

It has been three and a half years since the Madison Foundation for Public Schools gave Spring Harbor a grant to design and construct a greenhouse out of reclaimed, repurposed and sustainable materials. Since that initial \$9,500 grant, Spring Harbor has raised an additional \$80,000 towards the construction of this fantastic science learning center.



The Irwin A. and Robert D. Goodman

Greenhouse at Spring Harbor is scheduled to be completed by the fall of this year. At present, the foundation has been laid and insulated concrete forms were set in place. These bricks, manufactured out of reclaimed pallets, are one of dozens of ways this structure uses reclaimed materials.

Thanks to the work of H&H Solar (Madison, WI) the utilities are now in place and we will have gas, water, electric and internet capabilities once completed.

Students presently enrolled in construction classes at Madison College have installed much of the wood framing for the walls and the roof trusses.

Once the framing is completed, a metal roof will be installed and the windows and doors (some donated to the project), will be installed. The walls will be filled with straw-clay, an earth-friendly mixture (similar to adobe) that will create a highly insulated, durable and inexpensive wall. Even better, the kids will be able to fill the walls themselves.

One of the most remarkable aspects of this project is the way in which teachers and used this project as a way to provide students with practical learning opportunities. When preparing



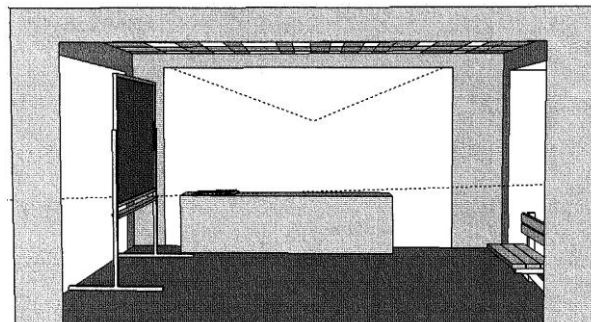
the foundation, students mapped the site and accurately flagged the land for excavation. They were required to calculate the volume of the foundation so we could order the correct amount of concrete and make sure we were not over charged. After the foundation was poured, students calculated the number of sheets of insulation that were needed to cover the interior of the foundation. They recently calculated the amount concrete needed to fill the insulated forms and the number of plywood sheets needed to sheath the roof.



*Faswall blocks made from recycled wood pallets.*

### Outdoor Classroom

Using money from our school's endowment fund, we are expanding our outdoor classroom to include a pergola, mulched seating area, painted tables and furniture, tree stump seats, a stainless-steel washing station and a portable gas grill. Students have mapped the site, created their own vision for the area and have begun using the computer program Google SketchUp! to design the space. Their visions are changing the face of our school grounds in a truly creative fashion.



### **Edible Schoolyard**

On Earth Day last year, the entire school removed hundreds of invasive honeysuckle bushes and replaced those bushes with native trees and shrubs in order to attract wildlife and create a more attractive garden space in the front of our school. Students in 6<sup>th</sup> grade used old, broken tiles and some bricks that were donated to our school to make an attractive border around the garden.

### **Water Conservation & Pond System**

As a way to demonstrate water conservation and sustainability, all the water that lands on the roof of the greenhouse will be captured and stored in an integrated system of rain barrels for use in the greenhouse and gardens. In the event of an overflow, the rain barrels will feed into a pond feature in front of the greenhouse that will be used to educate students about aquatic ecosystems and the importance of water for enhancing wildlife diversity.



### **Aquaponics System**

To highlight the relationship between sunlight, nutrients and plants in aquatic environments, we will also construct an aquaponics system that uses native fish species such as bluegill and crappie to grow greens such as swiss chard and collards greens.



### **Cross Country Course**

As a way to get kids moving, Spring Harbor started a cross country team, sponsored by MSCR. We created a 0.5 mile course on our school grounds that enables runners to move through many natural areas. We hope to eventually make the path permanent by mulching the trail and installing educational signs.

### **Brick Oven**

One of the most exciting aspects of growing food is guiding students in preparing (and eating) the foods they grow. We are planning to construct a brick oven using stone reclaimed from old barns. The brick oven, which could stay hot for over 24 hours, would be used to cook pizzas, bake bread or heat soups and stews. This could be a wonderful way for people in the neighborhood to come together to prepare foods in a beautiful outdoor setting.



### **Project Vision & Future Needs**

We are finally able to see the end of the construction phase for the greenhouse but we believe that this is just one stage of a long-term vision. We hope to be able to staff the school grounds with a Gardening Coordinator, supported through grant funds. In addition, we hope to be able to host community groups, local schools and neighbors to help tend the land and establish a community garden space.

We are creating an urban gardening campus here at Spring Harbor, with a number of new ways for students, adults and our community to explore the outdoors.