

HELPING YOU ENJOY YOUR HOME

Boulder County Home & Garden Magazine

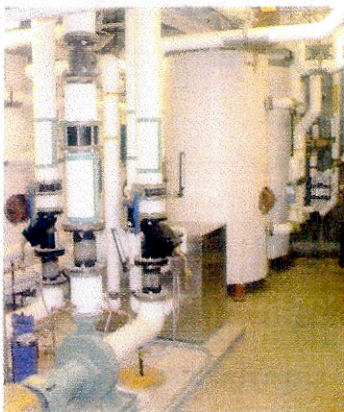
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The shelter's geothermal heat exchanger reduces energy costs in both summer and winter, when energy demands are at their peak.



Photos courtesy Architectural Manoeuvres

The new Boulder Shelter for the Homeless incorporates many green features that keep residents more comfortable.

A Green Home for Hundreds

Boulder County has one residence that spans 30,000 square feet, and up to 160 people call it home on any given day. Completed in December 2003, that home is the new Boulder Shelter for the Homeless, which is also a "green" home, thanks to innovative planning and construction.

Executive director Greg Harms says the organization decided to go green early on in the architectural process.

The new building evolved with the help of architect Matthew McMullen, owner of Boulder's Architectural Manoeuvres, and it incorporates a stunning array of green features. The shelter is enveloped by extra insulation, all windows are high efficiency and natural lighting bathes the atrium so very little electrical light is necessary during the day.

The shelter is also heated and cooled by the Earth with the help of a geothermal system that taps into the ground's moderate warmth a dozen feet below the surface. The system's water-filled pipes dive deep into the ground below the shelter. In winter, the 60° F temperature below ground warms the pipes.

Above ground, the pipes act as a heat exchanger, pre-warming the cold outside air so that it takes very little additional energy to warm it up to comfort level. In summer, the 60° F system chills hot outside air, dramatically reducing energy cooling needs.

The geothermal system cost an additional \$100,000 above what a conventional heating and cooling system would have cost, about 2.5 percent of the \$4.1-million construction cost, Harms says. But it was still a "no-brainer" to insist upon geothermal and other green features.

The shelter will sit in its current location for decades, and calculations confirm that energy savings from the geothermal system will pay back its cost in less than a decade, Harms predicts. The high-efficiency windows will recoup costs in even less time. Moreover, those calculations were done many months ago, before natural gas prices skyrocketed, McMullen says.

All of these elements make for a cozy, cost-effective pad for the people who depend on the shelter during cold and warm months.

—Katy Human