

TEL 510-532-3211
EMAIL eocp@eocp.net
EMAIL www.eocp.net

GREEN at a GLANCE

Key green aspects of Crossroads are listed here.

PLANNING & DESIGN

- Urban infill site
- Wide sidewalks with street trees as buffer from busy street
- Bicycle racks at entrance
- Parking lifts reduce size of parking area
- Proximity to public transit, neighborhood services, parks
- Onsite amenities include computer room with high speed Internet access, commercial kitchen, dining room, 2,288-square-foot courtyard with play structure and seating
- Anti-graffiti exterior paint
- Design for daylighting and natural ventilation
- Adaptable design
- Design for long-term affordability

SITE

- At least 75% of construction and demolition waste diverted from landfill disposal
- Limited landscaping: drought-tolerant species, no turf
- Light pollution reduction: outdoor lights shielded or Dark-Sky certified

STRUCTURE

- 35% flyash concrete
- Engineered wood I-joists
- Durable siding: fiber cement and stucco
- Fiberglass insulation with no added formaldehyde

SYSTEMS

- Water-efficient faucets and showerheads with flow rates below code requirements
- Commercial kitchen with external grease interceptor for keeping grease out of wastewater
- Radiant hydronic space heating (wall panels) with 85% efficient boilers
- No air conditioning
- Energy Star ceiling fans
- Bathroom fans vented to outdoors, controlled by humidistat or light switch
- Kitchen range exhaust vented to outdoors
- 30-kW photovoltaic system

Green Building Features

CONNECTING PEOPLE TO THE PLACES AND SERVICES THEY NEED

For 17 years, EOCP operated a 105-bed shelter out of a damp and dilapidated warehouse. The City of Oakland was paying nearly $23,000 a month to rent the space, and heating bills were through the roof. EOCP's executive director, Wendy Jackson, believed that the City deserved more value for what it was spending on rent and the shelter's residents deserved a more dignified setting for getting back on their feet. EOCP clients seem to agree. "The new environment is cleaner, warmer and better," said Clavell Coleman, who has lived in both buildings. "The other place was like it was waiting for a wrecking ball."

In the late 1990s, Jackson began planning and fundraising for a new state-of-the-art facility. When she first started talking about EOCP's vision for a new shelter that was durable, energy efficient and healthy, people would agree with her that homeless people need a decent place to live, "but they didn't see beyond that," Jackson said. "Back then it was not as big a deal to others as it was to me." In the ensuing years, however, Jackson has witnessed "a lifting up of national consciousness"—a recognition that green building can make all types of housing "a better place to be and more economically feasible to operate," she said.

At Crossroads, which opened in January 2008, single residents share dorm rooms in men's and women's wings. Five family rooms with private bathrooms occupy another wing. Crossroads also provides a respite dormitory for homeless people recently released from the hospital, and a bathroom designated for transgender individuals. Residents receive comprehensive support services to recover from homelessness, including case management, life skills training, health care connections, mental health and substance abuse counseling, housing referrals and career counseling.

The facility is built on an urban infill site well served by AC Transit bus lines, and the Coliseum BART station is a short bus ride away. Although the building fills most of the lot, the design team took care to provide appealing outdoor space for residents and employees, including a 2,288-square-foot courtyard with a play structure, tables, seating and plantings, and a fourth-floor roof deck adjacent to the staff's lounge.

Interior spaces were designed to be adaptable and multifunctional. The 1,509-square-foot dining room has movable partitions so the room can be used during the day for meetings, training and other activities. Administrative staff offices have partitioned workspaces instead of interior walls for easier and more affordable reconfiguration in the future.

REIGNING IN ENERGY COSTS AND GREENHOUSE GAS EMISSIONS

The old shelter's escalating energy bills were tough on EOCP's budget and frustrating for Jackson and her team because much of the money spent on energy didn't actually help keep residents or staff comfortable. Instead it was wasted by the building's inefficient heating system and lack of insulation. "Energy costs provided a strong financial impetus for going green," said Jonathan Austin, an affordable housing and homeless shelter consultant engaged by EOCP to help manage the development process.

In the new building, hydronic radiant wall panels served by boilers warm the building without blowing dust and other allergens the way that ducted forced-air systems do. No air conditioning was installed; given Oakland's mild coastal climate, operable windows and Energy Star–qualified ceiling fans will provide adequate cooling even on hot days. Good daylighting design eliminates the need for daytime electric lighting in many parts of the building, and is supplemented by energy-efficient, low-mercury fluorescent lighting.

On the roof, a 30-kilowatt (kW) photovoltaic system is expected to generate roughly 48,500 kilowatt-hours of electricity per year. This will offset 25% to 33% of the building's projected electricity load, reduce its greenhouse gas emissions and help keep energy expenses manageable for decades to come.

INSIDE TIP:

Seek out creative financing mechanisms for renewable energy systems.

There came a point in Crossroads' development process where Austin, EOCP's development consultant, nearly despaired of finding funding for a photovoltaic system. The roof had space for a 30-kW system—a large, costly system by a homeless shelter's standards, but too small to attract investors willing to help fund solar installations.

Third-party investment deals are gaining traction among nonprofit organizations unable to benefit directly from federal tax credits available to corporations and individuals who purchase solar electric systems. Under these agreements, an investor pays for some or all of the PV system in order to take advantage of the tax credits and depreciation benefits. The investor then sells the electricity generated by the system back to the nonprofit organization, usually at a fixed rate.

The problem, said Austin, is that "it's hard to find an investor willing to invest in a 30-kW system. Most investors want to fund larger systems. They're looking for 100-kilowatt systems or larger."

He was about to give up on finding a funding mechanism when he heard from the Nonprofit Solar Alliance, a project of the Northern California Land Trust that was set up in 2006 to help provide energy security to those who need it most. The alliance had put together a pilot project consisting of three land trust properties and a nonprofit group. With the addition of EOCP's project, they had an aggregated solar investment that attracted the interest of Enterprise Community Foundation. Enterprise invested $200,000 in a for-profit limited liability corporation created by the alliance. In return, Enterprise gets a five-year federal depreciation and a tax credit for each of the five solar installations.

EOCP and the other groups participating in the LLC had to come up with the balance of the funds to purchase their PV systems. With a California state rebate of $79,000 and a $72,000 offset from Enterprise, EOCP is only paying $99,000 for a $250,000 PV system. They expect to pay a very low rate of $0.06/kWh for electricity generated by the system for the next five years, after which they will own the system outright.

Now that the deal is done, Austin's only regret is that Crossroads couldn't accommodate a larger system. "If I could do it over again," he said, "I'd want to do a 50-kW or even a 100-kW system, but 30 kW is what will fit on this roof."

GREEN at a GLANCE

FINISHES & FURNISHINGS

- Walk-off mats at entryways
- 50% recycled exterior paint
- Low-VOC interior paint
- No-VOC linoleum adhesive; solvent-free, low-VOC sealants and caulking
- No-added formaldehyde cabinet boxes and counter substrates
- Durable and environmentally preferable furnishings, including locally made products, FSC-certified wood beds, recycled steel lockers, and common area furniture made with solvent-free adhesives
- Environmentally preferable, low-emitting flooring
- Energy and water-efficient refrigerators, dishwashers and clothes washers
- Central laundry facilities
- Recycling receptacles in offices and common areas; central collection on ground floor
- Fluorescent lighting with low-mercury lamps
- Energy-efficient gearless elevator
- Outdoor play structure and seating with recycled-content steel

OPERATIONS AND MAINTENANCE

- Transit information provided to residents
- Educational signage in lobby

HEALTHY SPACES SUPPORTING RECOVERY FROM HOMELESSNESS

For the Crossroads development team, building green meant more than saving money. It also meant supporting EOCP's mission of "helping homeless people transition to well-being." While the old shelter provided a roof over people's heads, that roof leaked, leading to mold growth in the building. The new facility, said Andrew Dibblay, an EOCP client who has lived in both buildings, "is warm and bright, with a happy atmosphere and a nice ambiance."

"I see people who have to get up and go," Jackson said, whether they're heading off in the morning to work or to get their children to school. "Here they're really able to get up and go." And residents who may have just gotten out of the hospital or are ill, "if they need to relax, here they can relax."

Interior spaces, including the lobby, dormitory rooms, offices, common facilities, bathrooms and corridors, are designed for good daylighting and natural ventilation, with high windows that reflect natural light off ceilings and operable windows that provide cross breezes. "It's bright, cheery and the air quality is good," said Jackson.

Flooring was chosen that is long lasting, easy to clean and low in emissions of potentially harmful chemicals. On the first floor, colored concrete was used (with an epoxy finish in the respite care and kitchen areas to meet code requirements). The other three floors have natural linoleum tile flooring, installed with a zero-VOC linoleum adhesive. EOCP evaluated the use of sheet linoleum, but chose linoleum tiles because they can be individually replaced and cost less per square foot for installation.

To protect indoor spaces from formaldehyde pollution, the design team chose no-added formaldehyde insulation, cabinet boxes and countertop substrates. Low-VOC construction adhesives, caulks and paints were used throughout the interiors.

FREEING UP RESOURCES BY CHOOSING PRODUCTS THAT LAST

When choosing building materials and interior finishes, "the emphasis was on anything that can make the building last longer," said Austin. "These guys are not developers," he noted of EOCP, and the staff needs to be able to focus its budget and resources on providing services, not maintaining or replacing short-lived products. "They need things that will last for the long term, 30 to 50 years, like steel and concrete."

Materials specifically chosen for their durability and low maintenance include aluminum (rather than vinyl) windows, polished concrete floors on the first floor, linoleum tiles on floors two through four, a roof with a 30-year warranty, ceramic tile walls and floors in bathroom showers, metal stairs, and fiber-cement and stucco exterior siding. An energy-efficient gearless traction elevator reduces the necessity of parts replacement and disposal and eliminates the need for an elevator machine room.

Although durability and low maintenance were priorities, Jackson emphasizes that "a green building does require that you be involved with the building," including learning how the systems work and making environmentally responsible choices every day. "This building is eco-friendly and it means we have to follow the rules of eco-friendly living." For Jackson, that includes recycling, setting up a composting program and even encouraging staff to fill reusable bottles with the shelter's filtered water rather buying their own bottled water to keep at their desks.

MULTIFAMILY GREEN BUILDING GUIDELINES
CASE STUDY

CROSSROADS

This Case Study was written by StopWaste.org as part of its Multifamily Green Building Guidelines.

To obtain the Guidelines and many other waste-reduction and green building publications, visit **www.multifamilygreen.org** or call **510-891-6500**

INSIDE TIP:

Make the effort to source more durable materials, even if they cost more upfront.

Some long-lived products have higher first costs but save money over time by reducing maintenance and replacement costs. Linoleum, for example, is more expensive than vinyl flooring but can last three times as long. To cover added upfront costs of certain durable materials, some affordable housing developers apply for grants, while others allocate money saved in one area to pay for pricier products.

For Crossroads' interiors, Austin took a different tack. He approached a number of green building suppliers for donations, and one—Forbo, the manufacturer of Marmoleum brand of linoleum—stepped up with a significant contribution, writing down a substantial amount of the flooring's cost.

Kodama Diseño designed the layout of the multicolored linoleum tiles. The green tiles, which were donated outright, were leftovers from a Martha Stewart project, a reminder that beautiful design belongs in everyone's home.

Financing

Green building features were designed into this project from the beginning.

SITE ACQUISITION COSTS $760,000

DEVELOPMENT COSTS

Construction. $7,463,000
Soft Costs $2,427,000
TOTAL COSTS $10,650,000

MAJOR FUNDING SOURCES

Washington Mutual Bank
(loan guaranteed by City of Oakland) $2,400,000
Alameda County $3,160,000
City of Oakland. $1,150,000
Affordable Housing Program
(Federal Home Loan Bank) $1,000,000
State of California (Emergency Housing
and Assistance Program) $1,000,000

Funding Sources Continued

US Dept of Housing and Urban Development
(HUD) Housing Opportunities
for Persons with AIDS $1,287,500
HEDCO Foundation. $350,000
Y & H Soda Foundation $100,000
Nonprofit Solar Alliance $72,000
San Francisco Foundation $60,000
Stopwaste.Org $50,000
Washington Mutual Bank Foundation $25,000
Evelyn and Walter Haas Jr. Fund $25,000

AVERAGE COST/SQ. FT. . . . . . $438/sq. ft.

AVERAGE CONSTRUCTION COST/SQ. FT . . . . . $307/sq. ft