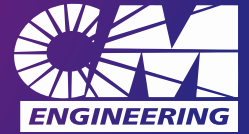


Palestine Elementary School

Palestine, Illinois



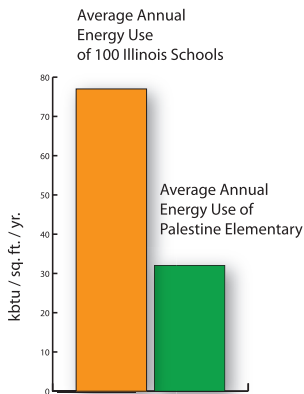
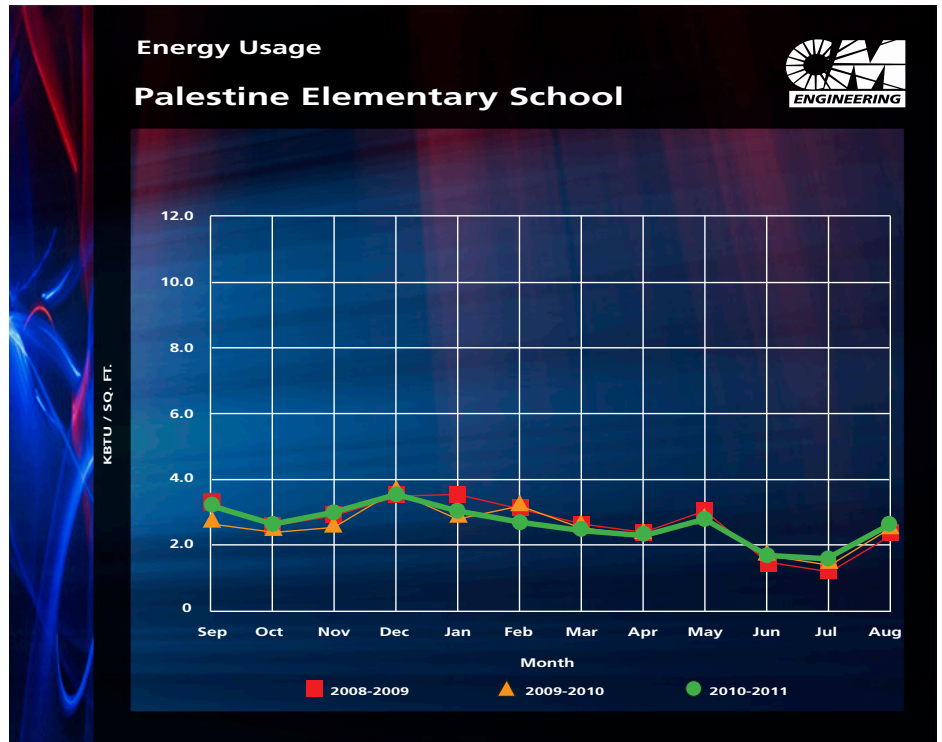
Palestine Elementary demonstrates the effectiveness of renewable energy features and good engineering design in new construction.

CM Engineering provided a total package of engineering design services, including mechanical, lighting, power distribution, HVAC and plumbing. Our ground source geothermal exchange system provides all of the facility's heating and the entire school is air conditioned.

Palestine enjoys consistently low levels of energy consumption throughout the calendar year.

New school construction

- Air conditioning in all rooms
- Ground source geothermal exchange system
- Two-pipe variable flow design
- 47,016 square feet
- 24 Classrooms
- Approximately 260 students
- Temperature controls in all rooms
- Cooling system efficiency:
Energy Efficiency Ratio-18
- Heating system efficiency:
Coefficient Of Performance-4
- Roof insulation: R 15
- Wall insulation: R 5.7
- Lighting: 1.0 W / sq. ft.
- Ventilation effectiveness: 85%



Energy use, average of 100 Illinois schools: 77 kbtu / sq. ft. / yr.

Energy use, Palestine Elementary: 32.04 kbtu / sq. ft. / yr.

These tracings show three consecutive years of remarkably consistent, measured energy consumption with our Two-Pipe variable flow Geothermal exchange heating and cooling system. (Data source: Community Unit School District No. 3, Palestine, Illinois.)