

Building GREEN in Greensburg

Kiowa County Courthouse



Courtesy of Chris Sullivan

The Kiowa County Courthouse, originally built in 1914, was one of the only buildings not completely destroyed by the tornado. However, it was severely damaged by a vehicle that crashed through the roof, allowing rain to fall inside for 3 days. Luckily, most of the County's paperwork was salvaged thanks to quick action taken by the community the day after the tornado. Completed in July 2009, the building was renovated with sustainable and energy-saving technologies while staying true to the structure's original design. It is designed to meet the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) Gold designation and is projected to be 37% more energy efficient than an ASHRAE 90.1-2004 energy code minimum courthouse.

ENERGY EFFICIENCY FEATURES

- **Well-insulated building envelope** using spray foam insulation for walls and roof maximizes energy efficiency
- **Daylighting** provided by the existing window openings increases the use of natural light and reduces artificial lighting loads
- **High-performance windows** maximize daylighting while minimizing solar heat gain and loss (U-Value of glass is 0.28 with a solar heat gain coefficient of 0.27)
- **Occupancy sensors** turn off lights in vacant rooms to reduce electricity consumption
- **Dimming controls** allow electrical lights to be dimmed when enough natural light is present to reduce electricity consumption
- **Energy-efficient lights** conserve energy used for electrical lighting
- The all-electric heating and hot water system takes advantage of the abundant renewable electricity from the **Greensburg Wind Farm**.

RENEWABLE ENERGY FEATURES

- An **all-electric multi-stage ground source heat pump system** extracts both warm and cool air from the ground through thirty-two 300-foot-deep wells.

WATER EFFICIENCY

- **Rainwater** is collected and used to flush toilets and for landscaping
- **Stormwater runoff** is collected and stored in a 15,000-gallon underground cistern for landscaping
- 51% of the courthouse square will be restored as **native vegetation** to reduce water consumption.

SUSTAINABLE MATERIALS AND CONSTRUCTION

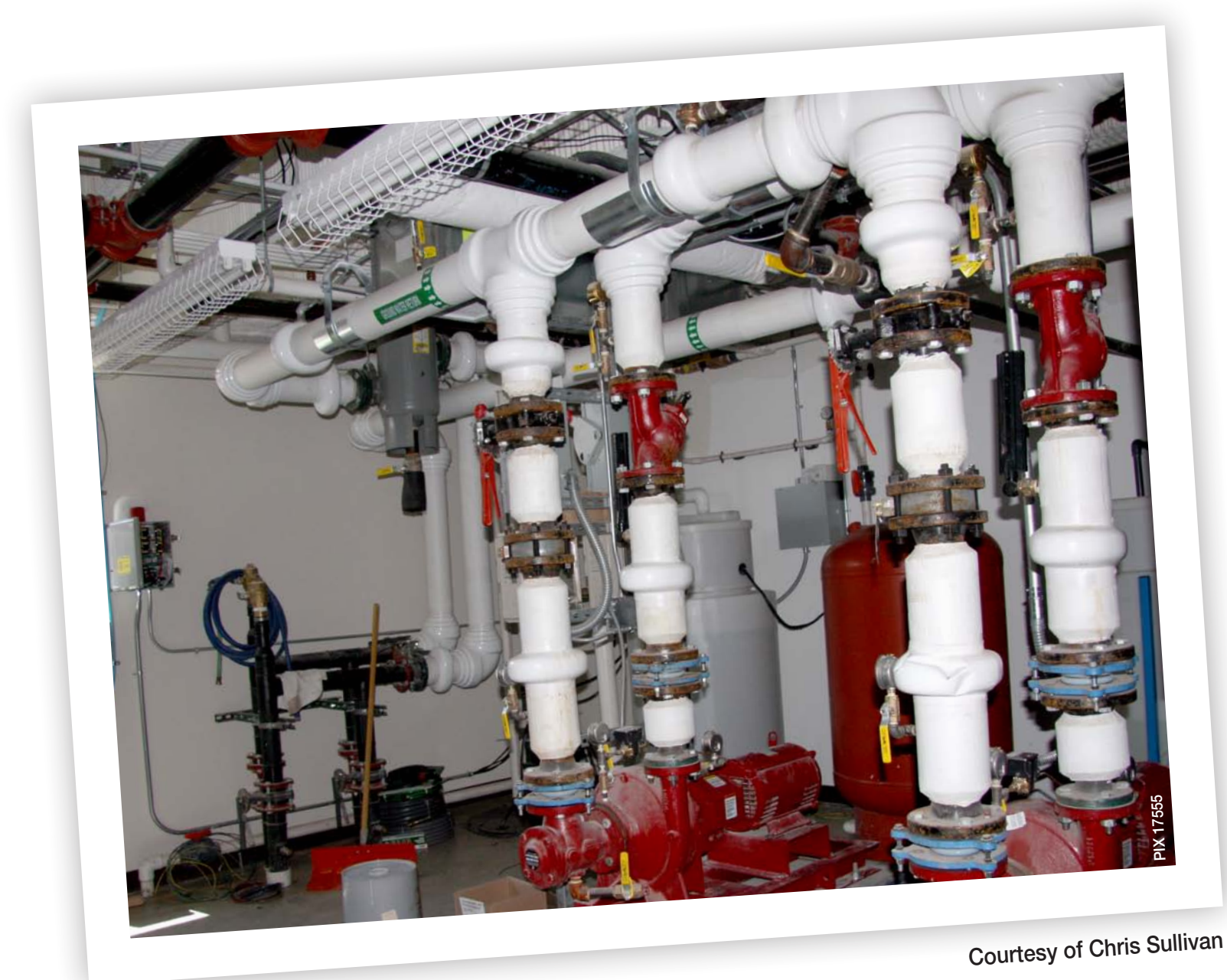
- **Recycled materials** manufactured locally or regionally were used whenever possible
- **Reusable materials** were collected and stored during reconstruction
- **Existing building elements** were reused whenever possible (most of the woodwork was salvaged and refinished)
- During reconstruction, a **waste management plan** helped divert more than 2 million pounds—or 96%—of waste from the landfill.

AIR QUALITY AND INDOOR ENVIRONMENT

- **Nontoxic products**, such as paints with low levels of volatile organic compounds minimize indoor pollutants
- **Handicap accessible** features were added to the new building so that it meets all building requirements of the Americans with Disabilities Act.

LEED RATING GOAL

- Gold



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