

1. *Program Title:* Weatherization, Thermal and Electric Energy Efficiency Improvements, and an Energy Educational Exhibit at the Great Stone Dwelling of the Enfield Shaker Museum.
2. *Program Type:* Type 2, 8 and 10.
3. *Summary of Work:* Through June 30, 2010:

This is not a request for reimbursement, as we have spent only \$11,509.59.

The goal of the grant was not only to increase energy efficiency, but to make the project a model for other historic structures.

Task 1: The task of purchasing and installing two 300 CFM energy recovery ventilation units (HRVs) proved to be our greatest challenge because the installation would have required the destruction of original historic fabric of the Great Stone Dwelling (built in 1837-1841). The Museum has two committees to review construction projects: the Buildings Committee, which reviews the budget and basic methods, and the Preservation Planning Committee, made up of nationally respected advisors in the field, who guide us on meeting the national federal guidelines for historic preservation. Both committees spent many months and many meetings trying to figure out a way to install the HRVs with any detriment to the building. The committees had to approach the Governor & Council for an extension, because they had not yet found a solution. They then decided it would be best to approach the G&C a second time and ask for a change in the project. After much deliberation, the committees recommended replacing the HRVs with a small heating system that would heat the essential spaces during the winter, saving considerable greenhouse gases. Once the G&C approved the change, the contractor (The HVAC Guru) was hired. We have paid \$7500 (50% of his bill), and the remainder will be billed in September.

We also paid Hayward \$20,325 for ductwork and re-design. The Enfield Shaker Museum is paying for this expense. We also paid Don Roberts \$777 for related carpentry work and Carter Sprinkler System \$560 to move a sprinkler head as required by building code related to the ductwork. NHPUC grant paid for Roberts' and Carter's two bills. We have completed about 50% of the work on Task 1.

Task 2: Will be done in January 2011 at a slower time of year for the Museum. No programs have been scheduled at that time to allow for the work to be done.

Task 3: The energy efficient lights have been purchased and installed. 100% complete.

Task 4: Two clothes washers have been purchased and installed. 51% complete.

Task 5: This will be done after the completion of the activities to document the work and the rationale behind it.

Task 6: This will be done at the end of the project to test the efficiency of the project.

Task 7: This will be done at the end of the project to test the efficiency of the project.

4. *Summary of Work July 1, 2010 – September 30, 2010:* We will complete the installation of the boiler and will pay \$7500 as a final payment to The HVAC Guru. We will then submit a request for reimbursement.
5. *Total Hours Worked:* Property Manager Tom Boswell's hours are documented in the forms.
6. *Obstacles encountered:* See Question 3 – Task 1.
7. Jim Garvin, State Architectural Historian, has encouraged us to partner with Strawberry Banke and other museums that have encountered issues with balancing energy savings with historic preservation.
8. Drawings of the ductwork are included. Invoices are included.
9. Budget vs. Actual: We are pretty much on target, except for the ductwork changes. Originally the ductwork was part of the HRVs. The ductwork expense to Hayward is \$20,325, and this is separate from the \$16,500 that was originally budgeted. The Museum is paying for the \$20,325.