



WinterGREEN



A BIMONTHLY UPDATE ON STEVEN WINTER ASSOCIATES, INC.'S WORK IN THE REALM OF ENERGY EFFICIENCY AND SUSTAINABLE BUILDINGS

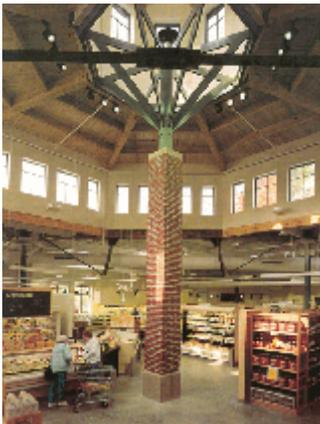
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Welcome to WinterGREEN

Welcome to the debut issue of *WinterGREEN*, an update on the work of Steven Winter Associates, Inc. (SWA) in the realm of making the built environment more energy efficient and environmentally responsible. Each issue of *WinterGREEN* presents a range of SWA projects, along with reports from the field, conferences, and presentations on sustainable building systems and concepts. *WinterGREEN* is distributed bi-monthly via fax or e-mail. Please let us know if you prefer to receive *WinterGREEN* by e-mail. We appreciate your comments and guidance for future issues.

Co-Op Sports Sustainable Features



When the owners of the Hanover Food Co-op in Dartmouth, New Hampshire, wanted a new store to reflect a concern for the environment, SWA provided guidance in the selection of green building materials and systems. Working with the building's architect, **Arrowstreet** of Somerville, MA, SWA reviewed energy-efficiency strategies and provided material evaluations for this new 50,000-square-foot food store. Detailed reviews were conducted for a range of materials, including masonry, metal roofing, recycled lumber, pressure-treated wood, concrete floor treatments, resilient flooring, paints, insulation, gypsum wallboard, recycled plastic wall panels, and millwork. SWA also evaluated envelope details and recommended wall and roof assemblies that improve energy efficiency and increase long-term durability.



Green Housing in New York

SWA has been selected by the **New York City Housing Partnership** to conduct an initiative for the **US Department of Housing and Urban Development** to "greenify" Strivers Plaza in New York's Harlem neighborhood. The initiative is being funded through HUD's PATH (Partnership for Advancing Technology in Housing) program. Strivers Plaza is a \$45 million development to include a 14-story apartment building of 150 units; 20 to 30 units of two- to four-story duplex units; 30,000 square feet of ground floor commercial space; and 30,000 square feet of ground floor parking. SWA will consult with the developer and the project's architect of record, **Max Bond of Davis Brody Bond**, New York, on the residential part of Strivers Plaza to add sustainable, energy efficient, and cost-saving features. Some of SWA's work will involve DOE-2.1E computer modeling to study energy efficiency, life-cycle cost analysis, and the selection of sustainable paint, carpet, adhesives, wall coverings, and other materials, or those that promote good indoor air quality. Construction is scheduled to begin this fall. Stay tuned for more details.

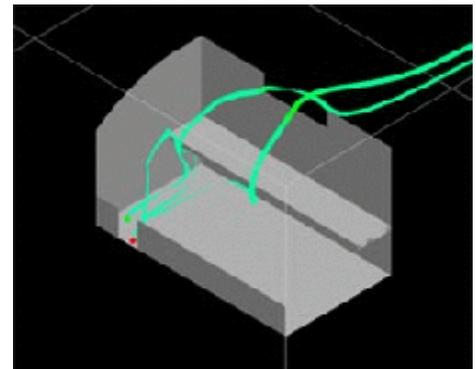
✦ Cutting Cooling, Improving Comfort



The humid climate of Guam takes its toll on keeping buildings cool and dry on that Pacific island. For a new Weather Forecasting Office, the National Weather Service wanted a building that was comfortable as well as energy-efficient. SWA was engaged by the **National Renewable Energy Laboratory (NREL)**, with funding from the **Federal Energy Management Program**, to cut the cooling load as well as operating costs. Working closely with National Weather Service staff and the project's design/build team, **Design Partners, Inc.**, SWA modeled the building's energy use with DOE-2.1E software. SWA identified energy-efficiency strategies that are expected to save 31% in annual costs for heating, cooling, ventilation, and lighting (more than \$15,000 annually), in comparison to an ASHRAE-compliant building. The operations room lighting was closely studied to improve visibility at computer terminals and to reduce glare in the space. SWA also provided insulation strategies to reduce the potential of condensation on the *outside* of the building—the reverse of the problem in cold climates.

✦ A Building that "Exports" Energy

Buildings, by one estimate, account for a third of the country's energy consumption. But what if you could come up with a building that produced energy instead of consuming it? That's what the designers of the Adam Joseph Lewis Center for Environmental Studies at Oberlin College hope to achieve. This 13,500- square-foot building is designed to be a net energy exporter, while minimizing its effect on the environment. Architects **William**



McDonough + Partners asked SWA to collaborate on achieving these goals with state-of-the-shelf materials and systems. SWA performed DOE-2.1E energy analyses and CFD-2000 analyses (computational fluid dynamics, drawing above) to minimize the building's energy use. The building features an atrium designed to enhance natural ventilation; a "living machine" solarium that helps preheat/precool the building; high performance glazing for energy efficiency and daylighting; a highly insulated opaque wall system; partial berming on the north side; a geothermal heat pump system; and recovery of waste heat. The building will also include a solar direct hot water system and a large area of photovoltaic panels. The design just won the 1999 American Architecture Award of the Chicago Athenaeum Museum of Architecture.

WinterGREEN is published bimonthly by Steven Winter Associates, Inc., 50 Washington Street, Norwalk, CT 06854. SWA is solely responsible for content and cost of publication. For further information contact Michael J. Crosbie at SWA, phone 203-857-0200, fax 203-852-0741, e-mail: mcrosbie@swinter.com. Visit our web site at www.swinter.com.