

## ENERGY STAR Building Design Profile

ETS Fairview Elementary School  
1000 Zuni Road, Espanola, NM, 87532



- The projected annual energy and CO<sub>2</sub> savings of the design is 40% as compared to a median elementary school building.
- The estimated total annual energy savings for this project is 1,201,654 kBtu/year with an estimated cost savings of \$28,466.
- Projects that achieve the Designed to Earn the ENERGY STAR certification are designed to reduce energy and CO<sub>2</sub> emissions.
- They promote future financial benefits from reduced energy costs over the life of the building, which is extremely beneficial for schools. ENERGY STAR Buildings have a proven track record, yielding average annual energy savings of 30 percent.
- The basic design strategies for achieving reduced loads include proper orientation to the solar path and location of the shaded entry on the south side. Our prevailing winter winds are from the North West, so it is especially important to create microclimate and mitigate heating loads by placing more fenestration and circulation to the south.
- Solar heat gain is controlled with sun shades and high performance glazing. The reflective metal and the white TPO roof surfaces are instrumental in reducing cooling loads, as our New Mexico sun is very intense. High R- values in the roofs and walls are largely achieved with continuous rigid insulation.
- This school will provide ample amounts of daylighting for students and faculty. Clerestories and view windows with light shelves are located in all classrooms, workrooms, and corridors.
- Conditioning will be provided with a Ground Source Heat Pump System, which uses the stable temperatures of subsurface soil to exchange thermal energy. This system is extremely efficient and has a long life span.
- It was important that the Fairview Elementary School achieve Designed to Earn the ENERGY STAR because it signals to the market and to our community that the project is intended to perform in the top 25% of the nation's most energy efficient buildings. SMPC Architects is also helping the environment by delivering a low energy design to our client, which in turn sets the stage for operating the building to actually earn ENERGY STAR certification.



### Architect of Record:

SMPC Architects

### Engineering Firm:

B & P Consulting Engineers, Inc.

### Building Owner:

Espanola Public School District

**Design Energy Rating:** 91

**Percent Energy and CO<sub>2</sub>**

**Reduction\*:** 39.6%

### Estimated Occupancy Date:

August 2015

**Space Type:** K-12 School

**Floor Space:** 55,282 sq.ft.

### Estimated Energy Use Intensity:

33 kBtu/sf/yr

### Estimated Total Annual Energy

**Use:** 1,827,799 kBtu/yr

### Estimated Annual Energy Cost:

\$43,556

### Technologies Specified:

High performance glazing

Ground source heat pump system

Comprehensive daylighting

### For More Information

SMPC Architects

(505) 255-8668

\*Percent Energy and CO<sub>2</sub> Reductions are based on comparison to a median building of similar type.