

SUSTAINABLE DESIGN AWARDS PROGRAM/2009

Jurors' Comments

The jury examined 53 submissions to this year's Sustainable Design Awards program. Now in its eighth year, this biennial design awards program was started by the BSA in 1993 and is co-sponsored by the AIA New York Chapter and the U.S. Environmental Protection Agency.

In 2009, the number of submissions increased by 10 entries—nearly 25 percent. Given the strong client demand for sustainable design in recent years, we had hoped for a range of project types that would break new ground in terms of demonstrating the highest aesthetic achievements, an integrated strategy, energy efficiency, thoughtful material use, systems development, and site and transportation planning.

Academic institutions, which have long recognized the importance of building sustainably, were well-represented this year. As competent as the submissions were, it would have been inspiring to see more innovation in terms of materials, systems development and planning—as other industries look to colleges and universities for leading the way.

We were encouraged to see that it is now possible to achieve highly sustainable projects in the private sector—including one outstanding corporate project. We hope in future years this design awards program attracts a greater number of public projects, as well as more examples of sustainable *affordable* housing.

We happily noted greater geographic diversity in this year's submissions. Although most entries were projects located in the Northeast (particularly New England), the program also welcomed projects located in California, New Mexico, New York and Seattle, as well as designs in China and India. We found that discussing sustainability as it relates to a variety of places greatly enriches the conversation. We hope the program sees further growth and diversity in national and international representation.

We reviewed just one zero-net-energy project and no projects that featured a regenerative site design or were built to capitalize on hydroelectric power.

Our overall response to the submissions was favorable. We thought that the addition of a clearly articulated statement explaining the decision-making process for each project might prove illuminating. We also wished each entry included information on its urban and regional context so that we could better understand the sustainability issues related to its proximity to transportation, jobs and services. It would be very helpful if each entry included a holistic explanatory diagram that illustrates how the entire project and site might work together as an integrated system.

With all this in mind, we have identified 13 projects that stand out as examples of sustainable design that is also beautiful.

As always, serving as jurors in a program such as this is a rewarding and educational experience for the jurors and we wish to express our appreciation to the BSA, the AIA New York Chapter and the U.S. Environmental Protection Agency for the opportunity to participate as jurors this year.

The Jury

Chin Lin AIA (HMFH Architects, Cambridge, Massachusetts)

Hubert Murray AIA, RIBA (Hubert Murray Architect + Planner, Cambridge, Massachusetts)

Martha Werenfels AIA, LEED AP (Durkee Brown Viveiros & Werenfels Architects, Providence, Rhode Island)

HONOR AWARDS FOR DESIGN EXCELLENCE

Boston Children's Museum (Boston) for Boston Children's Museum

Designed by Cambridge Seven Associates (Boston) with project team members: Leggat McCall Properties (project manager/owner's representative); Michael Van Valkenburgh Associates (landscape architects, Cambridge MA); Shawmut Design and Construction (construction management/contractor, Boston); Weidlinger Associates (structural engineers, Cambridge MA); BSC Group (civil engineers, Boston); The Green Roundtable (LEED administration, Cambridge MA); Epsilon Associates (environmental permitting, Maynard MA); Steven R. McHugh, Architect (specifications, Stratham NH); R.G. Vanderweil Engineers (M/E/P and fire protection, Boston); Arup Fire (code consultant, Westborough MA); Available Light (lighting, Salem MA); and Acentech (acoustics, Cambridge MA).

This intelligent expansion of the museum’s visitor services and extensive gallery renovation has created a wonderful place to educate children about sustainability hand-in-hand with the other educational programs. The project incorporates a green roof, gray-water systems, water-saving plumbing fixtures, energy-efficient lighting and elevators, multistory daylighting, recycled or rapidly renewable materials and locally produced products. This project is more than a sum of sustainable elements. The modern addition and the museum’s historic industrial warehouse structure that it abuts perfectly complement one another, creating a rich visual and spatial complexity. We appreciate that the landscaping and building are carefully integrated to offer exceptional storm-water management and protection of the adjacent Fort Point Channel. Cartoon diagrams throughout the museum explain the new sustainable features to the young and young-at-heart. A stunning achievement.

World Headquarters for the International Fund for Animal Welfare (Yarmouth Port MA) for the International Fund for Animal Welfare

Designed by designLAB architects (Boston) with project team members: JK ScanLan Company (general contractor, East Falmouth MA); Stephen Stimson Associates Landscape Architects (Falmouth MA); TMP Consulting Engineers (M/E/P engineers, Boston); Daniel Ojala PE, PLS (civil engineer, Yarmouth Port MA); KVA Associates (owner’s representative, Boston); ODEH Engineers (structural engineers, Providence RI); Norfolk Ram (geotechnical engineer, Plymouth MA); Sladen Feinstein Integrated Lighting (lighting consultant, Boston); Leslie Saul, Associates (furnishings, Boston); and Peter Vanderwarker (photography, Boston).

This remediation and reconstruction of a brownfield site, which provided a new home for a nonprofit animal-welfare organization’s nearly 200 employees on Cape Cod, brilliantly addresses sustainability issues from a number of angles, including land protection, water management and siting. The client sold its original site—five acres of undeveloped forest—to the town to be used for wildlife protection and purchased a contaminated plot next to the highway and transformed it into a meadowland. Restored with native vegetation, the property now features an integrated storm-water-management system featuring bioswales, rain gardens and a retention pond. There are many ways to experience the site, including a meandering boardwalk and spectacular views through a full-height glass curtainwall. We marveled at the creative use of high-performance glazing and its shades and appreciated the references to a traditional sailboat, such as fetching uses of wood and fabric “sails” that dampen sound and bounce light onto interior workspaces. What a lovely place to work.

AWARDS FOR DESIGN

New England Biolabs (Ipswich MA) for New England Biolabs

Designed by TRO Jung|Brannen (Boston) with project team members: Moriarty Associates (general contractor, Winchester MA); AHA Consulting Engineers (M/E/P and fire protection, Lexington MA); Meridian Associates (civil engineers, Beverly MA); and McNamara/Salvia (structural engineers, Boston).

This beautiful design of a 208,000-square-foot biotech facility in a rural setting incorporates new construction and renovations, which preserved the existing natural setting and historic structures. The new building cascades from three to two stories, following the site's sloping topography. An urban construction technique was used to save two majestic mature copper beech trees at the site's center. We were particularly impressed with the on-site sewage digester: a solar aquatic waste-water treatment system in a glass greenhouse that acts as a "living machine." The project also includes a high-performance curtainwall, a heat-deflecting roof, extensive daylighting, high-efficiency boilers and heat-recovery units, and a manmade wetland that serves both as a retention pond and a home to birds and wildlife. An inspiring example of corporate sustainability.

Garthwaite Center for Science and Art (Weston MA) for The Cambridge School of Weston

Designed by Architerra (Boston) with project-team members: Skanska USA Building (owner's representative, Boston); Consigli Construction (construction manager, Milford MA); Energysmiths (environmental design consultant, Meriden NH); Souza True and Partners (structural engineers, Watertown MA); Van Zelm Heywood & Shadford (M/E/P/FP, Farmington CT); Wastewater Management (Wastewater Alternatives, Plymouth MA); Andropogon Associates (landscape architect, Philadelphia); Haley & Aldrich (geotechnical engineers, Boston); Green International Affiliates (civil engineers, Medford MA); Vermeulens Cost Consultants (cost estimator, Richmond Hill, Ontario); Kalin Associates (specifications writer, Newton MA); Chuck Choi Photography (photographer, Brooklyn NY); and Bruce T. Martin Photography (photographer, Natick MA).

This elegant, nicely executed design of an independent school for grades 9 through 12 has created an interactive space sure to foster "biophilia" in its students. The bioclimatic,

high-performance aspects of this project range from natural ventilation to composting toilets. Renewable energy sources include a passive solar design and a wood-pellet-fueled boiler that meets 80 percent of the building's heating needs. We loved the interior, which proudly exposes the HVAC and structural systems and centers on a sunny, two-story atrium offering views of surrounding treetops, a green roof and an indoor wetlands gardens. A photo gallery and educational signage illustrate how the building and site work together as one system—it's building as teaching tool.

Gary C. Comer Geochemistry Building at the Lamont-Doherty Earth Observatory (Palisades NY) for Columbia University

Designed by Payette (Boston) with project-team members: Torcon (general contractor, Red Bank NJ); R.G. Vanderweil Engineers (M/E/P engineering, Boston); Weidlinger Associates (structural engineering, Boston); Vollmer Associates (now Stantec, civil engineering, New York); Mueser Rutledge Consulting Engineers (geotechnical engineering, New York).

Located on a prominent rural site looming above the Hudson River, this new geochemistry-research facility has a program that requires 20 individualized mass spectrometry, instrumentation and wet-chemistry laboratories; specialized ultra-clean rock-preparation and high-temperature core laboratories; and offices, meeting rooms and associated support space. The research work's technical challenges—very tight temperature control and high rates of air exchange—are at odds with traditional sustainable design. To address this apparent discrepancy, the building is organized into two wings with distinct architecture and infrastructure. Splitting up the office and laboratory functions reduces the project's footprint and energy consumption: the lab side serves as a high-energy environment with complex mechanical and control systems, and the office side is a low-technology, high-efficiency structure. The solution settles into the landscape beautifully.

Axinn Center at Starr Library for Middlebury College

Designed by CBT (Boston) with project team members: Lundquist, Killeen, Potvin, & Bender (M/E/P, St. Paul MN); LeMessurier Consultants (structural engineering, Cambridge MA); Engelberth Construction (construction management, Colchester VT); Andropogon Associates (landscape architects, Philadelphia); Efficiency Vermont (energy consultants, Burlington VT); Otter Creek Engineering (civil engineering, East Middlebury VT); Building Conservation Associates (historic consultant, Dedham MA);

Boyce Nemec Designs (A/V, Norfolk CT); Barbizon Light (rigging and dimming, Woburn MA); and Sladen Feinstein Integrated Lighting (lighting, Boston).

This project on Middlebury College's Old Stone Row quad preserves the original 1927 neoclassical Starr Library and the 1957 Shepley Pavilion Reading Room while removing some later additions and creating new faculty offices, classrooms, film and editing studios, and a winter garden. The design makes bold, simple moves to capture solar energy, natural light and storm water—exploiting a southwest-facing elevation, creating a great heat trap and doing away with gutters to let water flow directly off the roof to recharge the ground water. Locally sourced materials and materials recovered from the demolition were incorporated into the new design. The addition is elegantly integrated into the traditional architecture, maintaining the austerity of northern Vermont's stern, gray buildings in a bioclimatic way—a successful marriage of historic preservation and new design.

CITATION FOR LOW-WASTE FLEXIBILITY IN A MODERN OFFICE SPACE

Post Office Square office renovation for Leggat McCall Properties (Boston)

Designed by Audrey O'Hagan Architects (Newton MA) with project team members Commodore Builders (construction management, Newton MA); WB Engineering | Consultants (mechanical engineers, Boston); McDonald Electrical (electrical engineers, Rockland MA); and Richard Sampson AIA (code consultant, Norfolk MA).

This fit-out of a 10,000-square-foot office space on the top floor of an existing 1930s high-rise admirably demonstrates how modern workspaces can be adapted to new uses in a sustainable way. By opting for flexible, modular partitions instead of plaster and by putting all electrical, power and data wiring under a raised-access floor, the “smart floor, dumb wall” approach assures a flexible future with minimal interruption and waste. The design can (and has been) modified overnight for workstation changes. We found it especially impressive entire construction was completed in 15 working days.

CITATION FOR OFF-GRID HOUSING

West Basin House (Santa Fe NM) for Fred and JJ Milder

Designed by Signer Harris Architects (Boston) with WoodMetalConcrete Architecture (Santa Fe NM) and project team members Commonweal Conservancy (nonprofit developer, Santa Fe NM) and Fred and JJ Milder (general contractor, Galisteo NM).

This energy-independent house sits on 125 acres of high-desert grassland. Taking advantage of more than 320 days of sunshine per year, the structure is powered by a 4.5 kWh photovoltaic array with a propane back-up system. For an energy-efficient building envelope that reinterprets New Mexico's traditional pueblo revival and territorial styles, the design uses rammed earth and autoclaved aerated concrete units instead of labor-intensive adobe bricks. Sculptural elements, such as an aqueduct-style water feature that feeds a water garden, handle water recapture beautifully. We appreciated the innovative use of materials. In the absence of an alternative explanation, we were left to assume that the only access to the remote house would be by motor vehicle.

CITATION FOR INNOVATIVE USE OF SOLAR TECHNOLOGY

GreenPix (Beijing, China) for Jingya Corp.

Simone Giostra and Partners (Brooklyn NY) with project team members Arup (lighting designer and façade, structural and materials consultant) and Mark van S. Bernardo Zavattini (media consultant).

This programmable zero-energy photovoltaic media wall created for a spa and restaurant on a busy street near the Olympic complex features the largest color LED display in the world and the first photovoltaic system integrated into a glass curtainwall in China. Solar power continually enlivens the blank façade with digital public art by various new-media artists. Excess electricity is sold back to the grid. We found the project's non-utilitarian purpose inspiring—a welcome departure from the ethos of puritanical sustainability.

CITATION FOR SOCIAL SUSTAINABILITY

Jamaica Plain Cohousing (Jamaica Plain MA) for Jamaica Plain Cohousing Members

Designed by programming architects Kraus-Fitch Architects (Amherst MA) and full-service architects Domenech Hicks & Krockmalnic Architects (Boston) with project team members: Landmark Structures (contractor, Stoneham MA) and Crowley Engineering (M/E/P, Taunton MA).

This new 30-unit development, located on a restored urban brownfield site close to public transportation, demonstrates the viability of co-housing. Common spaces give all residents access to bike storage, natural daylight, gardens and play areas. By preparing food and dining together several times a week, residents save time, trips to the grocery store and energy for cooking. Providing offices within the common house decreases commuting time and energy. Designing for aging in place is expected to sustain the development over time. We applaud the fully integrated project for addressing affordable housing, programming, infill, reuse and community participation.

CITATION FOR REUSABILITY OF MATERIALS AND COMPONENTS

Cellophane House (New York) for Museum of Modern Art exhibit

Designed by KieranTimberlake with project team members: Kullman Buildings Corporation (fabrication and assembly); F.J. Sciame Construction (construction manager); Craftweld Fabrication Company and Budco Enterprises (on-site riggers); CVM Engineers (structural engineers); Universal Services Associates (exterior wall panel fabricator); Arup Lighting (lighting designer); Capital Plastics Company (acrylic stair fabricator); and Czarnowski (display). Suppliers include: Airline Hydraulics Corporation (structural frame); 3form (floors and interior vertical surfaces); Schüco USA (windows); Philips/Color Kinetics (LED lighting); CPI Daylighting (translucent roofing); Total Plastics (acrylic for stair); DuPont Teijin Films (PET film); PowerFilm (thin film technology); 3M (infrared blocking film); Valcucine, distributed in US by Dom Showrooms (kitchen casework); Miele (appliances); AF New York (plumbing fixtures); and Kullman Buildings (bathroom pods).

This prefabricated single-family home was designed to be a prototype and built on a surface parking lot as part of a Museum of Modern Art exhibit. The house features a bolted-together aluminum frame that can be easily assembled, modified and disassembled—and up to 90 percent of the building mass can be recycled. Designed using building information modeling (BIM), the structure incorporates translucent and transparent materials to maximize daylighting and employs LED lights on automatic sensors. We admired the project's bold and innovative approach and think it shows great potential for flexibility and portability in residential construction.

CITATION FOR STUDENT HOUSING

Davis Student Village for College of the Atlantic (Bar Harbor ME)

Designed by Coldham & Hartman Architects (Amherst MA) with project team members: Marc Rosenbaum of Energysmiths (systems engineer, Meriden NH); Coplon Associates Landscape Architects (landscape architects, Bar Harbor ME); Ryan Hellwig PE (structural engineer, Northampton MA); Petersen Engineering (mechanical engineers, Portsmouth NH); Phil LaClaire of PML Project Management (project manager, Fayette ME); Bartlett Design Lighting and Electrical Engineering (lighting and electrical consultant, Bath ME); Hedefine Engineering & Design (civil engineers, Hancock ME); Acentech (acoustical engineers, Cambridge MA); and E.L.Shea (construction manager, Ellsworth ME).

This project taps simple but innovative technology and a local fuel source while satisfying the social needs of a small student community. Accommodation for 51 students was created in six new buildings that unite once-distinct parcels into a coherent campus. The buildings feature extremely tight building envelopes and composting toilets. The college hopes to achieve fossil-fuel independence by 2015, but its desire to preserve existing trees and buildings on campus limited its solar-heating options. Instead, a wood-pellet-burning boiler supplies heat. Students pass the boiler and pellet silo on their way to and from classes and store their bikes in the boiler building. The scale is lovely: the campus now feels like a Maine village, but a sustainable one.

CITATION FOR URBAN DESIGN AND MASTERPLANNING

Southworks Lakeside Chicago Development (Chicago)

Designed by Sasaki Associates (Watertown) with Skidmore, Owings & Merrill (Chicago) and project team members: Antunovich Associates (retail planning and architect, Chicago); Spaceco (civil engineering, Rosemont IL); Conestoga-Rovers (environmental consulting, Chicago); STS Consultants (foundations and geotechnical, Vernon Hills IL); Bell, Boyd & Lloyd (environmental attorney, Chicago); KLOA (traffic, Rosemont IL); Kenny Construction (contractor and costing, Chicago); O'Neil Construction (contractor and costing, Chicago); Christopher B. Burke Engineering (civil engineering, Rosemont IL); and Shaw Environmental & Infrastructure (sustainability consulting prior to 2006, Baton Rouge LA).

This plan for the redevelopment of the former South Works steel mill on Chicago's South Side capitalizes on the site's proximity to public transit and 1.5 miles of Lake Michigan shoreline. The 600-acre development will include thousands of mixed-income housing units, commercial and retail spaces, two new schools and research and development uses—all woven together by 135 acres of new parks. An aggressive stormwater-

management plan seeks to avoid direct urban runoff into Lake Michigan and provides an interesting landscape design in which water plays a significant role. Urban systems are a vital dimension of sustainability, and the scale of this masterplan is commendable.
