



National Center for
Healthy Housing

Green Housing Series:

The Greening of a Farmworker Community



What was Old is New Again: The Greening of a Farmworker Community

Located in Oregon's lush Willamette Valley, Nuevo Amanecer or the "New Dawn" provides safe, affordable housing for the farmworkers employed in the local agricultural fields. Nuevo Amanecer is the first low-income housing tax credit (LIHTC) project in the United States to provide quality farmworker housing. Its Rededication Ceremony in the summer

of 2009 brought several local dignitaries to the community to celebrate its green and energy efficient renovations. Many of these same officials had been engaged in the initial struggle to create the historic housing complex in the early 1990s. They never could have imagined the journey the Farmworker Housing Development Corporation (FHDC) would take in the

ensuing years or the influence Nuevo Amanecer would have on farmworker housing nationally.

Today, with renovations at Nuevo Amanecer complete, FDHC proudly provides farmworker housing that is healthy and energy-efficient in addition to being safe and affordable.

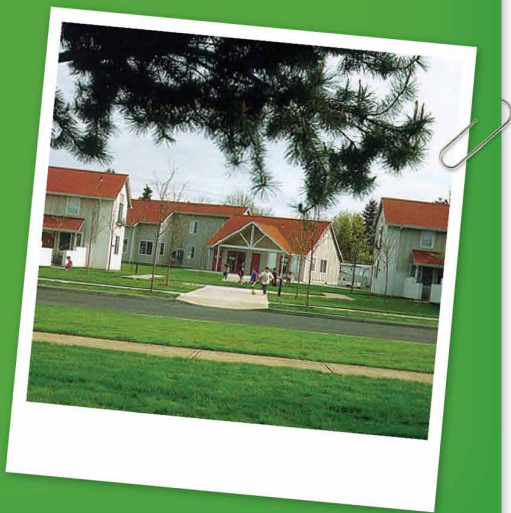
Nuevo Amanecer At-A-Glance

Owner/Developer: Farmworkers Housing Development Corporation/Housing Development Center
 Architect: Carleton Hart Architects
 General Contractor: LMC Construction
 Landscape Design: Macdonald Environmental Planning
 Number of Units: Phase I: 50 units; Phase II: 40 units

Development Costs: \$33 million (Approx \$131,000/unit)

Eligibility: 55% of family income must come from farm work
 Phase I: Income can not exceed 50% AMI
 Phase II: Income can not exceed 40% AMI

- Green Features:
- ENERGY STAR appliances and fixtures
 - Energy efficient water heaters
 - Outdoor lighting on motion sensors and timers
 - Low/No volatile organic compounds (VOCs) Paints, sealants and adhesives
 - ENERGY STAR bathroom exhaust fans equipped with timers
 - Kitchens vented to outside
 - Walkable to community amenities
 - Bus transportation on-site; additional bus stops within ¼ mile
 - Energy efficient doors and windows
 - PV hot water heater for community laundry
 - Most buildings PV-ready
 - On-site construction recycled
 - Utilized salvaged and recycled material in construction
 - New insulation
 - Installed high efficiency irrigation system
 - Installed whole building ventilation system
 - Employing Integrated Pest Management practices
 - Smoke-free site



Providing Farmworkers a Decent Place to Call Home

FHDC was formed in 1991 to provide decent, affordable housing for farmworkers that worked the mid-Willamette Valley fields. It remains the only farmworker community development corporation in Oregon. FHDC's first development, Nuevo Amanecer, was built between 1994 and 1998, at a cost of \$3.8 million.

Nuevo Amanecer is located in the City of Woodburn in Marion County, the largest agriculture producer in the State. Annually, there are an estimated 18,000 to 20,000 farmworkers employed in the county. Approximately one-third, mostly Latino, reside in Woodburn. Although the region has been economically reliant on farmworkers since the early 1940s, the demand for more workers and longer hiring seasons began to create tensions between Anglo residents and Latino farmworkers in the 1980s.

FHDC had to overcome strong political and community opposition to build the 90-unit complex. Accustomed to the overcrowded, substandard housing and labor camps that traditionally housed farmworkers, local politicians and residents thought the property would be an eyesore and attract criminal activity. It took intervention by the Governor and the threat of losing state economic development funding for the City to finally acquiesce.

Nuevo Amanecer, a “New Dawn” for Farmworker Housing

From a community and social standpoint, Nuevo Amanecer was a success almost from the start. FHDC encouraged resident leadership development by establishing a Resident Association that was involved in nearly all aspects of the property management and administration. The Association recommends policies and programs to maintain the safety and quality of the property, and sets resident guidelines and rules ranging from security to garbage collection.

Unfortunately, while Nuevo Amanecer was thriving as a community, inadequate construction and design created significant building and site defects. Within a few years, many of the buildings had begun to deteriorate and soon were in need of major capital improvements. Inadequate site drainage caused severe structural damage; building envelopes failed due to water penetration, and several units had mold issues.

The failing buildings were not only a concern from a structural standpoint, but also from a health standpoint. Farmworkers exposed to pesticides, natural fungi and dust in the fields are susceptible to respiratory issues, and the potential exposure to mold and mildew at Nuevo Amanecer could exacerbate any health issues the residents were already confronting.

Creating a Holistic Approach

As FHDC contemplated changes for Nuevo Amanecer, they drew upon the fifteen years of experience gained since their entry into affordable housing development. Over that time, FHDC sharpened

their skills, learning that residents were best served by taking a holistic approach to development and property management. Development is now done mostly in-house, alongside property management, letting FHDC more closely align the needs of the residents with development and management decisions. For example, most of their developments have community centers that offer classes such as financial literacy and English as a Second Language; child care; after-school programs with tutoring; and computer labs. Social service organizations offer on-site services. Services and classes are determined by the residents according to what their specific community needs. Given the notorious lack of access most farmworkers have to healthcare, FHDC also offers health education, nutrition, and disease prevention programs. Annual Health Fairs provide health and vision testing and dental assessment and care.

Prior to starting renovations, FHDC held a charrette with Nuevo Amanecer residents to gather input and ideas about how to improve the property and individual apartments. Residents were very engaged and provided substantial feedback. The Resident Association was actively involved throughout the renovation even forming a safety committee to help keep the property safe and clean during construction. In a significant turn-about, FHDC also received substantial support for the renovations from the local community. Although examples of discrimination still exist, the non-farmworker community has come to find that the farmworkers can be a strong ally.

Assessing Farmworker Health and Living Conditions

FHDC started noticing an undercurrent of health concerns among residents and, as renovation plans moved forward, they began talks with the Oregon Social Learning Center’s Latino Research Team (LRT) about conducting a pre-renovation assessment of resident health to help FHDC evaluate the impact the green upgrades would have on tenants.

A week before residents were relocated for the renovation, LRT interviewed 55 people from 32 Nuevo Amanecer households (approximately 33 percent of residents) about their living conditions and health. The interviews took approximately one-half hour and

covered topics ranging from stress and safety to children’s health to building conditions. The National Center for Healthy Housing (NCHH) contributed questions on health and safety drawn from the National Health Interview Survey’s standardized questions.

LRT found that Nuevo Amanecer’s children had a much lower rate of asthma than the national average, but the rate was much higher among adults. Nine participants, 5 adults and 4 children, had asthma symptoms and LRT found correlations to apartment conditions. Seventy-five percent of the asthmatic participants reported the smell of mold or mildew in their units and fifty percent of the households with an asthma sufferer also reported dampness in the apartment.

Weight problems among adults, along with related issues such as diabetes and hypertension, appeared prevalent at Nuevo Amanecer. LRT found that 44 percent of the men and 33 percent of the women were overweight. Of these, 28 percent of the men and 36 percent of the women qualified as obese, with 8 percent of the women registering as morbidly obese. Although only three individuals were found to be hypertensive, more than one-third were pre-hypertensive. LRT also measured stress factors during the interviews. They found that residents encountered discrimination (due to language, race/ethnicity, etc.) and reported high stress levels and blood pressure.

More than 75 percent of the participants reported having no health insurance; of this group only half reported they would consult a doctor if faced with a health issue. A vast majority felt that they could not afford treatment and/or were ineligible for health insurance.

The Greening of the New Dawn

The initial construction and design of Nuevo Amanecer neglected many climate and cultural considerations. From an envelope and insulation standpoint, the buildings were not conditioned to handle the volume of water to which they were exposed, leading to moisture build-up on the interior and severe water intrusion on the exterior. The site was not properly graded, so inadequate water drainage added to building deterioration. From a cultural standpoint, the ventilation system was not robust enough to deal with the amount of boiled meats and beans produced in a

Sources of Financing

Phase I		Phase II	
Network for Oregon Affordable Housing/ Oregon Affordable Housing Tax Credit	210,000	RD Permanent Loan	1,822,064
Insurance Settlement	222,998	Enterprise Green Communities Grant	40,000
Oregon Housing and Community Services Weatherization	90,000	LIHTC Equity	3,323,000
Enterprise Green Communities Grant	40,000	Farmworker Tax Credits	1,187,498
LIHTC Equity	4,147,000	Owner Equity	556,563
Farmworker Tax Credits	1,566,000	Replacement Reserves	219,555
Land and Improvements	1,850,542	Insurance & Settlement Proceeds	386,204
Replacement Reserves	279,785	OHCS Weatherization	20,000
TOTAL	\$8,406,325	TOTAL	\$7,554,883



Landscaping and walkways



Play area



Community Garden



Community Center

Latino kitchen. These factors contributed to moisture issues within the apartments and problems for farmworkers already prone to respiratory ailments.

Through close monitoring of their properties and good relationships with their residents, FDHC understood these issues much better than a third-party developer or property manager could. Consequently, the green building strategies they targeted included upgrading the building shell for weatherization and drainage, improving ventilation to promote a healthier indoor environment, enhancing landscaping and site drainage to keep water away from the buildings and reduce irrigation needs. Every apartment was overhauled with an emphasis on healthy, durable and long-lasting products, including energy and water efficient fixtures and appliances. New interior finishes included plywood cabinets with hardwood doors and drawers, stain grade doors and millwork, commercial flooring, and automatic mechanical ventilation systems.

Yet, in the end, the green renovation of Nuevo Amanecer took more than innovative and integrated design planning. It also took two Acts of Congress. When FDHC attempted to close the funding on Phase I, the IRS informed them that low-income housing tax credits (LIHTC) could not target a specific population such as farmworkers. Frustrating exchanges with the IRS led FHDC to request federal legislative intervention. Congress complied and passed legislation specifying farmworker housing as an allowable use of LIHTC funding.

FHDC next encountered conflicting regulations that prevented them from applying for new federal funding to proceed with the renovation because existing HUD and USDA—Rural Development housing funding were already in the project. Again, FHDC requested federal intervention, and Congress complied with legislation that allows new funding for rehabilitation of existing affordable housing. Both pieces of legislation will positively impact affordable housing projects across the country. In some instances, perhaps even allow affordability to be expanded through green renovations.

The Return of the New Dawn

Renovations at Nuevo Amanecer were completed in the summer of 2009. Approximately half of the residents are back in their new, improved homes. The remaining half of residents did not re-qualify under State and Federal guidelines on maximum incomes to return to Nuevo Amanecer. FHDC perceives this positively. It appears that stabilization of families in farmworker affordable housing leads to higher incomes in addition to other socially significant outcomes.

Anecdotal evidence thus far indicates great returns from the green and energy efficient upgrades. Residents no longer have mold, mildew or dampness in their apartments. Ventilation systems automatically address day-to-day moisture issues within the apartments. The landscaping changes are proving especially beneficial.

While LRT's pre-renovation interviews revealed that Nuevo Amanecer children played outdoors a great deal (nearly 70 percent reported daily outdoor activity), strategically moving the play areas around and reconfiguring the walkways allowed for more

Uses of Financing

	Phase I	Phase II
Acquisition	2,449,068	2,378,627 (based on book value)
Construction	4,066,767	3,086,369
Construction Contingency	362,072	308,531
Developer Fee	225,000	297,000
Consultant Fee	225,000	297,000
Soft Costs	1,078,419	1,187,357
TOTAL	\$8,406,325	\$7,554,883

usable park areas. This provides more accessible green grass for the children to play on and areas for community gardens. The reconfigured walkways have prompted people to come out more to stroll the grounds and socialize. This will increase resident physical activity advantageous to residents' health, as well as provide the benefit of keeping more "eyes on the street." As more people are out and about on the property, and with an increase in site lighting, the incidence of unwelcome visitors has declined dramatically and residents have a renewed sense of safety.

There have been some negative reactions to the renovations. For many years, FHDC tried to educate residents about the impact pesticides have not only on the farmworkers but also on the rest of the household when boots and clothing track the pesticide into the home. FHDC tried installing separate laundry facilities for contaminated farmworker clothing to alleviate the problem, but has not met with success on this issue even with that facility. Consequently, FHDC made the decision to forego carpet installation to lower the incidence of pesticides being tracked into the home. This decision was met with resistance from federal funders and some residents. FHDC's Board of Directors supported the change based on improved quality of life. FHDC compromised in part and installed carpets only in some areas.

Given the temperate Oregon climate, FHDC also made the decision, based on economic and environmental considerations, not to install air conditioning. Regrettably, as residents returned to their apartments, the State was in the midst of an unusual summer heat spell and at least a quarter to half of the residents installed air conditioning units in the windows of their units. Not only will this likely have a negative impact on the performance of the building envelope, there is concern it could nullify some warranties. It also increases energy consumption and costs which FHDC was attempting to minimize.

Unfortunately, FHDC lacks the funding necessary to conduct follow-up studies to evaluate the long-term impact of the green upgrades. However, FHDC intends to internally track anecdotal evidence to support future development and renovation efforts and decisions.

Lessons Learned

- Community development corporations (CDC) that self-manage its properties have an increased understanding of resident values and lifestyles.
- Charrettes engage residents and provide key buy-in early, and can provide important input.
- Implementation of new products and practices that impact lifestyles require on-going resident education and interaction to succeed.
- Project efficiency is improved by integrating property management and development staff.
- A holistic approach to green development returns a more cost effective and healthier product.
- Integrated design should go beyond the structure and consider resident lifestyles and culture.
- Energy efficiency measures can be mitigated by an influx of energy intense consumer products.
- Health vulnerabilities of residents should help guide construction and renovation priorities.
- Don't accept "no"—even if it takes an Act of Congress.

The National Center for Healthy Housing (NCHH) is a 501(c)(3) nonprofit dedicated to creating healthy and safe homes for children through practical and proven steps. For more information about green and healthy housing, visit: www.nchh.org/training/Green-and-Healthy-Housing.aspx.