

Green Products Brighten Multifamily Rehab



by Paul Knight

PAUL KNIGHT

An abandoned inner-city building gets a second life as a ten-unit affordable cohousing project. What's more, the makeover used green products and materials and energy-efficient building practices and appliances.

In Chicago's south side Woodlawn neighborhood, new home construction, condo conversions, and multifamily rehab are becoming common sights in an area long marked by vacant lots and abandoned buildings. Despite such growth, the need for affordable housing in this neighborhood remains great, as poverty continues to challenge the community, and longtime residents fight displacement from gentrification. To meet this need, an innovative project has grown from a partnership between a nonprofit housing developer and a state agency.

The Woodlawn Development Associates (WDA), a nonprofit neighborhood

housing group, completed the rehab of an abandoned 11,694 ft² three-story masonry building this past February. The building had been abandoned for six years and was in need of major, or "gut", rehab.

WDA planned the rebirth of this abandoned building as a ten-unit affordable cohousing project, but it also wanted energy efficiency to be an integral part of the rehab. In addition, green materials and products were substituted for their conventional counterparts. The project was literally topped off with a 2.4 kW photovoltaic (PV) system on the roof. The goal of the project was to plant a green building seed in

what is hoped will become a model for future affordable housing rehab in Chicago. Total rehab cost was \$792,000 (\$79,200 per unit, or \$67.71/ft²).

WDA applied to the Illinois Department of Commerce and Community Affairs (DCCA) for a \$20,000 energy grant (\$2,000 per unit, or \$1.71/ft²) under the Illinois Energy Efficient Affordable Housing (EEAH) program. DCCA provides energy grants to nonprofit housing developers to install energy-efficient products such as insulation, air sealing, and high-efficiency heating equipment. The agency also provides technical assistance with its energy grants. According to Henry

Kurth, energy manager for the Bureau of Energy and Recycling and administrator for the EEAH program, "grants provided to affordable housing developers have resulted in energy-efficient building rehab in over 65 buildings (1,028 units). Annual heating costs in these buildings averaged \$227 per unit. That's a remarkable achievement given Chicago's climate. We believe that the energy efficiency measures we utilize in these buildings are proven and should be used in all multifamily building rehabs."

DCCA estimates that annual heating costs for the WDA building will be \$2,300 at \$0.60/therm (5.0 Btu/ft² F day), or \$200 per unit. They also estimate that annual space heating costs without the energy-efficient building practices would have been \$5,700 (\$570 per unit), for annual savings of \$3,400 (\$340 per unit).

DCCA also provided a grant of \$25,632 (\$2.19/ft²) to cover the incremental costs of selected green building products. The additional cost of the green products represents 3% of the total rehab cost.

In addition, a special grant of \$29,720 was given for a 2.4 kW PV system (\$12.38/W installed). "We felt that the PV system, combined with the energy-efficient measures and the green building products, made a great project that could demonstrate the future of affordable housing projects," said Kurth. The PV system provides power to the common-area panel box. There is no battery storage.

The original rehab plans called for demolition of all interior walls and finishes. New windows and a new roof were included in the rehab work scope, as well as new electrical, plumbing, and heating systems. Fortunately, WDA, its architect (Sam Marts & Associates), and its general contractor (South Chicago Workforce) were all eager to include energy and resource efficiency as integral rehab components (see "Partners Create Rebuilt Housing," p. 40).

Energy Efficiency

The EEAH program was established in 1988. Administered by DCCA, the goal of the program is to promote the benefits of lower utility bills that low-



Spray rock wool was used to insulate the exterior walls.

income households enjoy as a result of living in energy-efficient buildings. The program works closely with Illinois-based nonprofit housing developers to integrate energy-efficient building practices in the rehab of multifamily buildings. Grants are provided by DCCA to help offset the incremental costs associated with increased energy efficiency.

Collectively the energy-efficient building practices included in building rehab are referred to as super insulation (SI). According to Maureen Davlin, program manager of the EEAH program, "SI is a package of energy-efficient building measures that we want to see incorporated in building rehab. These measures include high insulation levels, air sealing and ventilation,

and high-efficiency heating systems. Developers can't pick and choose the energy measures they want. They have to understand that these measures work in concert with each other. When accepting a grant, they are agreeing to all of the energy measures."

"Energy savings have been more than 70% when compared to similar buildings rehabbed without SI building measures," says Davlin. The energy-efficient building practices utilized in the program were described in an earlier issue of *Home Energy* (see "Chicago Apartments Get New Lease on Life," *HE* Mar/Apr '97, p. 23). The measures are briefly reviewed here.

Insulation

The inside faces of the exterior walls were framed with 2 x 4 oriented strand board (OSB) wood studs. The framing was placed on average 1 inch away from the exterior wall, providing a wall cavity depth of 4½ inches for insulation. Spray rock wool (with an R-value of 4.13/inch) was installed in the wall cavity for a total insulation R-value of 18.6. By having the framing held away from the wall, the installers were able to spray rock wool between the studs and the masonry wall, creating a thermal break. The exposed brick in the ceiling cavities between the first and second floor and the second and third floor was also sprayed with rock wool. R-43 rock wool

was installed in the attic crawlspace. See Table 1 for comments on these and other measures by Dave Sullivan, the general contractor at South Chicago Workforce.

Windows

All the windows in the building required replacement. The windows were replaced with double-glazed, low-e single-hung windows by Quaker (Weather Tite series 4050). The frames are aluminum with a thermal break. The R-value of each window unit is 2.88.

Air Sealing

A blower door test was conducted of the entire building following completion of rehab work. The blower door

Table I. Incremental Costs and Contractor Comments

Measure or Item	Incremental Cost	Cost per Unit	Comments of the General Contractor
Engineered wood stud	\$3,699	\$4.50/stud	"The engineered wood studs, like metal studs, have the great virtue of always being straight, so there's little waste. The cost is high, which would probably prohibit their use on most jobs. We would consider using them for top and bottom plates when framing to ensure that walls were installed straight."
Rock wool insulation	\$300	\$0.01/ft ²	"Rock wool could be installed relatively quickly and was not as messy as spray cellulose." Even so, the general contractor said that it was necessary to wash all of the windows after the insulators were finished. Also, the spray rock wool took 7 to 10 days to dry, as the building was unheated at that stage of the work. "After using this product on this project, we now recommend it on other jobs from both a cost and efficiency point of view."
FibeRock drywall	\$634	\$0.36/ft ²	
AFM Safecoat caulk	\$940	\$0.49/oz	"While application and performance of the AFM Safecoat caulk is similar to that of other caulks, the additional labor involved in loading and cleaning the caulk guns would discourage us from using it again."
Low-VOC primer	\$118	\$0.70/gal	"The Glidden low-VOC primer performed as well as regular primer and was far more pleasant to work around."
Hydroline floor finish	\$3,160	\$0.37/ft ²	"Because it smells less, our employees greatly preferred to work with Hydroline."
TerraTraffic tile	\$3,200	\$3.47/ft ²	"Terra Traffic tile was more difficult to set, and installation costs were greater because the dimensions of the tile (length, width, and thickness) and the color vary quite a bit. It's also thicker than conventional ceramic tile, so it requires more grout. The edges of the tile, especially when cut, are exceptionally sharp. Several of my employees cut their fingers installing it."
Carpet padding	\$606	\$0.24/ft ²	"The felt padding is superior to foam. It even helps dampen sound transmission between floors, but it might be a problem if it gets wet, since it may not dry out easily."
Image Stability carpeting	\$349	\$0.14/ft ²	"Installation of Image Stability is the same as for any other carpet. The colors were somewhat bright for my taste, and the carpet has a certain sheen to it, but it looks OK. Despite the claims from our supplier that it was readily available, we had to wait a number of weeks for Mohawk to produce another batch of the selected color. If another color had been chosen instead, availability would not have been a problem."
Finger-jointed baseboard	\$5,879	\$1.63/ft	"In addition to the finger-jointed baseboard and shoe molding, we used finger-jointed door casing for all ten apartments and the public corridors, since all of the trim on the Kimbark project needed paint. Although more expensive than vinyl cove base, the baseboard and shoe molding give the project a much classier look."
Trex plastic lumber	\$2,287	\$0.84/ft	"Trex is performing well. Its nonslip surface is a particularly good quality for porch decking."
Medex (MDF)	\$484	\$0.67/ft ²	"Handles no differently than standard MDF."
Reflective roof coating	\$748	\$0.19/ft ²	"Our subcontractor applied the reflective roof coating. He had no problem applying it. It appears to be holding up very well."
Refrigerators	None		"Though we purchased Energy Star-rated refrigerators, our supplier, Maytag, did not promote their energy-efficient rating. It would be difficult for a consumer to tell from the product literature which Maytag models had received the Energy Star label."

Table 2. Blower Test Results

CFM@50 Pa	ACH@50 Pa	ACH, natural
5,800	3	0.24

was installed in an exterior door opening. Unit doors to the common area were opened and the basement door was closed. The results are shown in Table 2.

Air leakage was also less than 1 inch²/100 ft² of envelope area and 0.17 CFM₅₀/ft² of envelope area. A major air bypass typically occurs in masonry buildings where the floor joists tie into the masonry around the perimeter of the building and at interior masonry bearing walls. This bypass results from the manner in which buildings of this type were typically constructed. Floor and ceiling joists were set in the masonry. The subfloor was not installed tightly to the masonry, as the gap between the subfloor and the masonry would be covered by the lath and plaster. Furring strips measuring 1 inch x 2 inches were then fastened to the masonry. Rather than being cut, the furring strips were installed in such a way that they often extend down beyond the floor plane and above the ceiling plane. The air space created

when the plaster and lath was installed to the furring strips is continuous along the wall between the basement and the attic crawlspace.

Convective air currents from the basement to the attic crawlspace can be established in this space. The first air sealing measure is to seal this bypass and prevent the occurrence of convective currents within the wall. The joint is exposed when plaster and lath are removed. Workers installed expanding foam between the subfloor and the masonry wall to seal the joint.

The airtight drywall approach (ADA) was used to achieve air sealing in the building. Contractors installed drywall from subfloor to subfloor on the first and second floors, rather than from subfloor to ceiling as is typically done. This necessitates notching the drywall to fit around the ceiling joists where the joists are perpendicular to the wall. The drywall can simply be installed to the subfloor or to the bottom of the joists, without notching, where the joists are parallel to the wall. To further prevent heat loss, we caulked the joint between the top of the drywall and the framing and the joint at the base between the drywall and subfloor.

We installed drywall on the top floor in the typical fashion—that is, to the bottom of the ceiling joists—since the top floor ceiling drywall serves as the air barrier.

Penetrations through the drywall on the perimeter of the units and through the top-floor ceiling were sealed to maintain the integrity of the ADA. This included joints between junction boxes and drywall, joints around plumbing penetrations, and joints between window frames and drywall returns.

Mechanical Systems

We installed a central-heating system consisting of two Weil-McLain GV-4 warm water boilers. Each boiler has an input rating of 105,000 Btuh and a seasonal efficiency of 87.3%. Domestic water heating is provided by two A.O. Smith Cyclone water heaters. Each water heater holds 60 gallons, with an input of 125,000 Btuh and a seasonal efficiency of 94%. It's interesting to note that the combined input of the water heaters is greater than that of the two space-heating

boilers. Water-conserving showerheads along with the fast recovery make this system serve the hot water needs of the residents.

Lighting

All common-area lighting is fluorescent. There are a total of 24 27W (648 watts) fluorescent fixtures in the hallways and the stairwell that will remain on 24 hours a day. There are seven exterior 27W fixtures (189 watts) that will remain on at night. A 2.4 kW PV system installed on the roof helps meet the lighting load as well as other loads on the common area (such as emergency exit lighting, laundry lights, and basement lights; see below).

Appliances

The units are equipped with Energy Star refrigerators. Both Magic Chef 18.6 ft³ (CTL1911DEW) and 15 ft³ (CTN1511BEW) models were used in the building. The 18.6 ft³ model is rated at 485 kWh per year with a purchase price of \$479 per unit. The 15 ft³ model is rated at 437 kWh per year with a purchase price of \$351.

Resource Efficiency

In addition to the energy efficiency measures described above, DCCA provided the funds to replace selected building products typically used in affordable housing rehab with resource-efficient building products. (Resource-efficient products are those that use primary resources in an efficient manner, use recycled and secondary resources, and contribute to a healthy indoor environment.) The goal was to identify resource-efficient building products that might be suitable for affordable housing projects. Incremental costs, product availability, and the general contractor's comments about using the products helped to determine these recommendations. Several other suitable products that we had intended to use were not incorporated into the rehab for a variety of reasons (see "Products Not Used," p. 38).

Framing

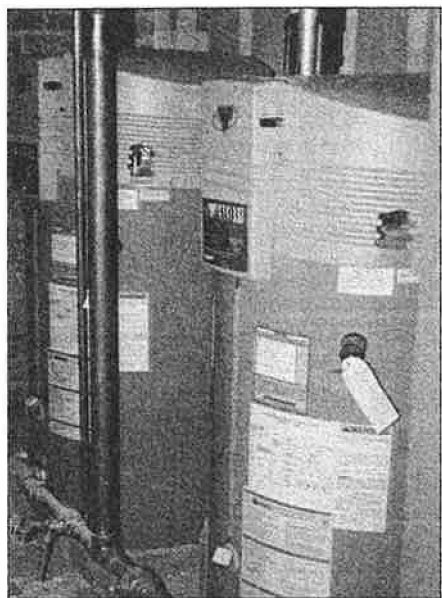
We framed the interior of the masonry walls with FrameWorks 2 x 4 engineered wood studs made by Trus



PAUL KNIGHT

The windows are double-glazed with a low-e coating, and the floor was finished with a water-based polyurethane.

Joist MacMillan. The studs look like OSB and may be ordered to any length. Unlike conventional studs, each FrameWorks stud is straight, with no twisting or warping. The studs can be ordered



Two 60-gallon A.O. Smith Clyclone water heaters provide domestic hot water for the building.

through any lumber supply house.

We ordered wall studs at lengths of 9 ft 8 inches, and top/bottom plate members were ordered at lengths of 24 feet. The OSB studs are denser than a conventional southern pine stud, but this was not a problem, since we were using power saws and pneumatic nail guns. We investigated finger-jointed studs, but they were not available locally.

Rock Wool Insulation

Rock wool is made from rocks such as basalt and diabase. The rocks are heated and spun into fibers to form the insulation. The material is noncombustible and noncorrosive, and will not absorb moisture. The insulation is mixed with a dry adhesive for open-cavity installation. It is mixed with water when installed utilizing a pneumatic spray. Immediately after installation, a stud scrubber is used to shave off the excess insulation, which is then transported back to the hopper for installation. The insulation dried within seven to ten days at the WDA building. The insulation was installed in November and there was no heat in the building.

The installed insulation has a density

of about 4.0 lb/ft³ and an R-value of 4.13/inch. The total R-value of the installed insulation is 18.6. In comparison, the R-value of the masonry wall alone is 2.4. Thus, the thermal efficiency of the exterior walls improved by almost a factor of 8.

Drywall

We used FibeRock drywall (4 ft x 8 ft x 5/8 inch sheets), made from recycled newsprint and gypsum, in the building hallways in conjunction with conventional drywall. FibeRock is about 20% more dense than conventional drywall and should hold up quite well in high-use areas, such as the common areas of buildings like this. However, instead of using FibeRock for the entire wall height, we installed it horizontally and used standard drywall for the upper 4 ft of wall area. This was done to reduce cost. Our reasoning was that the lower 4 ft of the walls would be subjected to greater abuse.

FibeRock has no paper face that will blister or bubble should it get wet. It has tapered edges and can be scored like drywall. The surface can be finished in the same fashion as standard drywall. The joint between the FibeRock and conventional drywall is imperceptible following finishing and

painting. There was no problem in obtaining the FibeRock.

Caulks

We caulked joints, cracks, and penetrations in the building with AFM Safecoat. Safecoat is a nontoxic, water-based interior caulk designed to replace traditional caulk for general air sealing. It is not available in cartridges, only in 5-gallon buckets and 1-quart containers. Like any caulk available in buckets, it must be loaded into traditional bulk caulk guns, which must be cleaned. There was no problem in obtaining the caulk.

The Safecoat caulk was used to complete the airtight drywall work. We used it:

- to seal the drywall to the framing members (top and bottom plates, corner studs, rough-opening members);
- to caulk the base the drywall to the subfloor;
- to caulk the drywall returns to the window frames;
- to caulk the window stools to the drywall;
- to caulk the junction boxes to the drywall; and
- to caulk around plumbing penetrations through the drywall.

Products Not Used

We had intended to use the following products in the building rehab. Although these products were readily available, they were not used for the reasons noted below.

Preserve ACQ Treated Lumber

Preserve ACQ treated lumber is used to replace standard CCA (copper-chromium-arsenic) pressure-treated lumber because it's better for the environment. Preserve ACQ uses copper, but no chromium and arsenic. It provides long-term protection from rot, decay, and termites without using hazardous chemicals. We had intended to use ACQ treated lumber for the back porch structural members. However, the subcontractor was reluctant to make a special trip to purchase the ACQ treated lumber.

Cork Tile

Cork flooring is made from the outer bark of the cork oak tree. The tree is

able to replenish the bark, which is harvested every nine years. We had planned to use cork tile in the kitchen areas in place of VCT tile. However, the hardwood floors were in reasonably good shape in the kitchens, so they were simply patched and refinished with the water-based urethane.

Wheatboard

Wheatboard is made from wheat straw, an agricultural by-product, and can be used in place of particle board in nonstructural applications. We intended to use wheatboard as the substrate for the kitchen countertops, using the excess board for interior window sills. However, the general contractor was unable to persuade his vendor, Home Depot, to have their subcontractor use wheatboard as the substrate for the countertops. Consequently, Medex was used for the countertop.

Low-VOC Primer

We primed the walls and ceilings with Glidden's Primecoat 2000 (now marketed as LifeMaster). This latex primer contains no organic solvents and no VOCs. It is applied in the same way as any primer, dries quickly, and provides a uniform finish. Unfortunately, due to an oversight, the general contractors used a regular latex paint, rather than a low-VOC paint. The primer emitted no odor when drying. There was no problem in obtaining the low-VOC primer.

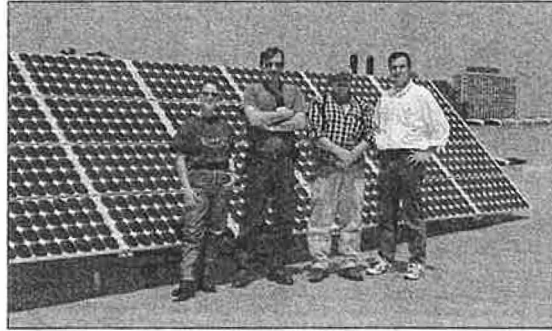
Wood Floor Finish

Most of the hardwood floors in the kitchen and living areas were in reasonable shape, so we simply patched, sanded, and sealed them with Hydroline, a water-based urethane floor finish, rather than with polyurethane. Hydroline dries faster than polyurethane—so much so that two coats can be applied in one day. The coats are not as thick as polyurethane, so a third coat was necessary.

Ceramic Tile

We installed TerraTraffic tile, a product of Terra-Green Ceramics, in place of conventional ceramic-tile floors in the

bathrooms and the front entryway. We also finished the shower walls in three of the bathrooms with the tile. Terra Traffic contains 70% recycled glass. The tile is $\frac{3}{8}$ inch thick and is available in nominal sizes of 4 x 4, 4 x 8, 6 x 6



Maureen Davlin, Allan Fenske, Dave Sullivan, and Paul Knight stand in front of the 2.4 kW rooftop PV system.

and 8 x 8 inches with trim pieces (outcorners, bullnose, bullnose corners, and so on). Prices ranged from \$4.35/ft² to \$8.70/ft² depending on the color of the tile.

Carpet Padding

We installed Mohawk carpeting in all the bedrooms. Underneath it, we placed a recycled felt pad made from waste fibers without chemical additives, held in place with tack strips.

Carpeting

The bedrooms were carpeted with Image Stability carpeting, made by Mohawk from PET (polyethylene terephthalate) plastic. The primary source of the plastic used in the carpeting is 2-liter soft-drink bottles from recycling programs. We used tack strips in place of glue.

Baseboard

Because it is inexpensive, the original rehab work called for a vinyl baseboard. We investigated plastic lumber for baseboard, but found it unavailable in a baseboard profile. An acceptable alternative could not be painted. Instead, we installed finger-jointed baseboard and shoe molding. Due to the additional labor costs of painting finger-jointed baseboard and shoe molding, they are sometimes excluded from affordable housing. They are widely used in the rest of the residential building sector.

Plastic Lumber

The rear porch decking and the handicap ramp are made of Trex, a wood/plastic composite made from reclaimed hardwood sawdust and polyethylene. The product can be cut and fastened just like wood. The porches'

Products Directory

Low-VOC Primer

Glidden
1900 N Jose Ln.
Carrollton, TX 75006

ThermaTech Insulation System

Thermafiber
3711 West Mill St.
Wabash, IN 4699
Tel: (888) 834-2371
Web site: www.thermafiber.com

TerraTraffic Tile

Terra-Green Ceramics
Stoneware Division
1650 Progress Dr.
Richmond, IN 47374
Tel: (765) 935-4760

Carpeting and Carpet Padding

Mohawk
5081 Hwy 116
Lyerly, GA 30730
Tel: (888) 387-9881

FibeRock Drywall

U.S. Gypsum Corporation
125 S Franklin
Chicago, IL 60606
Tel: (800) USG4YOU
Web site: www.usgypsum.com

Cork Tile

Expanko Cork Co.
P.O. Box 384
1139 Phoenixville Pike
West Chester, PA 19380
Tel: (800) 345-6202
Web site: www.expanko.com

Hydroline Water-Based Urethane

Basic Coatings Incorporated
P.O. Box 677
Des Moines, IA 50303
Tel: (515) 288-0231
Web site: www.basiccoatings.com

Engineered Wood Studs

Trus Joist MacMillan
200 E Mallard Dr.
P.O. Box 60
Boise, ID 83707
Tel: (800) 628-3997
Web site: www.tjm.com

Trex Plastic Lumber

Trex
158 Capital Ln.
Winchester, VA 22602
Tel: (800) BUY-TREX
Web site: www.trex.com

AFM Safecoat Caulking

American Formulating and Manufacturing
350 W Ash St., Suite 700
San Diego, CA 92101-3404
Tel: (619) 239-0565

structural framing, stringers, and threads are made of conventional pressure-treated lumber since plastic lumber is nonstructural.

Medium-Density Fiberboard

Medium-density fiberboard (MDF) is usually made from softwood dust or chips that might otherwise be burned or sent to landfills. This represents a good use of a waste product; however, urea-formaldehyde glue is usually used as the binder. The urea-formaldehyde will outgas like many plywoods. This can create an indoor air quality problem.

The interior windowsills, the staircase and entryway baseboard, and the kitchen countertop bases are made of Medex. Medex is an exterior grade, formaldehyde-free panel suitable for applications where moisture may be present. We also used Medex in place of conventional MDF as the substrate for the kitchen countertops.

Reflective Roof Coating

The rehab included reroofing with modified bitumen, which is typically used for reroofing on a building with a

low-pitch roof, such as the WDA building. To help reduce the interior temperature of the top floor units during the summer, we applied a reflective roof coating (#608 Aluminum Roof Coating) over the roof. The roof surface has to be very clean for the coating to adhere. It took about one day to apply the reflective coating.

Photovoltaic System

DCCA provided funds for the installation of a 2.4 kW PV system on the roof. The system will provide power for common area lighting and the laundry. The total installed cost is estimated to be \$29,720, or \$12.38/W.

The PV system consists of four modules. Each module consists of eight 75W Siemens Solar SP75 panels. Each panel measures approximately 21 inches x 48 inches and weighs 16 lb. The panel arrays are mounted on a steel rack, installed during the rehab of the building, that is tied to the roof rafters.

Generated power is converted from DC to AC in an inverter located in the basement electrical room. The

inverter we selected is model SW made by Trace Engineering. A 2-inch-diameter conduit was installed between the roof and the electrical room. A 1- or 1-1/2-inch-diameter would have been sufficient for the wires; however, we did not know the wire size until we closed in the building. Consequently, we chose an oversized conduit to ensure adequate space for the wires.

To keep costs down and to avoid maintenance problems, we opted against battery storage. When electricity is being generated, it is fed into the common-area circuitry in place of power from the electric utility. We expect that excess power will be generated that will feed back into the system at certain times. The system is maintenance-free except, perhaps, for occasional cleaning of the PV panels.

As a result of DCCA's efforts, energy-efficient building practices have been included in Chicago area multifamily building rehab for more than ten years. Much experience has been gained, and to a large extent, the inclusion of energy-efficient building practices is accepted by affordable housing developers, architects, contractors, financing partners, and code officials. These practices have repeatedly been shown to be cost-effective and extremely valuable to residents, who need housing that is affordable to live in and not just to build. The goal of the current project with WDA was to ascertain the appropriateness of green building products for affordable housing projects as well as to demonstrate the use of PV in affordable housing. With the successful conclusion of the rehab of the It is hoped that over the next ten years, many of these products and systems will also become proven measures that will be commonplace in affordable housing. ■

Paul Knight, a registered architect, is a principal with Domus Plus, which is located in Oak Park, Illinois. Over the past 12 years, he has worked with Chicago area and other Illinois-based nonprofit housing developers in the rehab of more than 60 multifamily buildings for low-income households.

Partners Create Rebuilt Housing

Woodlawn Development Associates

Woodlawn Development Associates (WDA) is a community organization seeking to build community from the inside out by mobilizing the capacities of citizens of diverse backgrounds to reinvent their community and cultivate neighborhood life. WDA is working to develop projects that are economically viable and socially nurturing, that address environmental concerns at the neighborhood level, and that are physically safe and attractive.

Sam Marts Architects and Planners Ltd.

Sam Marts Architects and Planners Ltd. provides planning and architectural services to individuals and organizations wishing to plan and build in a responsible yet economical manner.

South Chicago Workforce (General Contractor)

The South Chicago Workforce acts as a nonprofit general contractor for both rehab and new construction projects. In collaboration with building owners and

developers, South Chicago Workforce combines the creation of affordable housing and other community improvements with the creation of jobs in a neighborhood.

Illinois Department of Commerce and Community Affairs

The Department of Commerce and Community Affairs is Illinois' lead state agency responsible for improving competitiveness in the global economy. DCCA staff provide information, assistance, and advocacy to facilitate and advance the economic development process in partnership with Illinois' communities and businesses, and our network of public and private providers.

Domus PLUS

Recognizing that energy efficiency is key to keeping affordable housing affordable, Domus PLUS, a residential-energy consulting firm, is involved with a broad range of activities throughout Illinois assisting in the weatherization, rehab, and construction of energy-efficient affordable housing.