Bowne Hall is new ‘green’ home of Syracuse Biomaterials Institute

The Syracuse Biomaterials Institute (SBI) has been busy settling into its newly renovated “green” home in Bowne Hall since moving in last month. The space, which covers part of the third floor and the entire fourth floor, was revamped using a variety of sustainable techniques and materials. As a result, Syracuse University will be seeking green building recognition for the project by applying for Leadership in Energy and Environmental Design (LEED) certification from the U.S. Green Building Council.

“Our new, renovated space is spectacular and was much needed,” says Patrick T. Mather, director of SBI. “We've now brought together several different research labs that were formerly scattered throughout Link Hall. The new setup is geared toward greater coordination, efficiency, collaboration and improved education of students.”

Starting with essentially a blank slate, SBI worked closely with the architect to create the space's custom layout, which provides effortless access to research, teaching and public areas.

The yearlong green renovation began with 75 percent of demolition debris being recycled. The steel framing used was made from recycled scrap iron. All open ends of newly installed air ducts remained sealed off throughout the construction to keep unhealthy dust and debris out of the system. Only low-VOC (volatile organic compound) adhesives and paints were used.

The building’s unique architectural details and character, such as high ceilings with exposed decorative steel trusses and original windows, have been preserved and enhanced. A large proportion of the institute’s public spaces are uniquely warm and attractive, thanks to the prominent use of a wallboard product made with sorghum grass, a rapidly renewable material.

A host of energy-efficiency upgrades help reduce the building’s carbon footprint. “We tightened up the building to make heating and cooling more efficient,” says Jack Osinski, senior project manager with the Office of Campus Planning, Design and Construction. “We rebuilt every window sash and added brand new weather stripping in such a way as to maintain the contours of the windows and keep the original glass.”

Utilities were also a primary focus of the green upgrades. Electricity consumption in open spaces and corridors is minimized by using daylighting wherever possible and having artificial lighting controlled by sensors to kick in only as needed. Office lights are controlled by occupancy sensors. A new style of energy-efficient elevator replaced the old one. New energy-saving fume exhaust hood controllers in the labs—the first of their kind to be installed on campus featuring advanced motion sensors—will be put into use in the near future. Low-flow faucets and toilets were installed to conserve water. The heating, ventilation and air conditioning (HVAC) system was upgraded and runs on advanced electronic efficiency controls.

“More green upgrades will be completed during semester break,” says Osinski. “Energy-efficient lighting will be installed in the hallways and stairways of the first, second and third floors. New

terrazzo flooring that can be cleaned without any chemicals will be installed on the second and third floors."

Osinski says that he's working with the architect on the Bowne Hall renovation's LEED certification paperwork.

"Seeking LEED certification on construction projects is one of the fundamental actions that the University is taking as part of the American College and University Presidents' Climate Commitment (ACUPCC)," says Steve Lloyd, associate director for SU's Sustainability Division. "These are the types of projects that fit in perfectly with our Climate Action Plan (CAP), which is just under way. The reduced energy and use of natural products and daylighting is important to all who use the SBI spaces."

SBI conducts research on natural and man-made materials designed to treat, enhance or replace human body organs and tissues that have failed due to disease or injury. The interdisciplinary group includes faculty members from SU, the SUNY College of Environmental Science and Forestry and SUNY Upstate Medical University. Undergraduate and graduate students, as well as postdoctoral researchers, are involved in the research, which is externally sponsored by federal, state and corporate sources.

Now that all of SBI has been brought together into one custom-designed space in Bowne, the opportunities for students, faculty and research staff to collaborate and learn are limitless, says Mather. "We've probably got the best biomaterials facility in the nation now as far as breadth. It's an ideal setup that will prepare our students to hit the ground running once they graduate."