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THE GREEN ISSUE

In with the Old!

Charles Shaw and Lisa Bodwalk at home in Durango, Colo.

Reusing a junior high school in Colorado

Restoring a Hudson River cottage

The Old School Approach

A contractor and a teacher went back to junior high—and are earning high marks for their green efforts

BY ARNOLD BERKE
PHOTOGRAPHY BY DOUGLAS MERRIAM

Kathy Curran teaches yoga in a classroom on the top floor of the old Smiley Junior High School near downtown Durango, Colo. Her bright and airy studio—with maple floors, 12-foot-high ceilings, and big windows that she likes to open in the summer—overlooks leafy Third Avenue. "It's kind of like yoga in the treetops," she says.

Curran is but one of the tenants of the Smiley Building, as it is now known. More than 30 others teach or practice dance, music, martial arts, painting, photography, and acting here—or offer services like architecture and web design. The hallways where kids once swarmed and rooms where they listened to their teachers (dutifully, or not) are quieter now. But as a hub for the arts community, the building is just as valuable to the people of Durango.

Charles Shaw and his wife, Lisa Bodwalk, have nurtured this remarkable makeover for more than 11 years—not only rescuing a decaying landmark from oblivion but also showing how extraordinarily green such a reborn building can be.

Colorado Springs architect Charles Thomas designed Emory E. Smiley Junior High School, built in 1936, in the Mission Revival style—not the romantic California version with stucco and tiled roofs, but a reserved rendition in blond brick featuring simple roof parapets, wall buttresses, and occasional embellishment. It stands in a neighborhood of well-kept houses dating from the 1870s to the 1940s.

The junior high served well for decades, but when a new middle school opened in 1994, the school board put the Smiley up for sale, soliciting proposals for a suitable new use. Charles Shaw, a plumbing and electrical contractor; Bodwalk, a dance teacher; and Charles' brother John, a plumbing contractor, suggested transforming the building into a center for arts professionals. The brothers would steer the construction, and Bodwalk, the conceptual side. "I had visions of creating community across lines of artists and performing artists," she says. "It would be a home for my business and for so many others to do the activities they love."

The trio, transplants from Berkeley, Calif., won out over rivals proposing affordable housing and office condos, and bought the structure in 1997 for $427,000. That, says

Charles Shaw and Lisa Bodwalk, owners and developers of the Smiley Building, in the former classroom that now serves as their apartment. The school entrance shown opposite was outfitted with replicas of the original oak doors.

What makes it green?

Solar A 44-kilowatt array of photovoltaic cells supplies nearly all of the electricity; 1,000 square feet of thermal panels provide heat and hot water.

Windows Most of the 174 wood sash windows were restored, the rest replicated, and the 99 metal casements refinished. All windows are operable.

Boilers Four 97 percent.efficient sealed-combustion gas boilers and a high-efficiency cordwood boiler supply heat.

Fixtures Compact fluorescent bulbs use 75 percent less energy. Occupancy sensors switch off lights and ventilation in unused rooms and public areas. Toilets, urinals, and sinks are low-flow.

Geothermal Water sent down 400-foot-deep shafts will be boosted from ground temperature (50 degrees) to a level appropriate for in-floor heating.

With the La Plata Mountains as a backdrop, Charles Shaw (left) walks through the photovoltaic solar panels installed on the roof of the Smiley Building's main block, shown above.

Charles Shaw, was "basically all the money and loans in the world that we could get."

What they got, with the building, was damaged goods. "They had let it go big time," says Shaw, "butchered it as well." The roof leaked, the windows had rotted, the crumbled parapets had been crudely rebuilt, and vandals had left their toxic marks. So an early order of business was restoration. Armed with grants of $526,000 from the State Historical Fund, the new owners restored most of the 174 sash windows, replicated the rest, and refinished the 99 steel casement windows. They also reconstructed the parapets, reroofed the structure, replaced damaged brick, and overhauled the third-floor greenhouse.

Inside, nearly 12,000 square feet of maple flooring was repaired and refinished, and original light fixtures restored or replicas purchased. The team also renovated the auditorium, "fixing tons of damaged plaster," Shaw says, and installing new sound and lighting systems. With original seats intact, the former home of plays and PTA meetings now serves up music, dance, theater, and film for (or by) Smiley tenants and the public. "The feedback I get is that it's a pretty beloved space," says Bodwalk, who runs the Dance Center in two Smiley classrooms.

Rehab work was professional but largely do-it-yourself. Much of it, especially window restoration, was prepped in a basement workshop that is still in use. "For the first seven years or so, it was my brother and I and another full-time guy," Shaw says. (John Shaw, now a solar contractor, left the project after that period.) "Occasionally we'd have subs, like for Sheetrock and masonry, but I did all the interior and cabinetry, and the plumbing, solar, electrical, and other environmental stuff was us."

That "environmental stuff" was not born as a fully formed plan but grew from the need to make the aging structure efficient and affordable. Facing huge utility bills, the owners knew they had to curb the building's thirst for energy. "Solar panels are easy," says Shaw, "but the part that takes thought is energy conservation." So they installed rigid foam insulation, natural gas and wood-burning boilers to heat floors and radiators, power-stingy compact fluorescent bulbs, and low-flow faucets. Occupancy sensors turn off lights and ventilation when not needed, and with individual thermostats and operable windows, "each room is treated like its own little house." Evaporative coolers, as well as ceiling and attic fans, lower the building's temperature in the summer; there is no air-conditioning.

Those measures shrank the building's energy demand. On the supply side of the equation are thermal and electric solar panels, running in crisp wavelike ridges over the roof. Shaw

started installing them in 2000, when he picked up 1,000 square feet of the thermal type for free. Those now supply 30 percent of the heat and most of the hot water. Likewise, an array of photovoltaic panels provides up to 100 percent of the electricity—or more. On especially sunny days, the excess goes back to the grid and the utility company sends Shaw a check.

The solar saga has not been trouble-free. Some of the panels on the auditorium roof, installed in 2007, can be seen from the street, which concerns the Durango Historic Preservation Board. (The Smiley is in a historic district.) Complicating matters, Shaw did not obtain a city building permit for the panels or seek an alteration certificate from the board. He also failed to get consent from the Colorado Historical Foundation, which holds an easement on the building. "He really didn't ask permission from anybody," says senior planner and board staff liaison Vicki Vandegrift.

Shaw defends the panels and the way he installed them. "We've been doing solar since 2000," he says, "very high profile, with newspaper articles and mayors coming by to tell everyone it was their idea. We've never gotten a permit from the city, and no one ever had a problem. This last one we did exactly the same way."

The real visual irritant, Vandegrift points out, is not the panels but the framing and mechanical components underneath; screening those, rather than removing the panels, "is the potential compromise that hasn't been fully explored yet." She says the foundation and the preservation board lean toward that solution. The board plans to meet with Shaw after the city council takes a closer look at the issue of solar panels on historic buildings.

Despite the dispute, the Smiley work carries on, with more apartments and studios on the way. And it keeps marching toward energy independence. In November, a drill rig bored 10 shafts deep into the schoolyard for a geothermal system, which

Sherry Potter Walker (top) runs a pottery studio on the second floor. Yoga students (middle) practice with teacher Kathy Curran in what she calls her "perfect space." The 650-seat auditorium (bottom) was restored for use as a performance and meeting hall by both Smiley tenants and the Durango community.

Charles Shaw in his basement workshop, sanding and refinishing salvaged doors for installation inside the Smiley Building. Much of the carpentry and other work for the restoration have been carried out here.

will use the ground temperature to heat water that circulates through pipes. Heat pumps will then raise that temperature to a level sufficient to help heat the building. Shaw sees the pumps producing four units of energy per unit of solar electricity. "With the geothermal and solar, he's just going to be a little power plant there," says Ken Francis, a conservation and preservation planner at nearby Fort Lewis College. Indeed, the Smiley's energy bill has plunged from around $5,000 per month in 1997 to about $400 today. Shaw says that "there's no building of this size in the country I've found that's as energy efficient as this one."

At the same time, he distances himself from the sustainability crowd: "Most green renovations take the model of what was done in the '60s and '70s and improve on that. Like a better air-conditioning system or some special paint or fancy green building materials." (He refers to those as "soybean countertops.") But on this project "we improve on the technology that was here originally," Shaw says, "using the place as it was designed to be but with better equipment." He offers the example of "the original light fixtures with $1.50 compact fluorescent bulbs from Home Depot." Stick-to-the-basics may be the ultimate green solution.

For more information about the Smiley Building, visit PreservationNation.org/magazine.

The "new" old school gets high marks.

"The Shaws have taken a historic structure and shown you can do a *lot* of things," says Francis, "and I mean significant measures, not just tweaking." Kent Ford, coordinator of Durango's Green Business Roundtable, says "they started this well before the current national green movement and have inspired other businesses to do their part." In 2008, the project won Colorado Gov. Bill Ritter's Excellence in Renewable Energy Award. Even *The Durango Herald,* which early on questioned the Smiley's potential as an arts center, later wrote that it "is in the right hands."

The best testimonials may come from those who work there. "It's a remarkable place, and I feel very lucky to be here," says Kathy Curran, the "treetops" yoga teacher. "People, students—everyone is very attracted to this building." Sherry Potter Walker, who runs a pottery studio "with tons of natural light," sublets her space to about a dozen other potters, promoting creative exchange. "The philosophy with us," Walker says, "is if you have a good idea, everybody shares whatever knowledge they have, whatever artistic meanings. It's not competitive." Subleasing "was part of our original thinking," says Lisa Bodwalk. "Each renter can create a little community in their own room that then feeds the whole community of the building."

Lawrence Nass teaches piano in "a former janitor's closet [that offers] plenty of room for what I need to do." Not to mention scenery: "I look out to the west over these beautiful mountains. It's amazing." The quirks of an old building only add to the atmosphere—like the window weights that thump when Nass lifts the sash, or the exposed pipes on his ceiling. "When I have a new student and they turn on the water and you hear that rushing sound, the kid stops and turns around like, 'Are we going to be putting on our snorkels soon or what?' "