



**BUILDING  
ENVELOPE  
SOLUTIONS** Inc.



## A High-Performance School for a Lower Overall Cost

**Kennett High School Gets a new “State-of-the-art” facility**

**Energy improvements can cost less than conventional building practices. Because the performance of the building envelope leads to a much lower design load, the mechanical systems can be downsized significantly, thus reducing the initial cost of construction. As a bonus, this saves energy for the life of the building.**

While long-term energy savings are important, a high-performance building envelope also saves during construction. By using the Cost Reduction Protocol (CRP) to guarantee the building's performance, the mechanical system can be “right-sized” to save a portion of the cost of construction. With a rigorous quality assurance program and compliance testing, the CRP guarantees the performance standard will be met.

Kennett High School had a total building cost of \$32.8 million for a total floor plan of 200,000 square feet. The high-performance building envelope cost an estimated \$94,000 more than conventional construction and saved six to seven times this investment in HVAC system costs. The HVAC system cost about 25% less than it would have with a conventional building envelope. This resulted in savings of \$554,000, or about \$2.78 per square foot according to data provided by Banwell Architects.

***High-performance building envelope resulted in savings of \$554,000 for the initial construction.***

***At the end of the first full heating season, the operators of the facility reported that they used only half of the expected fuel.***



Auditorium



Library



Cafeteria

The CRP savings are not just realized during the construction process. These savings are ongoing for the life of the building in the form of lower operating and fuel costs, proving that building green can be a win-win proposition.



Summary	Estimated Standard Construction	Actual High-Performance Construction
Total HVAC System Cost	\$4,394,667	\$3,746,000
Total Shell	\$1,921,616	\$1,997,913
Total High-Performance design and commissioning	\$0	\$7,440
Total additional work by building envelope related trades	\$0	\$10,000
<b>Total Shell &amp; HVAC system cost</b>	<b>\$6,316,282</b>	<b>\$5,761,353</b>
<b>Total net additional cost or savings</b>		<b>\$554,929</b>
Total building cost (excluding site development)	\$33,396,681	\$32,841,752
<b>Square foot costs (\$/sq. ft. of floor space)</b>		
Building	\$167.00	\$164.00
HVAC	\$22.00	\$18.75
High-Performance Shell including all related costs	\$9.60	\$10.08
<b>Subtotal</b>	<b>\$31.60</b>	<b>\$28.80</b>
<b>Savings (\$/sq. ft. of floor space)</b>		<b>\$2.80</b>
<b>Savings (\$/sq. ft. of wall area)</b>		<b>\$7.10</b>