



# MASSACHUSETTS HISTORICAL COMMISSION

## 2013 Preservation Award Winners



### Lyman Estate / "The Vale" Weatherization Project • Waltham

#### *Rehabilitation & Restoration*

The Lyman Estate mansion was designed by Salem architect Samuel McIntire and constructed in 1793 for Boston merchant Theodore Lyman. A National Historic Landmark, the building served as a residence for four generations of the prominent Lyman family until its donation to Historic New England in 1952. With this project, Historic New England set out to test the premise that a comprehensive energy retrofit, with the goal of reducing energy consumption by 50 percent or more, could be accomplished wholly within the Secretary of the Interior's Standards for the Treatment of Historic Properties. All work was completed according to Historic New England's institutional mandate to document before undertaking repairs, prevent the loss of historic fabric, retain and preserve historic materials and craftsmanship, disseminate results as a model for others to emulate, and ensure long-lasting results by following or exceeding professional standards.

The project involved the removal, conservation, and weather stripping of 120 windows. Interior storm windows were installed at 70 locations, and exterior storm windows were installed at remaining locations. Air infiltration sites were sealed throughout the entire five-story structure, and dense-pack cellulose insulation was installed beneath the floorboards at the third story. The building's fuel source was changed from oil to natural gas, new high-efficiency furnaces were installed, the ductwork distribution system was modified, and digital controls were added in each of 19 occupied spaces for pinpoint control of heating and cooling. Historic lighting fixtures were conserved and converted to LED use. The project also involved restoration and repairs beyond the weatherization component, including: restoration of landscape features to their HABS-documented condition; paint analysis to recapture the early 20th-century exterior color scheme; electrical, roofing, and envelope repairs; and refurbishment of interior features such as floors, paint, window treatments, and carpeting. To share its efforts in balancing historic preservation and sustainability goals, Historic New England staff documented the project through photographs, articles, blog posts, videos, and white papers that have been seen by thousands online and in member publications. The project has enabled the estate to be open year-round for monthly tours for the first time in decades. The first seven months of measurement in 2012 showed energy usage reductions of 40 percent over 2009 totals and 49 percent over 2010 totals. This unique project has shown that, even in a highly significant landmark structure, historic preservation and energy conservation can work together to achieve real and measurable progress toward a sustainable future.