



Top and Middle photographs by Gary Hall



Case Study

Project Name: AVA Gallery and Art Center, Lebanon, NH

LEED Certification: **GOLD**, LEED for New Construction

Building Type: Art gallery and artists studios, major renovation of industrial building, 41,500 SF



Overview story: Formerly the H.W. Carter Overall Factory, ca. 1870s, the AVA Gallery and Art Center is one of the Upper Valley's original most energy-efficient and green buildings; it achieved Gold certification in 2008 by paying special attention to LEED categories: Sustainable Sites, Water Efficiency, Energy Performance and Atmosphere Materials and Resources, Indoor Environmental Quality, and Innovation and Design. Measures include:

- ✓ Airtight building "envelope," with spray foam insulation; replaced 141 ill-fitting windows.
- ✓ 95% of all construction waste removed in the course of the renovation was recycled.
- ✓ High-efficiency boiler replaced an enormous, unreliable boiler.
- ✓ Sunshades and an air-exchange system keep the building comfortable in the summer without air conditioning.
- ✓ Computerized energy management controls heating, ventilation and cooling.
- ✓ Based on data, AVA boasts 71.5% energy savings compared to new commercial buildings and 43% reduction in energy use compared to national standards.
- ✓ Light shelf provides natural daylighting and reduces the need for electrical lighting.
- ✓ Fresh outdoor air supplied with energy recovery ventilators at healthy levels above code requirements.
- ✓ Successful combination of historic features with new and contemporary approaches to construction, architectural design and environmental sustainability.
- ✓ Ongoing energy monitoring verifies that the building continues to perform as modeled.
- ✓ The next phase of this project is to achieve Net Zero Energy. RBG is delighted to work with AVA and this team again to achieve their ultimate goals.

V4-3-2015

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*Resilient Buildings Group is a
majority-owned, for-profit subsidiary of
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a non-profit energy-use reduction think tank.*



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LEED Consulting

We use the LEED process to help you think through and make your building as sustainable as possible

LEED rating systems address the following types and scopes of projects:

- ✓ New Construction & Major Renovations
- ✓ Core & Shell
- ✓ Schools
- ✓ Retail: New Construction & Major Renovations
- ✓ Retail: Commercial Interiors
- ✓ Healthcare
- ✓ Commercial Interiors
- ✓ Existing Buildings: Operations & Maintenance
- ✓ Homes/Multifamily Mid Rise
- ✓ Neighborhood Development

RBG has consulted on more than 50 LEED buildings in the Northeast - Certified, Silver, Gold, and Platinum

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What is LEED? Leadership in Energy & Environmental Design (LEED), is a building certification process that redefines the way we think about the places we live, work, and learn. As an internationally recognized mark of excellence, LEED provides building owners and operators with a framework to identify and implement practical and measurable green building design, construction, operations and maintenance solutions. LEED Certification provides independent, third-party verification that a building, home, or community was designed and built using strategies aimed at achieving high performance in key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. Each category in a LEED rating system consists of prerequisites and credits. Prerequisites are required elements, or green building strategies that must be included in any LEED certified project. Credits are optional elements, or strategies that projects can elect to pursue to gain points toward LEED certification. LEED prerequisites and credits work together to provide a common foundation of performance and a flexible set of tools and strategies to accommodate the circumstances of individual projects. The hallmark of LEED and its ability to affect market transformation is its continuous improvement cycle that enables the rating system to increase in scope and stringency as market readiness increases and new technologies become widely available.

RBG's LEED and High Performance Buildings Qualifications:

We strive to use the LEED framework and process to make your building sustainable, efficient, and comfortable in a way that goes far beyond a checklist. Our team's green building expertise extends back to the very beginning of the LEED program, as Jordan Institute/RBG's High Performance Buildings Program Manager, managed the design and construction of the first LEED-certified building in New England. That building, the Society for the Protection of NH Forests—French Wing, remains a prime example of green building principles. Since then we have certified more than 50 buildings in the Northeast. We are the only LEED for Homes Provider in New Hampshire with two Green Raters and LEED Accredited Professionals. We have worked on LEED projects in NH, MA, ME, NY, and RI.

While most of our High Performance Buildings clients seek LEED certification in particular, we work with other certification systems as well, including ENERGY STAR, Collaborative for High Performance Schools (CHPS), and the National Association of Homebuilders standards. Some of our clients seek to follow the LEED path but not pursue certification. We have developed project specific goals such as Net Zero Buildings, and work with teams to achieve goals without otherwise recognized industry-standard certification programs. We address a wide range of building types and sizes, from a 6,000 square foot interior renovation to a 267,000 square foot school building. We also teach a variety of High-Performance Building training programs for companies, trade associations, and the general public including partnerships with the American Institute of Architects, NH Chapter; the Associated Builders and Contractors, NH and VT Chapter; and the NH Chapter of the US Green Building Council.

Recent LEED Projects by our team

- ✓ The Wyeth, Cambridge, MA — PLATINUM
- ✓ Lindt & Sprungli Addition, Stratham, NH — CERTIFIED
- ✓ NCS Global, Rochester, NH—SILVER
- ✓ Norris Street, Cambridge, MA—CERTIFIABLE
- ✓ Mennino Place, Concord, NH— GOLD
- ✓ Grappone Toyota, Concord, NH—CERTIFIED
- ✓ White Mountains Administration Center, Campton, NH—GOLD
- ✓ AVA Gallery, Lebanon, NH—GOLD
- ✓ McLane Audubon Center, Concord, NH— GOLD
- ✓ Second Nature Academy, Nashua, NH — PLATINUM
- ✓ Nobis Engineering, Lowell, MA—GOLD
- ✓ NHTI Health Education Academic Center, Concord, NH—SILVER
- ✓ US Citizenship & Immigration Services, Bedford, NH—SILVER
- ✓ Sullivan Construction, Bedford, NH— PLATINUM
- ✓ Green Woodlands, Dorchester, NH— PLATINUM
- ✓ CSX Railroad—Gate and Crew Buildings, Worcester, MA—SILVER
- ✓ Portsmouth Public Library, Portsmouth, NH— SILVER
- ✓ Nubanusit Neighborhood and Farm, Peterborough, NH—PLATINUM

And numerous building developments, multi-family buildings, commercial buildings, schools, and private residences— ranging from Certified to Platinum

