



Construction Institute

*Advancing Relationships
Developing Leaders
Building Opportunities*

Save These Dates . . .

December 9, 2005

Annual Owners Forum

January 18, 2006

CI/SMPS Trade Show Program

January 26, 2006

Regional Construction Forecast: Part I, North/Central Region

March 3, 2006

Regional Construction Forecast: Part II, Southwest Region

March 21-22, 2006

ConstruCT 2006

April 6, 2006

Member/Guest Social and Facility Tour

April 28, 2006

Regional Construction Forecast: Part III, Eastern Region

May 25, 2006

Topic to be determined

June 15, 2006

31st Annual Membership Meeting & Awards Dinner

ECSU Dorm is Connecticut's Largest Geothermal Installation

As our nation struggles to find a workable balance between the changing needs of people and the environment, green campus initiatives at colleges and universities continue to demonstrate positive and practical solutions to the energy debate through efficiency and sustainable actions. An outdated, energy-hog heating system in one of the older high-rise dormitory buildings at Eastern Connecticut State University (ECSU) was replaced with a highly efficient, geothermal heating and cooling system, saving the University approximately \$50,000 annually.

The project started when Nancy Tinker, ECSU's director of facilities management and planning, obtained a grant in 2001 from the Department of Energy's Geothermal Heat Pump Consortium to study the conversion. This research enabled ECSU to evaluate the benefits of converting the traditional electric resistance baseboard heat to a two-pipe, fan-coil system utilizing geothermal energy.

The 72,000-square-foot, 9-story dormitory houses 225 college students. It had inefficient heat in the winter and no air conditioning in the summer. Still, it was the most expensive building on campus to operate. The new, energy-saving geothermal system is comprised of three components: three, 800-foot-deep wells serving as the earth connection; heat pumps to move heat between the well water and the building's distribution system, delivering either heating or cooling; and a computer with direct,

digital control and graphic interface to manage the water and heat flow.

Water supply is critical to the system, so as part of the research stage, ECSU conducted a survey and identified that the local aquifer had more than sufficient water supply to support this project. The next



step determined that the draw of the water system for this project would not have a detrimental impact on the wells in the surrounding local area that tapped the same aquifer. Water is brought from the wells into the heat pump. The heat pumps act as an energy exchange using the well water, which is normally between 47 and 52 degrees

(please see Geothermal System on page 3)

William Leahy, director of the Institute for Sustainable Energy at Eastern Connecticut State University, can be reached at leahyw@easternct.edu. For the entire EPA report highlighting Eastern's renewable technology, visit www.epa.gov/NE/assistance/univ/pdfs/bmps. Click on ECSU Geothermal.PDF.

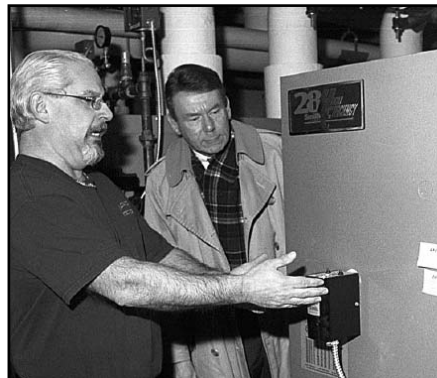
Naugatuck gets \$5 million in Energy Improvements

Through the Connecticut Conference of Municipalities' (CCM) Energy Efficiency Program, the Borough of Naugatuck received \$5 million in energy improvements, the full cost of which will be recovered by nearly \$500,000 in annual energy savings. Energy efficiency services are part of the CCM energy program, which began serving municipalities, their schools and local public agencies in 1999. The Naugatuck project, a joint effort by the municipal and school staffs, was completed in three phases to minimize any disturbance to the existing school schedule. Improvements included:

- New heating and air-conditioning systems at the high school
- A centralized energy management system
- Lighting improvements for all 16 town buildings
- Conversion from electrically heated to oil-fired hot water
- Temperature control improvements
- Water conservation
- Window replacement

- Upgrades and improvements to existing heating, ventilating, and air-conditioning equipment in 10 facilities

Naugatuck's most pressing need was to replace the antiquated heating system at the high school. When a second 45-year-old boiler gave out,



Naugatuck public schools business manager John Petuch inspects the four new boilers at the high school with Tony D'Averso, maintainer at the high school, who makes sure they are running smoothly.

a complete new heating system had to be installed quickly before cold weather arrived. By cutting the normal installation time in half through a project management schedule that optimized a cooperative effort, the town was able to avoid interrupting the school year.

The key to the success of any HVAC project is training the building owner's maintenance staff and providing ongoing service and support on the major mechanical systems. While not part of the Naugatuck project, green and renewable energy sources, as well as on-site generation of electricity, are typically considered for every project.

The CCM Energy Efficiency Program offers municipalities competitively purchased electricity and natural gas, utility bill review, streetlight management and maintenance, and energy efficiency services. All services are designed to combat increasing energy costs through reduced energy prices, lower energy use, and optimization of available rates and service plans. CCM offers this program to its member municipalities in conjunction with Siemens Building Technologies, Inc., which was selected by CCM following a competitive process and which is the exclusive provider of energy efficiency services for CCM. Other CCM energy service providers include Bay State Consultants for purchasing, Utility Analysts for utility bill review, and Sylvania Lighting Services for street lighting. A five-year agreement is the norm.

The Energy Efficiency Program allows municipalities and school systems with tight budgets to get new energy-efficient equipment without having to invest any capital dollars. Funds already budgeted for energy are simply reallocated to pay for newer, more efficient equipment. In addition, the program helps participating municipalities and school systems maximize available incentives and rebates that can be used toward efficiency projects. Naugatuck received \$300,000 in energy rebates from local utility companies. ▲

Andy Merola, CCM's manager of enterprise programs, can be reached at amerola@ccm-ct.org. Jerry Drummond is account executive at Siemens Building Technologies and can be reached at Jerry.Drummond@siemens.com.

Welcome New Members

ACE Mentor Program of CT
 All-Brite Electrical Contractors
 Allied North America
 Hill International, Inc.
 Hipoint Heating & Cooling, Inc.
 Occupational Risk Control Services, Inc.
 Unistress Corporation
 William B. Meyer, Inc.

Geothermal System

(continued from page 1)

year-round. At the request of the Connecticut Department of Environmental Protection, the system was designed to divert the water from the building into the Willimantic River. The river's ecosystem benefits from the addition of 30,000 to 150,000 gallons of water per day, without a negative impact on the aquifer levels.

Eastern has been able to demonstrate the financial benefits of a building's conversion to geothermal heat and cooling. The average annual electrical savings is approximately \$50,000, with the gain of air conditioning service at no additional cost. Eastern installed a solution that avoided the need to burn fossil fuels for the building's heating needs. Geothermal systems are also much smaller in size than traditional HVAC systems, using less space for equipment and maintenance rooms. Although the system's overall cost was \$706,000, Eastern received an additional grant of approximately \$61,000 from CL&P's Energy Conscious Construction Program. Over its useful life, the renovation will save the college, tax payers and citizens hundreds of thousands of dollars in energy use while, at the same time, reducing air pollution. ▲

F O C U S

Construction Institute Launches New, Updated Website

The Construction Institute's (CI) newly designed website was launched recently, and it offers a variety of new features. The site, developed by CI member Paul Berg, Technology on Call, under the guidance of the Marketing and Technology committees, was designed to serve as an interactive communication hub including information on all CI programs and workshops in one convenient location.

On-line registration and payments make it easy to participate. You can view the latest breaking news or RSVP to a committee meeting. You can even add a meeting reminder to your Outlook calendar

or personal data assistant (PDA). The membership directory is searchable allowing visitors to

get contact or descriptive information about member firms. Member photos and projects are featured throughout the site, demonstrating the dynamic nature of the organization.

And now, the new site offers a complete search by key word so finding specific information of interest is fast and easy.

These are just a few of the many features available on the new website. We hope you'll visit soon and give us your feedback, as we plan on adding more information in the near future. ▲



www.construction.org

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ConstruCT2006 Slated for Convention Center

The 9th Annual ConstruCT2006, Construction and Facilities Management Conference and Exposition will be held March 21 - 22, 2006, at the newly opened Connecticut Convention Center in downtown Hartford.

This exciting new venue offers tremendous opportunities to elevate this event to an entirely new level. Over a dozen industry groups are already participating in ConstruCT2006 and are taking advantage of this unprecedented collaboration of construction industry & facilities management organizations.



Together these groups are producing a true, industry-wide conference that will offer meaningful and informative educational sessions, offer a broad assortment of quality exhibitors and vendors and provide an exciting vehicle to spotlight the strength and vitality of the region's building industry.

ConstruCT2006, with its larger scale and extended reach, promises to generate a much broader audience, present expanded networking and business opportunities and offer an unequalled platform to introduce these industry organizations to a broader spectrum of potential members.

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