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Building Something New Under the Sun

By BOB QUICK

The bite of backhoes and the pounding of hammers are currently transforming a sunny, south-facing hillside along the Santa Fe River valley into one of Santa Fe's first passive solar home communities.

The 5-acre tract, located at 707 E. Palace, was once the site of a brewery, a beer garden and a bowling green—all of which had long since fallen into disrepair—before the land was acquired by a group of Santa Fe investors with stars, or perhaps better, the sun in their eyes.

They weren't blind to the potential of the place, however, for they committed its development into the capable and experienced hands of Susan and Wayne Nichols, founders of Communico Inc., a Santa Fe residential design, development, construction and marketing company.

Wayne Nichols is a professional developer for Boise Cascade, Susan a trained mathematician. The couple "retired" to Santa Fe in 1973 and were struck immediately by the potential of New Mexico's greatest natural resource: the sun.

They were soon at work building their own active solar home and gaining valuable "hands-on" experience. "We dug ditches, laid blocks—we labored," Wayne Nichols recalled. "That place became our model."

All that manual exertion also enabled the couple to get a good idea of their strengths and preferences in the building trade. Surprisingly, perhaps, it was Susan Nichols who took to the nuts-and-bolts side of the business.

"Susan is president of the company," Nichols explained. "She's in charge of design and construction. I handle developing, marketing and special projects."

A few months later, the Nicholses incorporated and bought a 40-acre tract on which they eventually built eight luxury-priced homes.

One was active solar, but the other seven employed passive solar heating methods. "There had to be a better way," said Nichols, referring to the collection of plates, pumps and tanks necessary to heat a solar home actively. "Anyone interested in an active heating system has missed it."

Photo by Edward Klamm

Nichols: "We're not just builders"

First Village, as the subdivision six miles south of Santa Fe was named, was an experiment that worked. "We learned a lot building and selling those homes," Nichols said. "In general they sold quickly. It was a success story."

In the three years it took the couple to build the eight homes, they assembled work crews of their own, many of whom now are employed permanently by Communico. "We think it's important to have our own crews," Nichols explained. "It keeps the quality of our work high."

It was during those years, too, that the Nicholses evolved their philosophy of residential design and development, influenced perhaps by the spirit of J.C. Nichols, Wayne Nichols' grandfather, a visionary Kansas City developer who built the country's first shopping center in 1947.

"He perceived the impact the car would have on the urban form," Nichols said.

The high cost of energy has changed everyone's perceptions from what they were at a time when there weren't enough shopping centers for the cars vying to fill them, the husband and wife contend.

They see their responsibility as more than just filling vacant lots with antiquated designs of wood and brick. "We're not just builders," Nichols said. "We're developers who are realizing the new urban forms that respond to today's reality."

Being realistic today demands building houses that make use of the sun's primary energy, rather than continued exploitation of the ancient solar side-effects of coal, oil and gas. " 'Progress' must be redefined in light of dwindling resources," states a Communico brochure.

The Nicholases' next project was La Vereda, a planned community of 19 passive solar homes on Gonzales Road. Features of all the homes in La Vereda include large expanses of glass and being sunk at least 3 feet into the ground on the north, east and west sides.

Two types of passive solar heating were used in the homes. One involves the use of a southside greenhouse as a heat collector and mass walls or rock beds for heat storage.

The other features Trombe walls and direct-gain windows. Both solar heating methods also have clerestory windows and skylights to capture as much of the sun's heat as possible.

In building La Vereda, the Nicholses worked closely with both the Public Service Company of New Mexico and Los Alamos National Laboratory to research the impact of solar energy on electric demand.

"PNM is interested in passive solar heating because they're concerned about more effectively managing the demand for electricity," Nichols said. "Passive has a tremendous potential to affect their capacity and construction plans."

La Vereda homeowners are less concerned with long-term research than with the immediate benefits of solar heating. All save hundreds of dollars annually on their electric heating bills.

Disturbing the land as little as possible was a major concern in the development of La Vereda. All roads are narrow and unpaved, and railroad ties are used for curbs and gutters. Natural landscaping has been preserved as much as possible.

La Vereda was another success story, said the Nicholses, who gained even more information about the design and construction of passive solar homes from the experience.

"La Vereda was a valuable data base," Nichols said. "Everything we learned there helps us to advance the state of the art."

Learning more about passive solar design and passing on what they know led the Nicholses, in conjunction with Dr. J. Douglas Balcomb, an internationally known authority in the passive solar field, and Edward Mazria, an Albuquerque architect and author of "The Passive Solar Energy Book," to form Passive Solar Associates.

The group offers a two-day solar workshop, complete with a 300-page book they developed for the workshop, on "the design, sizing, calculation, construction and marketing of passive solar buildings."

"We feel we've provided leadership in passive solar building," Wayne Nichols said. "We're in the forefront of the movement."

La Vereda Compound, the East Palace project now under construction, comprises 26 condominiums on the 5-acre site, all with passive solar features.

"It's an experiment in multifamily housing," Nichols explained, and because of its in-town site the development puts different demands on the developer. "It's

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a much tighter area than we're used to," he continued, "and calculations on shading are critical. We're lucky it's a south-facing slope."

Not all of the buildings at La Vereda Compound are going to be new. Nine of the historic buildings will be refurbished, according to the brochure, to maintain the "old-world atmosphere of a small New Mexican hill town."

An aerial photograph of the land was taken so that trees and contours can be saved. "The roads will be small and private," Nichols said, "with no big cuts and fills. We're also encouraging buyers to plant low-water-use plants."

As in other Nichols developments, membership in a homeowners' association is mandatory. "The community should be self-managing," Nichols said. "It means people must take responsibility for the whole process of maintaining the common area."

Another reason for the homeowners' covenant is the likelihood of future innovations affecting the community. "If there's a new technology, they can plug it in," Nichols said. "Otherwise there's no vehicle to ensure necessary change."

Like all Nichols homes up until now, the cost of the units in the compound will be high—from $242,500 for a terrace home to $300,000 for a garden home. "That price range is the most viable segment of today's housing market," Nichols explained.

Another reason for the high cost has been the necessarily experimental nature of the Nichols homes so far. "Middle-income people can't afford to experiment with their housing," he said, adding that the information the company has gathered will enable it to look at lower-cost housing in the near future.

"It's our next goal," Nichols said. "After we finish La Vereda Compound, we'll be in a position to do a lot more in that direction."