

# Case Study: Defiance Thrift, Glenwood Springs

By Cam Burns/CLEER



## Beefy Insulation Makes Shopping Under New Lights Delightful at Defiance Thrift

For years, staffers at Defiance Thrift Store in Glenwood dreaded winter's arrival. Defiance's South Glen Avenue rental space had very little insulation, and when cold air swept down the Roaring Fork Valley, staffers and customers would feel the chill. Defiance Board member Sandy Swanson noted recently, "we might as well have been heating the outdoors."

Defiance, which was established as a nonprofit in 1997, moved into this retail space in 2005, after its original location was absorbed by the RE-1 School District. But Defiance officials had their eyes on purchasing their own building, and had been squirreling away money for years in case an opportunity arose. When the recent economic downturn arrived, they had their chance, and they managed to purchase their own building at



*Shopping at Defiance Thrift Store in Glenwood is more pleasant than ever with the building's hefty insulation keeping customers cool and the LED lighting keeping the merchandise well lit. Photos by Cam Burns*

2412 South Glen Avenue.

The store's mission is two-pronged: to help those in need, with clothes and other personal necessities, and to not let a lot of usable stuff go into local landfills unnecessarily. In short, its mission is about saving resources, including energy. So when Defiance board members closed on the new building, they decided that "if we're going to do this we're going to do it right," according to Swanson. "Our goal was to make the space as energy efficient as possible because in the long run it was going to save us money."

The building Defiance bought was

a simple metal structure. The first order of business was to consult with energy experts on how to save. Defiance officials contacted Erica Sparhawk of CLEER, Clean Energy Economy for the Region, which runs the Garfield Clean Energy Challenge, who did a site-visit, and with the help of other energy experts, created

### Lessons Learned

- Certain types of buildings don't lend themselves to upgrades; Defiance had to move out entirely
- Rebates are available for most lighting retrofits, commercial and residential
- The space is more attractive and should boost sales

### The Upgrades

- High levels of insulation
- Improved, energy-efficient lighting
- projected electric savings: 15,855 kilowatt-hours (about \$1,500)
- heat-reflecting window tape



a package of recommendations that included insulation and air-sealing, modern efficient lighting, a programmable thermostat, and even a solar tube (which eventually wasn't implemented).

"We followed all her recommendations as best as we could," Swanson noted.

Because thrift stores have a tremendous amount of merchandise, Defiance officials needed to keep the merchandise at the old location until the upgrades could be made. They had they figured they had two months to get the work done.

"You can't go back in and fix anything once all the merchandise is in the store," Swanson said. "Maybe you can paint a wall if you're lucky. So the moment we closed we had everybody ready to go."

Contractors, led by Erik VanTassel of Divide Creek Builders, started by sealing a large fan opening in the top of the south-facing wall that allowed icy winds to blast into the building in winter, and then turned their attention to insulation.

"We insulated with the highest rating we could fit in," Swanson said. "I think we got it to R-30. It's really a very comfortable building and we don't have very high heating bills. I sign the checks and it's nothing that gives me heart failure. When we



*Left: Store manager Leslie Robinson.*

*Right: Shoppers examining merchandise on the warmly lit shelves.*

were in the other building up the road...it was terrible."

Crawford Brothers Electric of Basalt replaced 85 incandescent track lamps with Sylvania LED lamps in the new building, and three fluorescent strips were replaced with T-8 fluorescent lamps. They replaced old exit lights with new LED exit lights and they installed a new hot water heater.

Because of the store's exposed location along south Glen Avenue, and the fact that it's exposed to blasting sunlight in summer as well as those icy winter winds, they built an air-lock front door and added heat-reflecting film to the store's front windows.

Although the energy savings in the retrofitted building can't be compared in a before and after scenario, Defiance is spending a lot less money on heating and lighting than it did at its old location.

The [energy] bills are really low," said store manager Leslie Robinson. "This building costs less to heat than my home. We are just so pleased we don't have to spend a lot of our donation money on things like heating and cooling. It's a cost-savings to the community."

Sparhawk helped Defiance get a rebate on the \$5,000 worth of new light bulbs from the Garfield Clean Energy Challenge and an insulation rebate from Source Gas. The projected electric savings for the building are 15,855 kilowatt-hours, which is about \$1,500 in savings.

Defiance has come to rely on the Energy Coaching services offered by Garfield Clean Energy. In October 2012 store officials got back in touch with Sparhawk at CLEER to help them through the process of purchasing a new efficient furnace and cooling system.

"Defiance really is a model of sustainability," noted Sparhawk. "Not only does the store recycle all sorts of stuff that might otherwise end up in the landfill, they're now using considerably less energy to make staff and shoppers comfortable—all while helping those most in need in our community."

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