

The Building Itself Will Be A Teaching Tool:

An Update on the Jonathan Milikowsky Science and Technology Building

The Building Committee is co-chaired by two Board members, Melanie Ginter, parent of Natalie '08 and Harrison '12, and David Moore, parent of George '99 and Grace '04. Since 2009 the committee has been actively engaged in planning for our new science and technology building. In addition to faculty and administrators, the group includes alumni, parents, and past parents who bring special expertise to the building project. While it is a large committee, it has worked with care and speed, keeping the project on schedule at every step, from developing an initial "program" describing Foote's needs to selection of the architect, identification of the best site, and fine-tuning of the structure design and the materials that will be used to construct it.

David and Melanie were happy to respond to questions about the building project:

How was the site for the new building selected?

A top priority was to retain as much of the recess field as possible. Another goal was to develop a series of courtyards between the new building, the Middle School building and the North Building. We hoped to create comfortable spaces for Middle School students to gather outside in good weather. The Committee also wanted a site that made sense from a sustainability perspective.

How was the building designed?

The need for new science labs and additional middle school classrooms was identified during Foote's last accreditation review, so we started with those priorities: updated science labs and additional classroom space. Early in the planning a Wish List process invited teachers, parents, administrators, and neighbors to suggest improvements to the school. A variety of needs were identified, resulting in changes to the building plan and ideas for how to renovate the vacated spaces. The decision to group the three eighth grade homerooms together, near their lockers, and remove eighth grade lockers from the overcrowded Middle School hallway was a key enhancement based on suggestions from faculty. Many parents and neighbors stressed the traffic congestion problem on Loomis Place. That led to the development of a drop off/pick up circle from Highland Street. There were numerous requests for on-campus storage and we decided to add some basement storage in the new building.

Once the program for the new building was clearly defined, architect Maryann

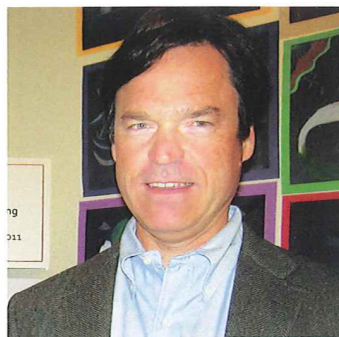
Thompson went to work. She and her staff designed more than 40 variations of a building that could accomplish our goals and the Building Committee discussed them, noting advantages and disadvantages to each. Most of all, we listened to the faculty who will use the new labs and classrooms. For example, the biology lab was placed on the ground floor because frequent biology field trips bring buckets full of water back to the aquariums; the physics lab needs an extra-high ceiling to accommodate experiments with ramps and pendulums; additional sinks and important safety features were included in all the labs. The ninth grade homeroom will have a Harkness Table — a table specially designed to promote small class discussion. The building is truly the result of thoughtful suggestions from many different members of the Foote community.

We know the Building Committee has been striving for a sustainable building. What elements of the building are "green"?

The new building will have many green features, including a high-efficiency/low ozone-depleting heating and cooling system and increased insulation in the walls and ceiling (exceeding code requirements). An array of photovoltaic panels on the roof will provide electricity and a solar thermal system will heat the building's hot water. Low-voltage LED lighting fixtures will be used in the atrium and common areas, and



Melanie Ginter



David Moore



lighting throughout the building will be adjusted automatically to take advantage of daylight.

The building structure itself is designed to reduce mechanical ventilation and cooling loads through the use of natural ventilation. Operable windows and the stack effect, which allows heat to rise and exit the top of the building, will cool the building effectively for most of the school year. The building site maximizes passive solar energy. Many windows will bring daylight into the rooms, but overhangs and louvers over the windows are used to shade the south and west from too much sun in spring, summer and fall.

As the building was being designed we identified environmentally responsible strategies to reduce water use through the specification of low-water use and metered auto-shut-off fixtures. We selected low VOC (volatile organic compounds) paints, carpets and flooring, which release minimal to no pollutants and are odor-free. To reduce the impact of shipping, materials will come from local companies as much as possible. We have used recycled materials throughout — the benches in the

atrium, hallway and ninth grade lounge will be made of wood recycled during the renovation of the Yale Bowl a few years ago. The tile in the bathrooms is made of 90 percent recycled glass. The roof deck classroom will be built of Trex — 98 percent of which is made from recycled plastic bags. The aluminum window frames are 85 percent recycled material, and the structural steel is 65 percent recycled. In place of metal ductwork, fabric ducts will be used on the second floor. Carpet and roofing materials are also partially made of recycled materials. We will use rapidly renewable materials for the flooring.

The building was designed with a continued focus on having the smallest possible negative impact on the planet. We also looked for strategies that have economic payback — the solar/thermal hot water system, for example, will have a payback period of approximately seven years. Finally, we sought ways to make the building a teaching tool so students can learn firsthand about sustainability. Students will be able to chart the energy production of the photo-voltaic system, comparing energy generation on sunny and rainy days. And

water use can be monitored by computer from the new science labs.

After a good deal of investigation we chose not to seek LEED certification, a process that adds significantly to the cost of a project. We decided it was preferable to incorporate features that enhance sustainability rather than pursue certification.

How long will it take to construct the building?

Construction fences are going up over March break! We plan to start construction in April, and it should take approximately 12 months. If all goes well, we'll be moving in during the spring of 2012.

How will the campus be affected during construction?

Safety for students and staff is our top priority. Even though the construction will occur in the middle of the Middle School, safety fences will make it possible to use the existing buildings throughout the building process. A similar plan was used successfully during the construction of the art and music building in 2000. We anticipate that many students of all ages will be interested observers of the building as it progresses!