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CBT Architects utilizes Integrated Environmental Solutions performance analysis for Fitchburg State science building

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Integrated Environmental Solutions (IES), a provider of integrated performance analysis software and consulting services for sustainable building design, today announced that the use of its performance analysis software in a collaborative integrated design approach has helped save Fitchburg State University \$1.5 million in construction costs and more than \$34,000 in annual operating costs. The design is for the renovation and addition to the University's science building, which is due to be complete by Spring 2014.

University officials were faced with meeting the state's Silver LEED certification mandate and improving energy efficiency of the Science Building. It required high-performance heating, insulation and windows in order to keep occupants comfortable the primarily cool climate in the region. Other challenges involved determining how to cost-efficiently decrease cooling loads during warmer months, as well as improve ventilation and use daylighting to decrease reliance on artificial light.

Boston-based CBT Architects used a selection of IES' VE-Pro performance analysis software modules to run daylighting, solar, thermal, ventilation and energy simulations throughout the schematic design process.

"If we had been doing this project five years ago, without tools like IES, we would have gone in willingly trying to spend money to save energy, and could well have been putting money in that had no payback," said Alfred Wojciechowski, principal architect at CBT Architects.

Using IES' software tools, CBT was able to drive sustainability through performance analysis by acting as a central hub to the engineers, energy consultants and commissioning agents. This integrated workflow resulted in the successful completion of an energy-efficient yet extremely cost-effective structure.

"Throughout the renovation and addition to the University's Science Building, IES guided us and was the 'primary tool for our simulations,'" Wojciechowski said.

"The Fitchburg State University project is groundbreaking. This is the first time we've seen an architecture firm lead performance analysis across all phases of the design process, from the initial architectural mock-ups to implementing construction recommendations," said Liam Buckley, project consultant for IES. "Using our energy modelling software, CBT streamlined the workflow, working in unison with the engineers, energy modeller and commissioning agent to set performance targets and drive sustainability in the most integrated and cost-effective way possible. This is a truly unique collaboration and we hope that it encourages others to move forward in the same way."