Greening the Symmes Hospital Site Redevelopment

A proposal to the Symmes Advisory Committee

Summary

Sustainable Arlington, a part of the Vision 2020 Environment Task Group, proposes that a **green design** approach be applied to all aspects of the Symmes Hospital property redevelopment. This approach is also referred to as *sustainable design* or *high performance buildings.*

Why go green?

We believe that green design will result in significant long-term benefits to the Town and its residents, including:

- Increased property values
- Proper management of storm-water & runoff
- Reduced impact on the Town's overburdened electric distribution and sewer systems

Green design is consistent with other Town activities on sustainability

- Arlington is a member of the Cities for Climate Protection. Green design at Symmes will minimize incremental greenhouse gas emissions in the town
- The town is currently exploring green design for the remaining elementary school reconstruction projects
- The town has completed and is planning energy efficiency retrofits of Town facilities and public lighting

Specific measures that could be applied to the Symmes Site

In addition to the general principles of sustainable design, we believe the following are particularly appropriate for the Symmes site:

- All buildings developed or renovated should earn a LEED™ silver rating or better
- Development at the site should generate at least one application for funding under the MTC Green Buildings Program
- The site should be developed for mixed use (e.g., using some high-end properties to subsidize affordable housing)
- Improved access to public transportation
- Comprehensive storm-water management plan
- Restoration of some of the site to a natural state using native plant species
- There should be some public access to the site (e.g., scenic overlook)

Economic Aspects

If implemented properly, green design is competitive on first cost with conventional design and results is substantially lower operating costs. To the extent that there are higher first costs for some measures, there are several options for offsetting them:

- Electric and gas utility energy efficiency programs often cover 80-100% of the incremental cost of energy efficiency measures.
- The Renewable Energy Trust, a fund managed by the Massachusetts Technology Collaborative, includes a Green Building program that can cover some of the design and implementation costs for green buildings and renewable energy systems. Grants up to $500,000 are currently available.

All Town residents contribute to these programs through small charges on their electric bills. We should take advantage of them to the maximum extent possible.

Implementing a green approach

Several well established guidelines and green design tools already exist that can be applied to the Symmes site. There are also numerous technical resources, such as the Green Roundtable (www.greenroundtable.org). The Symmes Advisory Committee's main consideration should be to ensure that "green language" is part of any RFP sent to prospective developers (i.e., make sure that green design is specified early in the process).

Attachments

- Presentation by the U.S. Green Building Council on green design and the LEED™ Green Building Rating System
- Information on the MTC Green Buildings Program
- Description of CambridgePark Place, a green multifamily development near the Alewife T station, that is using the LEED system
- Guide on writing a "green RFP"
- Sustainable Arlington Flyer

Contact Information

We would like to help in any way we can, including the development of appropriate "green language" to be put in any RFPs sent to developers.

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Sustainable Arlington Fact Sheet

Our Mission

To promote local action that will help to preserve, protect and improve the environment, and improve quality of life, both in Arlington and the broader community. This includes reducing local emissions of the greenhouse gases that cause climate change.

Who Are We?

Sustainable Arlington is comprised of concerned townspeople with varied backgrounds and strong motivation to create positive change in our town and to promote all aspects of sustainability. Sustainable Arlington operates as a committee of Vision 2020's Environment Task Group. As a complement to our local initiatives, we also coordinate with regional groups working on local and global environmental issues.

What Have We Accomplished?

- We encouraged the Selectmen to declare April 2000 as Earth Month, and in 2000 through 2002 arranged a variety of Earth Month/Day events, including a series of articles in the *Arlington Advocate* on environmental topics, an edible wild plants guided walk through Great Meadows with a local expert, bird walks at Spy Pond and the Reservoir, and a bike tour to explore Arlington's open spaces.
- With our encouragement, in 2001 the Selectmen voted to have the Town join the Cities for Climate Protection (CCP) campaign. As a result, the Town hired an intern who conducted an inventory of local greenhouse gas emissions. Town officials established a *Climate Wise* task force, and an intern is now drafting a greenhouse gas reduction action plan. Climate Wise and Sustainable Arlington are active on many fronts, including:
  - Energy efficient street and traffic lights: All traffic signals were replaced with LEDs, which use 80-90% less energy and improve safety; converting street lights is currently being researched.
  - In 2002, Town Meeting passed our proposal requiring that whenever the Town buys a vehicle, it must purchase the most fuel-efficient one that will fulfill the municipal purpose. Also, the DPW has a no-idling policy; and the Town bought a hybrid Toyota Prius, which gets 2-3 times the mpg of most cars.
  - A lighting retrofit at Robbins Library is planned that will save $9,000 per year in electricity yet cost the Town only $8,000 to install after the utility rebate.
- In March 2001 we put on an educational exhibit on climate change at the Robbins Library. In connection with it, we arranged for the replacement of dozens of lights in the Reading Room with compact fluorescents donated by NStar. These lights last 10 times longer and consume 75% less electricity than the ones they replaced, yet provide the same quality light.
- We are working with the Permanent Town Building Committee to incorporate green building design concepts into schools that are being renovated or rebuilt in Arlington. These efforts will reduce energy use, save money, create healthier indoor and outdoor environments and provide a "real life" learning opportunity for the students.

What's Next?

We have a series of project teams to advance initiatives in several key areas. The teams are open to anyone interested in getting involved.

Project Team	Topic	Upcoming Initiatives
Climate Protection/ Sustainability Action Plan	Currently working with Climate Wise to draft a plan for improving energy efficiency and taking other sustainability measures, consistent with our participation in Cities for Climate Protection.	Draft plan will be reviewed, improved upon, and brought to the public for comment.
Sustainable Lifestyles	Focus on raising awareness and encouraging residents in Arlington to adopt environmentally sound practices and enhance their quality of life.	Regularly launch discussion groups on Voluntary Simplicity and Choices for Sustainable Living
Ecological Gardening and Landscaping	Address the issue of sustainable gardening and landscaping, tree loss in Arlington, local species diversity, and pesticide use. Planning to create an Ecological Gardening Club in Arlington.	Public planting days
Greening Arlington's Schools	Provide systematic support for a green building approach to the remaining school reconstruction	Development of a "Green RFP" for the remaining school reconstruction projects
Public Lighting Efficiency	Working with the Town and NSTAR on installing energy efficient traffic signals (done), Robbins Library (planned) street lighting (under study)	More retrofits at Town Buildings
Transportation	Focus on improving energy efficient transportation options for Arlingtonians and providing public education on transportation energy use	Transportation efficiency measures for Climate Protection Plan
Green Power	Finding ways for the Town and its residents to purchase electricity from green power sources	Work with Mass. Energy to market green power

We also have teams focused on publicity/outreach and on coordinating with regional groups, such as the Massachusetts Climate Action Network, of which we are a member.

How Can You Get Involved?

Sustainable Arlington meets once a month in the evening. Project teams hold additional meetings as needed. Our meetings are open to any Arlington residents interested in participating, so please join us! Call 781-643-5911 or send email to: Environment2020@aol.com

Massachusetts TECHNOLOGY Collaborative

RENEWABLE ENERGY TRUST

Green Buildings Program

What are the Program's key objectives?

Sustainability and synergy are the watchwords of the Renewable Energy Trust's Green Buildings Program.

The principles of sustainable development seek lasting economic, environmental, and health benefits through integrated design of systems and careful stewardship of resources.

Sustainability and synergy highlight the importance of mutually leveraging resources and partnerships, improving the performance and durability of buildings, and fostering the rapid introduction and adoption of best practices in building design and construction.

The Green Buildings Program integrates the Trust's mandate to encourage a greater reliance on renewable resources to meet present and future energy needs with the increasing awareness of the value of designing and building green buildings.

The Green Buildings Initiative and the Green Schools Initiative are two components of the Green Buildings Program.

The Massachusetts Technology Collaborative is able to consider projects that meet program objectives and with limited exceptions, eligible projects must be located within the service territory of investor-owned electric utilities. Certain other criteria apply and are contained in the solicitations.

Sustainability and synergy

In light of last September's tragic events, January 2001's electricity shortages in California, and recent fluctuations in fossil fuel prices, the benefits of green buildings are becoming more attractive to owners, developers, tenants, and users.

Our Green Buildings Program encourages the synergistic combination of high-performance design, energy efficiency and renewable energy to enhance the sustainability of the built environment. As we move towards a new understanding of the sources and uses of energy in buildings, we will document and disseminate lessons learned while maximizing public benefits, leveraging other financial and non-financial resources, building on and enhancing market forces and facilitating effective consumer choice.

The **Massachusetts Technology Collaborative**, a state economic development authority based in Westborough, manages the Trust. The **Renewable Energy Trust** was established by the State Legislature in 1997 to promote the development and use of renewable energy in the Commonwealth.

Photo Credits:
Top: Sanderson Academy, the Ashfield-Plainfield Regional Elementary School, in Ashfield, MA; Margo Jones Architects, Inc.
Right and above: Passive solar design in a commercial office building, Golden Hills Office Center in Golden, CO; Warren Gretz Photo.

Applications for funding are now available. Please visit www.mtpc.org/massrenew.

Green Buildings

Green Buildings Initiative

Why Focus on Buildings?

Buildings use two-thirds of all electrical energy consumed in the United States and are responsible for at least one-third of peak electrical demand. Because buildings are typically used for 50-100 years, their inertia has a major impact on future energy use patterns.

What is Building "Green"?

Building "Green" involves an integrated approach to planning, design, and construction of building systems that:

- Optimizes occupant health and productivity within the building environment;
- Reduces the environmental impacts and resource consumption of the facility; and
- Reduces operating costs.

With these objectives in mind, green buildings are the intentional result of a planning process that carefully considers siting and construction impacts, energy and water efficiency, renewable energy resources, indoor environmental quality, materials selection, and sustainable operation and maintenance of the building systems**.**

What is the Green Buildings Initiative?

The Trust's Green Buildings Initiative provides financial and technical support for the disciplined inclusion of renewable energy technologies in the broader process of Green Building development. The Program supports individual projects, and will use the results to increase knowledge of green building and renewable energy benefits and practices among building professionals and the public.

Thoreau Center for Sustainability at Presidio National Park, San Francisco, California. Laminated to the skylight glass are photovoltaic cells that produce electricity as well as serve as an element in the shading and daylighting design.

Photo Credit: Lawrence Berkeley Lab

Green Buildings OPPORTUNITIES

The Massachusetts Technology Collaborative has committed over $14 million to assist project owners and developers with the costs associated with including renewable energy technologies and enhanced energy efficiency measures in green building projects.

▼ **For projects commencing the planning/design process:**

Over $500,000 is available over the next two years to support early stage feasibility studies concerning the inclusion of eligible renewable energy technologies and related features in selected green building projects. Qualified projects will compete to receive up to $20,000 on a quarterly basis. Please download a copy of solicitation number 2002-GB-01 from our Web site for complete details and an application form.

▼ **For projects engaged in design development or construction:**

$13.5 million is available over the next three years to support design and construction costs associated with the inclusion of eligible renewable energy technologies and related features in selected green building projects. Qualified projects will compete to receive up to $500,000 on a bi-annual basis. Please download a copy of solicitation number 2002-GB-02 from our Web site for complete details and an application form.

▼ **For completed green buildings that include eligible renewable energy technologies:**

$600,000 is available to help building owners and operators educate others about the building's green attributes, use of renewable energy, performance and other benefits. Up to $30,000 per qualified applicant is available now on a non-competitive basis. Please download a copy of solicitation number 2002-GB-03 from our web site for complete details and an application form.

Visit our Web site @ www.mtpc.org/massrenew

Green Schools

Green Schools Initiative

Photo Credits:
Top: McDonald Hall, The McCallie School Chattanooga, TN; HMFH Architects.
Bottom: Sanderson Academy, the Ashfield-Plainfield Regional Elementary School, in Ashfield, MA; Margo Jones Architects, Inc.

What is a Green School?

Green schools are healthy and productive learning environments. They are also cost-effective facilities that conserve energy, use renewable resources, and have lower annual utility and operating costs.

What is the Green Schools Initiative?

The Massachusetts Technology Collaborative (MTC) and the Department of Education have teamed up for this pilot program to provide school districts in Massachusetts with the information and resources necessary to help them design and build high-performance schools that are energy efficient and that use renewable energy technologies.

The goal of the Trust's Green Schools Initiative is to encourage school districts to construct or renovate school buildings that will cost less to operate and will provide healthier learning environments for students. This pilot program is an extraordinary opportunity for school districts planning new schools or major renovations to create more efficient facilities. The Initiative will also help influence how future schools will be designed and built in Massachusetts.

Green Schools OPPORTUNITIES

▼ **For school districts just commencing the design process:**

MTC will provide on-site, community-based educational workshops intended to increase baseline knowledge of high-performance green building principles, practices, and resources. MTC can tailor the workshop's content and duration to meet each school district's needs. For more information on this service, please fill out and submit the Workshop Request Form available on our Web site.

▼ **For the first forty applicants, feasibility study grants:**

For the first forty applicants, MTC is providing $20,000 for feasibility studies that will examine the potential for renewable technologies and other "greening" opportunities. MTC is currently accepting applications for feasibility study funding. Please download a copy of Solicitation 2002-GS-02 from our Web site for complete details and an application form.

▼ **For design and construction funding:**

In the fall of 2002 or early 2003, MTC will accept applications on a competitive basis for up to $130,000 in design funding and up to $500,000 in construction funding associated with the installation of renewable energy technologies and enhanced energy efficiency measures. A total of 10 applicants with projects to be constructed during the 2003-2005 timeframe will be selected to participate in the pilot program along with the school districts that are already participating under the first phase of the program, which began last year.

▼ **For Department of Education assistance:**

The Massachusetts Department of Education's School Building Assistance Program will add two percentage points to the calculation of the total facilities grant for school projects approved under the SBA in 2002 and 2003 that qualify as Massachusetts Green Schools, and will strongly consider waivers of project funding caps necessitated by incremental pilot program costs.