

Piping Products Help Detroit School Achieve LEED Silver Certification

Mixed system minimizes overall energy consumption

Opened October 2005, the \$100 million Sinai Renaissance Educational Campus was designed to accommodate 2,500 Detroit-area students from kindergarten through high school.

Early in the planning of the unique three-story high school building, the decision to seek certification through the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Green Building Rating System was made. Helping the school become the first building in Detroit to receive LEED Silver certification was the team of mechanical contractor Heights Heating and Cooling Inc., distributor Satterlund Supply, and piping connections and support systems manufacturer Anvil International, Inc.

DESIGNING FOR FLEXIBILITY

The main objective of Anvil's Design Services team was to use the least amount of piping to satisfy the engineers' flow requirements while ensuring that all of the valves were accounted for and that the design specifications were met.

Design Services corrected inconsistencies in the construction drawings, preventing a tear-out and rebuild, as well as costly oversights in material purchasing and installation.

The building's central plant had an

elaborate HVAC system that filled two mechanical rooms on separate floors. This created a number of physical challenges, including the interconnection of a hot-water, fin-tube loop and a terminal-box loop. Small rooms and low ceilings made maintaining non-turbulent flow for proper operation of flow-measuring devices difficult. Early routing of the pipe was critical to ensuring overall coordination.

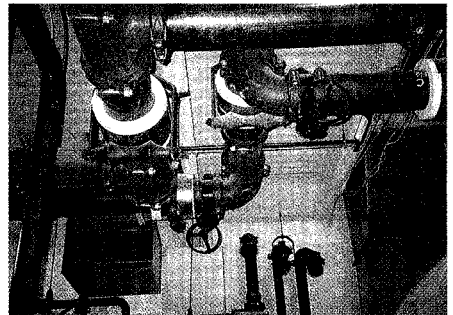
FLEXIBLE DESIGN SAVES MONEY

A combination of Anvil's Gruvlok® grooved-product line and welded systems was offered, enabling a number of design and installation efficiencies, including a minimization of the overall number of fittings.

"Anvil's piping product ensured that all of the operational requirements of the system were met and that the mechanical equipment, valves, and accessories were easily accessible and had the proper clearances for servicing," Merrill Davis of Anvil Design Services said.

The designed-in mixed system minimized overall energy consumption through efficient water flows and high flow coefficients. Additionally, unnecessary pipe welding was eliminated, which reduced airborne health hazards.

Significant cost and time savings were



One of the high school's two mechanical rooms.

realized thanks to computer simulation. This allowed testing and re-working without labor and material costs and helped ensure that important details were not overlooked. Also, it kept re-design work to a minimum, as obstacles were identified and overcome before any actual install work was done.

All Anvil castings (Gruvlok, malleable, and gray iron) are made from recycled scrap metal, which contributed to the project's Silver certification.

MEETING THE PROJECT'S GOALS

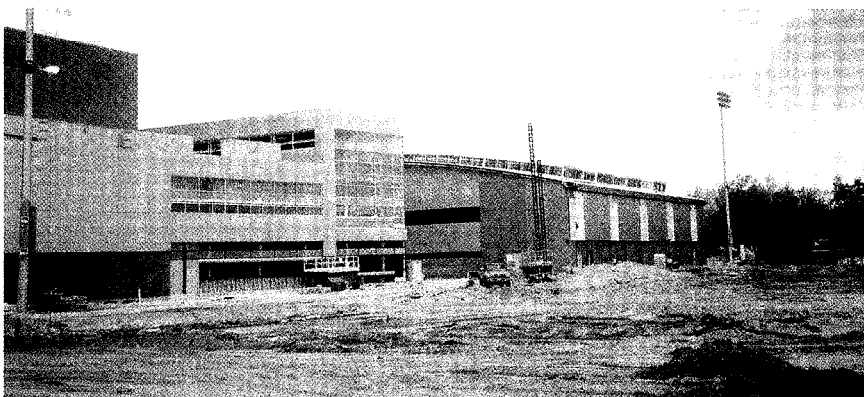
Through the collaborative effort of Heights Heating, Satterlund, and Anvil, a number of important goals and efficiencies were met. The team's ability to work within budget, along certification guidelines, and in a cost-efficient manner was crucial.

Information and photographs courtesy of Anvil International Inc.



Anvil International, Inc.

110 Corporate Drive, Suite 10
Portsmouth, New Hampshire 03801
Tel: 603-422-8000 / Fax: 603-422-8033
www.anvilintl.com



The front of the high school building on the Sinai Renaissance Educational Campus.