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Statement on the Gorham Middle School Geothermal Heat Pump System

PDT Architects is proud of its design for the Gorham Middle School, which was the first public school in Maine to be completely heated and air conditioned by a ground-source geothermal system. The system is working well to provide heating and cooling to this 138,000-s.f. middle school, which includes a high-school-sized gymnasium, locker rooms, and a 400-seat auditorium.

As of a September 2008 assessment by Whitney Engineering, the system is outperforming conventional systems at two other Maine middle schools of its size with similar facilities and 100% heating and air conditioning.

An independent study performed in 2006 for the Maine Department of Education concluded that "The bottom line is, Gorham Middle School is a very energy efficient facility." Both of these reports are available at www.pdtarchs.com, and the DOE report is also on their website at <http://maine.gov/education/const/ae002.pdf>.

Comparisons of the performance of this system with those of newer elementary schools are unfair because elementary schools typically have lighter electrical loads. Gorham Middle School hosts many summertime, after-school, and weekend programs and sports activities throughout the year. For this reason, Gorham Middle School is a fully air conditioned building, that will allow the school to be used for year-round education in the future.

The system has saved the taxpayers money from its inception and continues to do so. Since the system was designed and approved, oil prices have risen sharply, so that the payback on the original investment has improved dramatically. One of the major advantages of geothermal systems is that they reduce the burning of fossil fuels, thus reducing greenhouse gas emissions and dependence on foreign oil.

Since 2001, when the middle school system was designed, energy efficiency strategies available for schools have improved a great deal. Gorham Elementary School is now being designed as a Maine High Performance School with a geothermal heat pump system and many other state-of-the-art technologies that save energy and costs.

If you have questions, please contact the principal-in-charge of the project, Lyndon D. Keck, AIA, LEED AP, at PDT Architects, 775-1059 or keck@pdtarchs.com.