

## NHS of Chicago

## 'Green'-habbing the City's Signature Bungalows

BY JACK JENSEN



NHS models, before and after, in Chicago.

PHOTOS COURTESY NHS OF CHICAGO



Adding extra insulation.

Last year alone, Neighborhood Housing Services of Chicago reclaimed 80 formerly vacant, abandoned properties, acquired another 36 for development, rehabbed and sold 55 buildings, and disbursed grants of more than \$2.6 million to abate or mitigate lead-based paint hazards in 340 units.

It's record makes it one of the largest, most successful, and most visible nonprofit housing organizations in the country.

"We started 30 years ago with 11 staff and a budget of \$200,000," explains Acting Executive Director James Wheaton. "We've grown over time and overall in response to the needs of Chicago's neighborhoods, and as opportunities arose and presented themselves." NHS's staff now totals 94; its budget, \$15.8 million.

One of NHS's opportunities came straight from Mayor Richard M. Daley himself. In 2000, the mayor started the "Historic Chicago Bungalow Initiative," with a goal to preserve and restore bungalows within the city. The mayor decided to focus on bungalows because they make up almost one-third of Chicago's housing stock, and many are in poor condition. Currently, about 80,000 bungalows exist in the city.

The Chicago bungalow is a blend of the Prairie School architectural style, developed in the work of Louis Sullivan and Frank Lloyd Wright, and the Arts and Crafts movement.

Like typical Prairie School homes, the Chicago bungalow has low pitched roofs, wide overhangs, long horizontal lines, massive masonry supports, large rectangular windows, and earth-toned or contrasting colors. The Arts and Crafts movement promoted homes as private and indi-

vidualized retreats from the hectic pace of urban life, and, following this principle, each bungalow has unique features that personalize it.

As a result, you can look at a block of Chicago bungalows and quickly see both the common features and the individual twists.

### Focus on Bungalows

Some of these beauties were on HUD's foreclosed list, and when the mayor announced his Green Bungalow Initiative, NHS went to town. It partnered with the Historic Chicago Bungalow Association (HCBA) to create a "model bungalow block," using four bungalows that were vacant and foreclosed upon in the Chicago Lawn neighborhood of southwest Chicago.

They hired a local architectural firm that specialized in energy-efficient and "green building techniques" to design four models: "accessible," "home office," "young professional," and "classic restoration." Each was fit with energy-efficient windows and insulated with recycled materials, such as shredded blue jeans and newspaper made into batts.

The builders also used low-VOC (volatile organic compound) paint and other green products, such as recycled cork and hardwood floors, slate and linoleum, recycled plumbing, brick and drywall, high-efficiency fluorescent lighting,



Part of a geothermal system.

ENERGY STAR appliances, and low-flow fixtures.

One of NHS's models featured a geothermal heating and cooling system that reached 150 feet into the ground to tap the constant temperature of the earth to heat and cool the home and its water. Another had solar photovoltaic panels, which generate one-third of the home's electric needs, and a green grid rooftop garden to help reduce urban heat and improve air quality.

A third used a sealed combustion boiler system, a tankless hot water heater, and a high-velocity air conditioning system to demonstrate how bungalows with radiators could also have central air conditioning.

The building and reconstruction costs were paid for through the NHS Redevelopment Corporation (NHSRC), the redevelopment arm of NHS, which did the heavy lifting

on the development and coordination side. The subsidy for the homes came from the Chicago Departments of Environment and Housing, a HUD grant, a Commonwealth Edison grant, the Illinois Clean Energy Foundation, the Southwest Home Equity Assurance Program, and the Historic Chicago Bungalow Association. Home Depot and Sears also were involved.

It was very high-profile, and they turned out great.

And green architects, designers, builders, and regular Chicagoans took notice. The homes were featured in several publications, and an entire chapter in *Bungalow Nation* focused on NHS's project. A series of open houses held throughout the summer was attended by more than 2,000 people.

"It's been tremendous publicity for our organization," said Mary Fran Riley, NHS's director of development, public relations, and marketing. "They say, 'Oh, that was you who did those wonderful bungalows.'"

After the hubbub subsided, the new owners noticed something – really low fuel bills. NHS studied fuel bills for the four "green" bungalows and compared them to a "typical" rehab and an occupied bungalow with no upgrades, which was used as a "control" home for the analysis. The findings were compelling:

Actual energy savings ranged from 47 percent to 69 percent compared to a "typical" rehab;

Actual energy savings ranged from 15 percent to 49 percent when compared to the "control" home; and

Estimated energy savings of the "green" rehab ranged from 38 percent to 72 percent compared to a "typical" rehab.

In addition, NHS noticed something else going on in the neighborhood. Other community-improvement activities began, including a neighborhood streetscape project and individual home repairs. The Green Bungalow Initiative had clearly motivated organizations and residents to get involved, and now almost every home on the block has undergone some improvement.

Then, NHS noticed something more. Its staff were invigorated by the project. Though it gobbled up staff time, it enabled them to be creative and learn new skills. "They're really pumped," said Riley. "It was a big winner." The customers, the neighborhood, the organization, the broader community, the planet – all big winners.

### Thinking 'Green'

In the bungalow project, NHS pushed environmental features that few other affordable-housing providers have dared to try.

"The mayor wants to make Chicago green," Riley says, "and, as a city I think we're out in front, with all of our roof gardens and energy programs.

"Good green architects think holistically," says Annette Conti, NHSRC's construction and project manager. "They look at how the whole building functions, from the wind and sun on the site to the lights and appliances – how to use natural light, natural heating, natural cooling, rain, runoff, impact on the environment. It's a new way of thinking about things.

"The most difficult part is getting the contractors to go along with a green program," adds Conti. "Contractors are always slow to change the way they do things."

Conti's vote for most cost-effective



A finished living room.

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feature is the basement blanket. "We should all insulate our basements," she says. "It creates a stable thermal environment at the lowest level of your house. Most homeowners could do it in a couple of weekends."

Next on her list is liberal use of sealants. "The total amount of time spent on a new house caulking and sealing it is less than eight hours," she says. Of course, the key is to get the contractors to spend those hours five minutes at a time as they go, and that's a function of good communication with the job leader. But Conti also thinks that "most people could go around and seal up cracks in their houses in a few hours and save a ton of money."

She also favors fiber-cement siding. "It's easily accessible, not difficult to install, has a long life, and a much longer life than vinyl." Plus, it has a better fire resistance rating and a much lower production impact on the environment.

"The roof garden over the garage was very successful," Conti said. "We did it in four days. We basically beefed up a flat roof, added a parapet wall and a winding stairway so you could have access from your yard to roof, and used the Green Grid system, which was really simple."

The Green Grid system involves an EPDM rubber roof membrane over plywood, pre-planted or unplanted trays with a special formulation of light, moisture-holding volcanic material. Substitute a few recycled rubber mats in the center to create patio space, and watch your garden grow. (*Related article, winter 2004/2005 bright ideas, page 50.*)

"It's been a fun feature, and the public loved it," Conti says. "If you have a small Chicago yard, you're doubling your growing ability." Not to mention doubling the oxygen you create for the greater good, at no charge to anybody.

"Geothermal is relatively expensive, but it's my favorite system," Conti says. "It actually works best on larger buildings, because the larger the space, the better the savings. I especially love the cooling aspects. It's a very cost-effective way to cool your home without having a big condenser on the side blowing all day."

Although the green bungalows cost between \$200,000 and \$250,000 apiece, Conti explained that this is only 5 percent to 10 percent above the typical acquisition/rehab/resale costs in Chicago's expensive housing and building market. But the amortization on the additional costs is definitely lower than the fuel savings. So, green saves money for everybody.

"We can still get people into homeownership for less or the same than they were paying for rent," Mary Fran Riley explained. "When people purchase one of our homes, they've been so well rehabbed and insulated, with new windows and doors, an energy-efficient heating system and appliances, that in the long run, it will prove to be more affordable to the family. It's a quality product that in the end helps with long-term affordability, and that's really the name of the game." ■

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