



CIELO AZUL ELEMENTARY SCHOOL RIO RANCHO, NM

35% energy savings

45% savings in water

estimated **2 year**
payback on green features

LEED® Facts

Cielo Azul Elementary School
Rio Rancho, NM

LEED for New Construction, v2.2
Certification awarded October 13, 2010

Gold 39 pts awarded*

Sustainable Sites	7/14
Water Efficiency	3/5
Energy & Atmosphere	8/17
Materials & Resources	5/13
Indoor Environmental Quality	11/15
Innovation & Design	5/5

*Out of a possible 69 points

The information provided is based on that stated in the LEED® project certification submittals. USGBC and Chapters do not warrant or represent the accuracy of this information. Each building's actual performance is based on its unique design, construction, operation, and maintenance. Energy efficiency and sustainable results will vary.

CIELO AZUL ELEMENTARY SCHOOL

Prototype Altered to Achieve Gold Certification

Sustainable Features will Pay Back in Two Years

PROJECT BACKGROUND

Cielo Azul Elementary is a new 85,000sf school built for Rio Rancho Public Schools (RRPS) to serve 800 students in grades K-5. Cielo Azul is a site adaptation and green adaptation of a previous prototype design for RRPS. As an adaptation, the project had a compressed schedule for construction documents which allowed little variation from the original design.

Changes were required in order to address changes in building code, state adequacy standards, and site conditions. In addition to this, RRPS directed the team to incorporate sustainable features and pursue LEED certification. Certification was pursued under the LEED for New Construction (LEED-NC) rating system because LEED for Schools was being balloted at the time the project registered with USGBC. An independent cost/benefit study found that Cielo Azul's green features added approximately 1.3% to the project cost, and would pay back within about 2 years due to energy and water savings.

STRATEGIES AND RESULTS

Design changes were made to increase the energy efficiency, water conservation, material sustainability, and occupant benefits of the prototype design. Cielo Azul was designed to use 35% less energy than a baseline building. Wall and roof assemblies were modified to increase thermal performance through use of continuous insulation and thermal breaks. The original glazing was upgraded to a higher performing low-e insulated glass unit, and windows remain shaded by overhangs.

The mechanical system was upgraded to high efficiency rooftop units with constant volume DX cooling and natural gas furnaces. The systems serving occupied areas have economizer controls and demand-controlled ventilation. Occupancy sensors and multi-level switching allow occupants to control lighting and save energy.

The site and landscaping was designed to reduce water consumption by 76% through a regionally appropriate plant palette and efficient irrigation. Low-flow plumbing fixtures including dual-flush toilets and waterless urinals reduce water use by 45%.

Over 73% of construction waste was reused or recycled, diverting over 560 tons of material from landfill. Numerous recycled, regional, and low-emitting materials were used throughout the building. The contractor implemented a Construction IAQ Management Plan to protect indoor air quality and conducted a flushout by introducing fresh outside air to the school via the mechanical systems.

Cielo Azul has achieved the Designed to Earn the ENERGY STAR designation, and RRPS is tracking actual water and energy use, operating costs, and human-impact measures such as teacher absenteeism and turnover, student absenteeism, and student health and behavior.

ABOUT THE PROJECT TEAM

Rio Rancho Public Schools (RRPS) New Mexico's newest and sixth largest school district.
www.rrps.net

With offices located in New Mexico, Nevada and Texas, Dekker/Perich/Sabatini provides architecture, interior design, landscape, planning and engineering services to public and private clients. www.dpsdesign.org

“Rio Rancho Public Schools is committed to building LEED Schools so that we can assure our staff and students are in the best possible facilities while being sensitive to the environment.”

Al Sena,

Executive Director, Facilities Department



Architect: Dekker/Perich/Sabatini
Civil Engineer: Huitt Zollars
Commissioning Agent: WH Pacific
Contractor: Bradbury Stamm
Landscape Architect: Dekker/Perich/Sabatini
LEED Consultant: Dekker/Perich/Sabatini
MEP Engineer: Bridgers & Paxton
Structural Engineer: Dekker/Perich/Sabatini
Owner: Rio Rancho Public Schools
Project Size: 85,000 square feet

Photographs Courtesy of: Patrick Coulie

ABOUT CHAPTER

The USGBC - NM Chapter is a local non-profit with a mission: to transform our built environment through education, collaboration and outreach, to promote environmentally responsible practices that are economically and socially beneficial to the community.



www.usgbcnm.org
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