



NATIONAL ENDOWMENT FOR THE

Humanities

DIVISION OF PRESERVATION AND ACCESS

Narrative Section of a Successful Application

The attached document contains the grant narrative and selected portions of a previously funded grant application. It is not intended to serve as a model, but to give you a sense of how a successful application may be crafted. Every successful application is different, and each applicant is urged to prepare a proposal that reflects its unique project and aspirations. Prospective applicants should consult the Preservation and Access Programs application guidelines at <http://www.neh.gov/grants/preservation/sustaining-cultural-heritage-collections> for instructions. Applicants are also strongly encouraged to consult with the NEH Division of Preservation and Access Programs staff well before a grant deadline.

Note: The attachment only contains the grant narrative and selected portions, not the entire funded application. In addition, certain portions may have been redacted to protect the privacy interests of an individual and/or to protect confidential commercial and financial information and/or to protect copyrighted materials.

Project Title: Interdisciplinary Assessment and Plan for an Energy Efficient HVAC System for Dumbarton House

Institution: National Society of the Colonial Dames of America

Project Director: Karen L. Daly

Grant Program: Preservation and Access Sustaining Cultural Heritage Collections

Project Description

The National Society of The Colonial Dames of America - Dumbarton House

Dumbarton House is documented as "an outstanding representation of American architecture of the early Federal Period"; it and its collections tell the story of life in the City of Washington during the formation of the Early Republic and a new national identity, and the experience of becoming a Capital City during a time of great uncertainty and great accomplishments. Dumbarton House also illustrates the past and present role of women and of The National Society of The Colonial Dames of America in the national historic preservation movement.

This project will explore and recommend respectful, sustainable approaches to collections care and preventive conservation for the house and its collections. Recent failures in Dumbarton House's 21-year-old HVAC system are telling us that a planned upgrade, based on a thoughtful review, instead of a crisis-response, is a critical institutional responsibility. The staff, board, assessors and maintenance technicians have all voiced concern over issues that confront the historic house, the collections, and our ability to efficiently and effectively manage the current system.

- The combinations of radiator and forced air heating, and forced air cooling are difficult to monitor and control, and the thermostat locations and zone distinctions fit the system, not the building's uses, making it all inefficient in energy use and confusing for staff
- There is no humidity control on the existing system which allows us fewer management tools for collections care and preventative conservation
- The recent failures of component parts of the system have forced reactive repairs; there is no ability to plan strategically for upgrading or improving the system. The expedient responses have been costly while failing to enhance the performance or efficiency of the system. The failures will continue.

We have created an interdisciplinary team to review the years of environmental conditions records, CAP assessments on the collections and the historic structure, and space studies, and then explore and recommend environmentally-sustainable practices and energy management. The consultants will spend a day exploring the site, concluding with recommended assessments (energy audit and geothermal assessments expected). After the assessments and reports, followed by six to twelve months of monitoring, the consultants will reconvene to review conditions and reports and to make final recommendations.

A number of strategic requests to NEH and IMLS have funded our steady progress in addressing documented goals. This planning grant brings together the professionals who own and operate the building, with the site's two CAP assessors and two consulting sustainability professionals for a holistic approach to caring for our valuable historic resources. This commitment to collections care, thoughtful facility use, and environmental sustainability are documented priorities in our Strategic Plan, and already in action: Dumbarton House uses 100% wind energy for its electric needs and purchases carbon offsets for natural gas use.

This is a holistic approach to identifying measured, responsive, efficient system and operational changes to serve Dumbarton House far better than the current patchwork. We have all the information we can provide on our own as collections stewards; now we require support from consultants to plan a proactive approach to address collections needs, and site restrictions and opportunities with an attitude of innovation, integration and sustainability. Staff practices and energy audits, and geothermal assessment will finish our assessment work and provide recommendations to the Dumbarton House board for implementation.

I. Introduction

Planning for Improvement and Replacement of Existing Climate Control Systems in an Historic House: Recent small failures in Dumbarton House's 21-year-old system are telling us that a planned upgrade, based on a thoughtful review, instead of a crisis-response, is a critical institutional responsibility. Fortunately the last few years of assessments and planning have prepared us to make this final review of documented conditions to create a plan that simultaneously acknowledges current conditions, collections needs, and new opportunities.

We have created an interdisciplinary team to review the years of environmental conditions records, the Conservation Assessment Program (CAP) reports on the collections and the historic structure, and storage and space studies, and then to explore and recommend environmentally-sustainable practices and energy management. This commitment to collections care, thoughtful facility use, and environmental sustainability are documented priorities in our Strategic Plan. A number of strategic requests to NEH and IMLS have funded our steady progress in addressing documented goals. This planning grant brings together the professionals who own and operate the building, with the site's two CAP assessors and two consulting sustainability professionals for a holistic approach to caring for our valuable historic resources.

Dumbarton House and The National Society of The Colonial Dames of America: Dumbarton House is one of Washington's earliest historic house museums. It was restored by The National Society of The Colonial Dames of America (National Society) and opened to the public over 75 years ago. The house is associated with several prominent 18th and 19th century public figures, and the early history of Georgetown, specifically Joseph Nourse who transferred the Treasury Department records from Philadelphia to Washington in 1800 and assisted Alexander Hamilton in organizing the new nation's financial system.

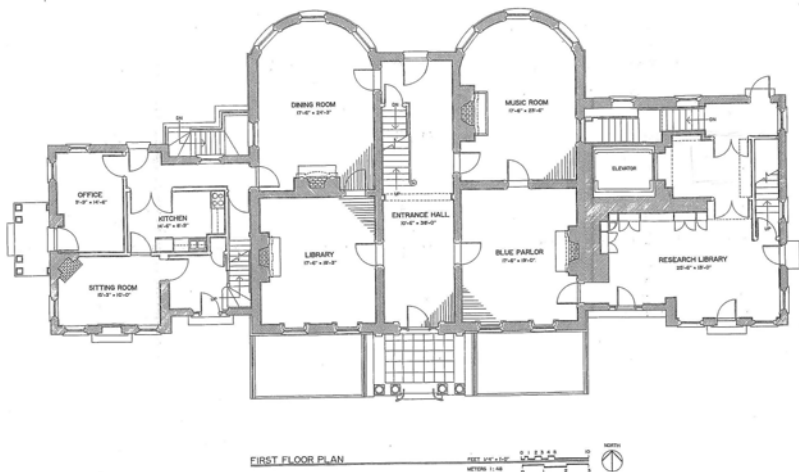
NSCDA's Mission: The National Society of The Colonial Dames of America actively promotes our national heritage through historic preservation, patriotic service, and educational projects. (Mission adopted by the NSCDA October, 2007.)

The Museum's Mission: The mission of the Dumbarton House museum, a Federal period historic house museum, is to preserve the historic structure and its collections and to educate the public about life in Washington, D.C., during the early years of the Republic. Emphasis is placed on Joseph Nourse, first Register of the Treasury, and his family, and their occupation of the property from 1804 through 1813. (Mission adopted by The Dumbarton House Board April, 2002.)

Dumbarton House has a budget of just over \$1 million dollars. There are seven full-time staff, and between four and eleven part-time staff according to season, and 45 volunteers. The organization and Dumbarton House is led by a 70-member board, with an executive committee of nine and building and grounds committee of ten involved in the management of Dumbarton House. Buildings and grounds committee chairwoman Sally Smyser is a part of this planning team. This site is located in Georgetown, a neighborhood of Washington, DC, with a population of 23,345. The area is primarily residential, mixed income; not a primary tourist destination but with a public bus system. DC is experiencing declines in population (4%), jobs (by 4% to 10% unemployment), and home values (21%). The cost of living is 147% of the average in the US. In the DC Public Schools 70% of students receive free/reduced meals.

The property includes 1.2 acres, with landscaped gardens and a parking lot, plus structures including Dumbarton House, a 20th-century garage and a small walled area housing the backup generator and chiller for the HVAC system. The historic structure was relocated (uphill less than a mile) in 1915 and set over a basement foundation. This historic core includes first floor period rooms: dining room, parlor, passage, breakfast room and bed chamber. The second floor includes two bedchambers, an upper passage, a temporary gallery and a soon-to-be-vacated storage room. This core is called "the historic house" in this

proposal. There are two wings, built in 1915 to reflect the originals and which include some historic fabric: the east wing contains the visitor's center gallery and an apartment being made into education department offices. The west wing contains the director's office with a kitchen, sitting room and guest



rooms all being made into offices and meeting space. The basement has offices, restrooms the planned storage relocation areas, and the boiler. The sub-basement, called the Belle Vue Room (BVR), stretches under the patio and is flexible meeting and event space. The house is ADA accessible with elevator access available to both floors of the historic interior exhibitions spaces and level entrances to the site.

Dumbarton House is open to the public for tours Tuesday-Sunday year-round. Admission is \$5, with children, students, and members free. The site hosts public programs of tours, lectures, family workshops, and performances; neighborhood and community meetings and events, civic celebrations; and is a greenspace resource for picnics and leisure visits. Free programs include the annual *Museum Walk Weekend*, which typically attracts over 1,000 visitors over two days for tours and entertainment. School programs are free year-round to DC public schools with bus transportation sponsored by the museum. Attendance over the past 3 years has grown over 76% to 18,556 visitors in 2010-2011 (17,511 onsite & 1,045 off-site). In three years, walk-in attendance for general tours has grown over 70% to 3,507, and public programs by over 400%. Our audience also includes the 15,500 nationwide National Society members who benefit through our newsletter and website, and from programs when they are in the area for two annual meetings.

As we prepared this proposal, we learned that the Georgetown Business Association has chosen Dumbarton House to receive the *Art Schultz Communitarian Award* for 2011: "The Communitarian Award is presented annually to an organization that has provided exceptional support and service to the Georgetown Community.... Dumbarton House has been a strong supporter of Georgetown for many, many years and we value your continued contributions to the community."

Dumbarton House and its collections are the basis for teaching about life in the City of Washington during the formative years of the early Republic. The Collections Management Plan guides us to actively collect objects and manuscripts associated with Joseph Nourse, the first Register of the Treasury and first occupant of the property, the Nourse family, 18th and 19th century life in the early Republic, and the history of Dumbarton House including its cultural origins and residents through time. This supports our interpretation along these humanities themes:

Life in the City of Washington during the Formation of the Early Republic

- Becoming the Capital City: physically, socially and in aspiration
- Defining the life of a civil servant in the new government
- The development of the Department of the Treasury
- Building a new national American identity
- The War of 1812 and its effects on Washington and government

The Nourse Family at Dumbarton House 1804 - 1813

- How Dumbarton House reflects the transitions in architectural, social, economic and governmental changes from the 18th to 19th century
- The complexity of social and domestic issues present as the family created and maintained an urban household that included enslavement and servitude

Preservation of a Federal Period House

- The preservation of this house and history – architecturally and through the stewardship of the National Society
- The role of women in historic preservation in the United States, both historically and today

Our goal is to provide an experience for visitors, so effective and evocative that they leave understanding:

- There was great uncertainty, and there were great accomplishments during this period when the success of the American Revolution and democratic government were anything but guaranteed.
- Everyday residents of this new city had a role in shaping the government and in creating the social and professional life of a capital city – something new to them and new to the world.
- And understanding more about the history and nature of historic preservation as a movement and as a profession, and about the role of women and the National Society in historic preservation.

II. Significance of collections

The House and the Collection

Dumbarton House is an outstanding example of Federal Period architecture. Its National Register listing described it as "an outstanding representation of American architecture of the early Federal Period; it represents a transitional phase in American architecture, from the Georgian to the Federal; and it has retained much of its original building fabric despite successive alterations." The Smithsonian's Dr. Richard Howland has described it as "one of the few remaining examples in Washington of the Georgian country house modified by the...emerging styles of the new Republic... a significant link between our ...colonial heritage, and... the early 19th century."

The permanent collection includes quality examples of Federal period fine and decorative arts and a manuscript collection particularly rich with primary source material related to the history of the house and the family that lived here. In addition to furnishing the period rooms, the collections are shared through loans to other institutions, and as the subject of popular and scholarly articles and publications written by the museum staff and other research professionals. The 2007 publication of an entire issue of The Magazine Antiques dedicated to the Society's work in the field of preservation has begun to expand recognition of the collection.

The Dumbarton House collection includes 1,550 artifacts, and 1,200 archival items (books, maps, letters, and documents). Artifacts can be divided into four major categories: *Food service and processing items*: porcelain, glass, and silver bowls, cups, saucers, plates, tea and coffee services, as well as flatware; *Furniture*: clothes presses, chests of drawers, beds, desks, tables, and chairs; *Clothing and other textiles*: period suits and cloaks, shoes, dresses, and bedding materials; *Accessories and art*: vases, candelabrum, candlesticks, fireplace tools, portraits, and personal items. Highlights are:

- Charles Willson Peale 1791 portrait of the children of Benjamin Stoddert, first Secretary of the U.S. Navy. Painted from the family's Georgetown portico, the background scene illustrates the thriving tobacco port city in the days leading up to the capital city's move to the District of Columbia.
- Gentleman's ca. 1780 printed silk waistcoat with linen back and lining, owned by Joseph Nourse.
- Philadelphia ca. 1780 woman's silk embroidered shoes, owned by Maria Nourse, handmade, depicting the highest level of craftsmanship worn by early Americans in the new national capital.

- Chinese export ca. 1815 cup and saucer in the “Quaker Farmer” pattern; the largest public collection of this pattern of porcelain, illustrating booming trade relations between China and America after the Revolution.

The temporary exhibition gallery hosts changing exhibits, recently: *The View From Here: Images of Early Georgetown* a fine arts installation of original paintings, watercolors, engravings, and artist sketches that visually traced the development of Georgetown—Washington’s earliest neighborhood - developed in collaboration with several local citizens’ associations to commemorate the 250th anniversary of the founding of Georgetown; *Preparing for the Ball: Costume of the Early Nation* illustrated the experience of preparing for an early 19th century ball in the new capital city, drawing comparisons to our own 2009 Inaugural Ball festivities; and ‘*Fran, Have You Supplied the Table?*’ *Foods, Service & Etiquette in the Federal Era* explored dining customs in early Washington, including the roles of enslaved, indentured, and free servants in families like Nourse’s.

The historic house has 4,100 s.f. of exhibit space. Our Strategic and Interpretive Plans call for the 2012-2016 reinstallation of the Dumbarton House’s first floor period rooms, and alternative interpretive uses for five upstairs rooms/galleries of this early Federal period house. We will combine the best of period room interpretation on the first floor with new engagement uses for second-floor flexible galleries to improve the visitor experience in engagement and learning. With a refreshed interpretive framework, visitors will gain a more vibrant understanding of the uncertainty and accomplishments of this period, the daily lives of residents at the time, and of US preservation history.

The five period rooms on the first floor (bed chamber, breakfast room, passage, dining room and parlor) are being refurbished to reflect a transitional time for the nation and city, and as documented as illustrating transitions in how urban residents use the home and chose furnishing, mixing early 18th, late 18th and early 19th-century practices. How the Nourse family both used and perceived the division of spaces within Dumbarton House was a very real blending of old and new as the Capital and its residents created a new order. But to respond to visitor comments about redundancies in the four second floor bedrooms, we plan to change our approach. As visitors take the steps to the second floor passage, they will be transitioned to other interpretative approaches in time period, focus, and format; interpretation will be more self-directed, and visitors will experience exhibitions in a way that is not supportable in period rooms furnished with original objects. The bedchambers are two more period interiors, a temporary exhibit space, and a collections storage room. Since storage is being relocated and bedchambers are repetitious, we can use the rooms in more imaginative and flexible ways as engagement galleries with high degrees of experiential, participatory activities. These changes are being implemented over three years due to cost and visitor impact, but they are a transformation of Dumbarton House’s programming.

Relationships of Dumbarton House Themes and Collections to Other Collections

Historic Sites: Dumbarton House is one of an exceptional group of houses built c. 1800 in the area, including Woodlawn Plantation, Oatlands, and The Octagon. The house was originally restored in 1931 by experts Horace Peaslee and Fiske Kimball. It is the only house museum in DC focused on interpretation of the Federal period. Other house museums that date roughly to this period are Tudor Place, Sewall Belmont, Octagon House, and Decatur House, but none is furnished with Federal period pieces or has the primary source collection of manuscripts or the depth of supporting material from the time period and resident family. More broadly, though, there are no other sites in DC telling the story of the birth of the capital of the new nation so completely. Other sites complement our holdings: Tudor Place with artifacts telling the story of 200 years of Georgetown history, the materials in the Peabody Room of the Georgetown Public Library, and the DC Historical Society which is now closed due to financial difficulties. Capacity and authenticity set us apart as an intellectual resource and a visitor experience.

Scholarly Publications: The Appendices include an overview of scholarly publications supporting the interpretive work at Dumbarton house. These include material culture work by scholar Barbara Carson for the Octagon Museum, and Richard and Barbara Farner as part of the *Gunston Hall Museum Room Use Study*; Washington, DC, social history studies by Bob Amebeck's Through a Fiery Trial: Building Washington, among others.

Manuscript Collections: The Alderman Library at the University of Virginia, Charlottesville, holds Nourse Family manuscripts: 12 boxes, spanning 1685-1901. The collection includes letters, journals, daybooks, account books, scrapbooks, diaries and other documents relating to Joseph Nourse and to the Morris side of the Nourse family. The material is available but uninterpreted, and complements our collection. Also, we have recently discovered an association between Joseph Nourse and John Kean, Cashier of the First Bank of the United States. Kean, a South Carolinian and delegate to the Continental Congress, was appointed to this position in 1791 and served until May 1795. Professor Mercantini at Kean University, Union, NJ, is working on this collection of family papers, and describes its highlights: "a certificate appointing John Kean as commissioner to settle the accounts between the individual states and the United States signed by John Jay, two certificates signed by George Washington and Thomas Jefferson related to John Kean for his work as commissioner, multiple documents signed by the first Register of the Treasury, Joseph Nourse..."

III. Current Conditions and Preservation Challenges

Present Conditions and Challenges

The current HVAC components are a combination of interim repairs and systems installed during separate periods of remodeling and expansion over the years. A comprehensive re-design and planned replacement approach to the system will create a system manageable by on-site staff which simultaneously improves operations for collections care, increases energy efficiency through changes in practice and systems, and reduces exposure to system failures that threaten or damage the collection. The staff, board, assessors and maintenance technicians have all voiced concern over issues that confront the historic house, the collections, and our ability to efficiently and effectively manage the current system.

- The combinations of radiator and forced air heating, and forced air cooling is difficult to monitor and control, and the thermostat locations and zone distinctions fit the system, not the building's uses, making it all inefficient in energy use and confusing for staff
- There is no humidity control on the existing system which allows us fewer management tools for collections care and preventative conservation
- The recent failures of component parts of the system (chill pipes & insulation in 2003, boiler in 2007, compressor in 2010) have forced reactive repairs; there is no ability to plan strategically for upgrading or improving the system. The expedient responses have been costly (tens of thousands of dollars each), yet unable to enhance the performance or efficiency of the system. The failures will continue, and we must be prepared for replacement of the chiller and possibly other portions.

In 2007 we installed a gas powered boiler, to replace an aging one, in the basement directly under the historic house museum's Dining Room and immediately adjacent to staff office space. This location under the historic house museum is a potential fire hazard and danger to the collection, and the architect warns us that the combination of items in boiler room (boiler, water heaters, sink, electrical panels, telephone wiring, gas lines, etc.) should be reviewed more closely to meet current code standards. This boiler distributes heat through radiators installed in the early 20th century to the historic house and the additions of the east and west wings which include some offices, the future education department offices, and the visitor's entrance and gallery. Forced-air heating serves the Belle Vue Room, basement offices and future collection storage areas.

Cooling is handled by a forced air system installed in 1991. Most recently the chiller's 18-year-old compressor was replaced (2010) after failing due to routine wear and tear. The chiller is located in an exterior walled area near the parking lot, but the air handlers are all in the attics of the east and west wings, the historic core, and the special events Belle Vue Room under the patio at the side of the building. This system controls heat in some areas as well. The system was improperly installed and poorly insulated, allowing leaks throughout that caused significant water damage to the Best Chamber's plaster, and rusting and degradation of pipes. These cold water pipes were replaced in 2003, but their installation in the historic house attic with related air handler units still pose a danger to the collection both because of their weight on attic floor joists, and for water leak potential. During the summer of 2011 Virginia had an earthquake which caused a valve to loosen and water to leak into historic rooms below damaging upholstery on a collections piece. We would like to explore relocating these air handler units, but so far have been unable to determine where to move them. The architect conducting the CAP recommended an underground vault which will be part of our discussion.

Preventive Conservation Practices and Policies

Dumbarton House has an Emergency Plan in place, and our Curator & Facilities Manager participated in the spring 2011 Virginia Association of Museums Disaster Planning Lock-In, held at Dumbarton House, for updating the plan and developing staff/volunteer training materials. The Comprehensive Preservation Plan developed by staff and board, and adopted by the Board in 2009 includes our conservation policy statement, cyclical maintenance plan, maintenance database; and staff checklists and care guidelines.

We have steadily cared for and upgraded the building envelope for building integrity which has increased our own efficiencies. In 2004 the North Garden patio was re-graded to take water away from the house. In 2009 the gutters were repaired and extended to address water sheeting onto the historic façade; and chimneys were repointed, and given new caps and flashing to remediate attic leaks. The windows (1930's with some original trim) are assessed and repainted regularly (most recently summer 2011) to assure no wood degradation. And in preparation for mortar analysis scheduled for 2012, we have determined there will be spot repointing on the building surface, but no major repointing is called for (CAP assessment).

Standard preventive conservation work on the collection includes regular environmental monitoring using data loggers purchased and installed following 2008 CAP recommendations. We keep a pest log, practice Integrated Pest Management, and have monthly pest control visits and seasonal termite control. We have recently completed three assessments designed to improve collections storage: conservation, storage space needs, and institutional space needs, which has prepared us for objects rehousing and storage relocation and consolidation. We have applied to IMLS for Conservation Project Support for a collections storage plan implementation responding to CAP recommendations to remove collections from the attic to a better location and environmental conditions, and to reduce the load on the attic floor; to significantly increase the degree of "like with like" storage of objects by removing non-collections storage items to an outdoor shed and creating limited-access storage for documents and sensitive materials in need of highest collections care conditions; and consolidating storage so that items are removed from less-desirable locations such as the attic, on-view case pieces, or among available-space areas, to dedicated storage space for increased storage space (142.5 s.f. to 550 s.f. for 10-year collecting estimates), increased security, and reduced number of storage areas. The reallocated area removes any staff from collections storage areas, allows for better air circulation and reduced fluctuations, and improves visibility and access, as well as safety for objects and people.

These changes are passive approaches to energy efficiency because they 1) place the collections in the basement for buffering, (an area with no water infiltration since constructed in 1991, and not in a 100-year-flood zone), 2) create buffered spaces within spaces for storage, 3) place like items with like items, and 4) reduce temperature and humidity fluctuations by reducing human access, and reduce heat and humidity from shared work and storage spaces. This project team will be able to access and assess

these spaces and to recommend passive and energy-efficient systems for these areas as they make recommendations for site-wide system improvements. Similar passive approaches to system-wide improvements are important to us and to the consultants.

Current Administrative and Intellectual Control of Collections

When the current IMLS Museums For America Collections Management grant is complete in summer 2012 we will have complete intellectual control of the collection through an inventory and collections documentation project (100% of collections fully documented in our PastPerfect database) that improves collections management, facilitates interpretive planning, and provides online access to 100% of the collection. This project was conducted in response to the 2008 CAP assessment stating the need for a comprehensive inventory and cataloguing of the collection so that staff can fully understand what is in the collection, its condition, where it is stored/displayed, and can use that material as the basis for interpretive planning, exhibit and collections development, and collections management. When the project was begun, it had been 15 years since we conducted an inventory of objects and artifacts; only 75% of the collection was entered into the PastPerfect collections database, and of those, 85% had no images; the majority had outdated or missing locations, dimensions, or condition reports. The IMLS project supports improved management and care as we improve storage design and efficiently-managed environmental conditions.

III. History of the project

Preparation: The appendices include a multi-year view of current climate conditions available for planning, and the list below shows where we are in the steady sequence of assessments, planning and implementation efforts that continually improve our property management, collections and space needs, and how we use the collections for interpretation.

- | | |
|---|-----------|
| • CAP Surveys – collections and historic structure | 2008 |
| • Historic furnishings plan completed | 2009 |
| • Master Preservation Plan completed | 2009 |
| • Storage needs assessment completed | 2010 |
| • New interpretive plan drafted | 2010-2011 |
| • NEH PAG grant for storage boxes, materials and shelving purchases | 2010-2011 |
| • IMLS grant for collections management improvement | 2010-2012 |
| • Long range conservation plan completed | 2011 |
| • Architectural space plan (whole structure) completed | 2011 |
| • Planned implementation of realigned, dedicated storage plan | 2012-2013 |
| • Plan HVAC redesign | 2012-2013 |
| • Reinstall second-floor areas as engagement galleries | 2012-2014 |
| • Reinstall first-floor period rooms | 2012-2014 |
| • Implement HVAC redesign | 2013-2014 |

Conservator Brian Ramer and Architect Richard Bierce, both on this NEH application, conducted the 2008 CAP surveys of collections and the historic building. Both recommended a review of collections storage needs and overall space use onsite to consolidate and secure collections, improve environmental conditions for collections, and reduce stress and intrusion on the building's spaces. In 2009 we developed a Master Preservation Plan for the structure as part of the Master Site Planning process, and in 2010 Conservator Jerry Foust completed a collections storage needs assessment that identified the amount and type of space, and the materials and furniture, needed for proper storage conditions for the collection. With the **2010 NEH Preservation Assistance Grant** we purchased and employed materials Foust recommended: boxes, specimen trays, and buffering materials to immediately improve collections conditions, and a locked fire-proof cabinet for collections records to address immediate *in-situ* housing needs of the collections and to prepare for safe relocation to a new storage area. We followed this effort with a 2011 space assessment for recommendations to accommodate the collections storage space improvements which we hope to fund through an IMLS Conservation Project Support (CPS) grant to

improve storage organization and security (notice is expected in June 2011). *Note – the storage plan will proceed even without a CPS grant, but in a timeframe allowing for fundraising for the security system, wall relocation, compact shelving, and for staff to complete the work unsupported by part-time additions.*

How the project supports the museum’s long-range conservation plan and conservation priorities.

We have taken a methodical approach to assessing object and storage needs and building conditions, as we explore the best care for the historic property and the objects. This project is the next step in a long-range conservation plan based on the 2008 CAP surveys, and is a direct response to the historic structure survey’s first long-term recommendation to “plan and budget for a comprehensive re-design of the entire HVAC system on the site in advance of its projected expiration”. The project builds on the 2010 collections storage space needs assessment and the 2011 architectural space assessment identifying best uses of the entire historic site for all program and administrative activities. The storage space assessment indicated a need to increase storage from 142.5 s.f. to 550 s.f. The architectural space assessment identified a way to create this storage through relocation of offices, removal of items stored within other collections items, and consolidation of storage areas.

The most recent Strategic Plan called for development of a Master Site Plan process. The Master Site Plan Task Force, after reviewing CAP assessments, identified a need to investigate safer location for Boiler Room and improved efficiency of HVAC system generally—to implement as components fail or as money is available for upgrades. While working on the Space Plan portion of the Master Site Plan, the Task Force adopted a list of Primary Needs, Secondary Needs, and Tertiary Wants. Primary Needs included the collections storage and work spaces addressed in the 2011 IMLS CPS application, and “New Boiler Room location (and possible HVAC System Upgrade)”. At the September 2011 Board meeting they approved assessments being done through this grant. When the Strategic Plan is updated in spring 2012, the Master Site Plan goals will be included in objectives.

The 2009-2014 Strategic Plan identifies low-hanging fruit approaches to energy efficiency in the first strategic priority, and states our intention to pursue environmental sustainability as an institutional priority:

CRITICAL ISSUE VII: FACILITY & GROUNDS.

Goal C. Develop and institute sustainable policies and practices to place Dumbarton House at the forefront of the “Historic Green” movement

1. Research and implement simple procedures to reduce energy consumption and carbon footprint that can be implemented without major alterations or expense *September 2011*
2. Develop plan and procedures for greening DH, to present to board *March 2013*

Grant Project Outcome: This planning effort will be a holistic approach to recommending a responsive, efficient system and operational approaches to serve Dumbarton House far better than the current patchwork. With the space and conditions assessments in hand, we have all the information we can provide on our own as collections stewards; now we require support from systems engineers to help us plan a proactive approach to address collections needs, site restrictions and opportunities, with an attitude of innovation, integration and sustainability. The energy audit and geothermal assessments will finish our assessment work and support final plans.

IV. Methods and standards

Standards

Museum Field: Dumbarton House is an American Association of Museums (AAM) accredited institution (1996); collections care standards for materials and historic structures, also found in AAM and American Association for State and Local History (AASLH) standards are being adhered to as our highest level of decision-making. Staff is aware that AAM and AASLH are introducing sustainability standards for the field, and is acting upon those raised standards. AAM is including energy efficiency and environmental sustainability in the revision of Accreditation Standards (announced May 2011 at Professional Interest Committee – PIC Green - breakfast by Bonnie Pitman, board member); and AASLH included perfor-

mance indicators in the Standards and Excellence Program for History Organizations (StEPs) under Historic Structures and Landscapes overarching statement “The institution is aware of issues associated with environmental sustainability and takes steps to conserve resources and protect the environment at the level appropriate for its capacity.” This is identified in Standard 7 ‘Good’ performance expectation that historic sites should conduct energy audits, and ‘Better’ performance expectation that “energy conservation and sustainable practices are part of the strategic plan, and plans for maintenance and interpretation”.

Energy and Environmental: In the architectural CAP, the preservation architect recommended exploration of geothermal options. Phase I archaeology is in the Strategic Plan to allow for studies in advance of potential geothermal installation. We expect to complete this work in spring 2012. Because much of our landscape has been heavily altered and backfilled since this building was moved uphill in 1915 and placed on a new foundation, preservationists have assumed that little would be found through archaeology as a result. Geothermal warrants exploration since an abutting property has such a system, and we know that Riversdale, a similarly-sized Maryland historic site, has installed a single-well geothermal system providing 100% of its energy and with little site disturbance. We purchases 100% wind energy, and carbon offsets for natural gas. This project will adhere to ASHRAE (American Society of Heating, Refrigerating and Air-conditioning Engineer) standards and with local codes and regulations; it is not pursuing LEED (Leadership in Energy and Environmental Design) standards for existing buildings. LEED standards, though laudable, are much broader than this planned activity.

Methods

Integrated Team: We have created an integrated team that includes an *engineer* chosen for his mechanical and plumbing experience in new and old systems at historic properties; a *preservation architect* and a *collections conservator* both familiar with many other historic sites and particularly Dumbarton House as our CAP assessors; a *sustainability consultant* who specializes in museums and particularly historic house sustainability practices with an emphasis on low-tech solutions and who has worked with Dumbarton House for four years on grants development; the *long-time contractor* responsible for the HVAC system, and a *board member* who was part of the Master Site Planning process, chairs the Buildings and Grounds Committee and can represent this process to the board. We have selected the *four site staff* responsible for management, facilities, collections, and educational use to participate in the discussions and to comment on consultant recommendations for the interim and final reports. Each member can advocate for more than one value: collections, historic structures, MEP systems, operations, environmental sustainability, visitors, and board.

Reduce Energy Use First: The Dumbarton House team understands that reducing consumption is the first step in designing the final HVAC system solution, and is a prelude to identifying alternative approaches, systems and sources. Sealing the building envelope, storing like items with like items, changing basic human practices throughout the property, and using passive systems of buffering, all to support preservation while reducing energy consumption. This includes, as the collections CAP noted, a move to manual adjustments such as actively using shades, passageways, or fans to address mild fluctuations in environments, and creating the procedures to immediately implement these low-energy management practices. We have done the “extended monitoring and analysis of environmental conditions in spaces in the museum or those intended to house historic furnishings, artifacts and archives, to provide design engineers with performance data on the house”. The staff practices audit should reveal other ways to reduce energy consumption as we establish a new energy baseline for system design.

Audits: This application includes a request for an additional \$10,000 to support three activities: building energy audit with some test modeling plus remedial work to seal the envelope that previous work has missed, a staff practices audit, and the feasibility testing for onsite geothermal wells. Based on CAP recommendations, we wish to complete “a comprehensive assessment of the thermal envelope” and to pursue “intentional study of the technical and economic feasibility of using appropriate alternative

[onsite] energy sources such as solar and geo-thermal”. Once the energy and staff audits are completed, and any minor remediation, we will monitor conditions for six months. If necessary, we are prepared to ask to adjust the grant schedule to allow twelve months if the audits recommend more substantial changes and/or longer monitoring. Assessment information and discoveries after the changes – envelope and practices – will be part of system-thinking design approach that will leave us with final recommendations.

V. Work plan

The Work has four phases: Phase One

October 2012 Introduction: the facilities manager, curator and project director will collect all project-related information (1 year utility bills; climate records; system maintenance records; building plans; and CAP, storage and space assessments) and the project director will post them on the Backpack online sharing site. All team members (staff plus the sustainability consultant, MEP engineer, conservator, and HVAC contractor) will review these materials before the first visit. The deliverable is an ongoing resource in the Backpack site, and the outcome is an informed team ready for the first meeting.

October 2012 Full-day Onsite Team Meeting: includes two parts - group tour of existing conditions and discussion of planned changes to space use, followed by discussions of assessment recommendations and preliminary conclusions. The deliverables are the meeting and the interim reports from consultants which will include assessment of existing systems; the outcome is specific instructions for energy and practices assessments, remediation, and monitoring. Consultants will provide preliminary observations in writing, shared on the Backpack site, which the project director and facilitator will collect as an interim report.

Phase Two

November – December 2012 Assessment and Remediation: the project director will schedule the energy and staff practices audit, and the geothermal assessment. Staff will supervise the assessments and collect reports to share on the Backpack site. Deliverables are the assessments; the work plan for, and implementation of, remediation to the building envelope; and definition of occupant behavior protocol changes (training as well, if needed). The energy audit includes fixture inventory and envelope assessment, plus HVAC system testing and energy modeling *to estimate energy costs and savings based on potential improvement scenarios*. The staff practices audit fills in where energy audit leaves off: review of staff practices from equipment location, type and use; cleaning approaches and kitchen uses; and open-hours and after-hours scheduling including special events lighting and support services. The outcome is potentially an improved building envelope plus changes in occupant behavior that will immediately reduce energy consumption and potentially improve collections conditions.

January – June 2013 Monitoring: the curator and facilities manager will monitor environmental conditions and compare to previous two years in the same time period; the curator and project director will monitor staff energy-reduction practices as recommended in the assessment. The deliverable is additional data; the outcome is an improved baseline for systems recommendations.

Phase Three

July 2013 Meeting Preparation and Meeting: All team members will review updated materials on Backpack and convene for a half-day onsite meeting to discuss results of assessments and monitoring. The deliverable is the concluding meeting; the outcome is consensus based on new information and six (perhaps 12) months of changed conditions.

August 2013 Concluding Reports: Consultants are responsible for compiling their final reports and recommendations. The deliverable is a report that proposes specific types of system changes and upgrades based on recommended options, and calculated return on investment; the outcome is an informed board making choices on the next-step in the capital upgrade process.

Phase Four

September 2013 Reporting and Dissemination: The project director and the sustainability consultant are responsible for combining data and reports into a final report to guide next steps, and for reporting to NEH in a White Paper. The report will be presented to the Dumbarton House board for action at the September 2013 meeting. Dissemination activities are described in section VII.

VI. Project team

Executive Director: Karen L. Daly is the Project Director. She became Director of Dumbarton House in 2008. Her five years of experience as the previous education director for Dumbarton House means she has a full understanding of interpretive development. Her work with the board in managing the AAM Accreditation process and in the most recent Strategic Plan gives her a solid experience managing planning projects. She earned her Masters of Art in Teaching in Museum Education from the George Washington University (GWU). She is responsible for finances ,reporting, promotion and overall quality of the project: collect and maintain related drawings and estimate materials for project using BackPackit site; and provide interim and final reports to NEH and co-write Lessons Learned for NEH reporting

Museum Curator: S. Scott Scholz joined the staff in 2008 after receiving his Masters Degree in the History of Decorative Arts from the Corcoran College of Art & Design/Smithsonian Associates. Over the past two years, he has overseen completion of a *Historic Furnishings Plan* research project and the NEH PAG collections rehousing grant. He is now focusing on implementing the IMLS MFA collections management grant (inventory and database update). The IMLS project will be completed as this planning project begins. He will participate in all meetings, provide collections and building information and materials to support the assessment process, and supervise access throughout the building.

Education Director: Jennifer Michaelree Squire joined the staff in 2008 as well after seven years working in youth program positions at the National Building Museum. Jenn has a Masters of Art in Teaching in Museum Education from GWU. Jenn has overseen tremendous growth in museum programming and tour hours leading to significant attendance increases and greater recognition in the local and regional community for being a quality youth and adult program provider. She will participate in all meetings and is the voice for programmatic/public use of the building and collection.

Facilities Manager Adam Chase: is the primary maintenance staff person, and manages the security and maintenance systems of the historic house museum, offices, and 1.2 acre landscaped grounds. He oversees the Preservation Plan for the historic building & grounds, including cyclical maintenance plan and conservation policy; updates and implements the emergency plan; and maintains security procedures. He will prepare and return the building for energy audit and meetings, support additional access to the property for conservator and MEP as needed, and provide support materials to consultants.

Chair of the Dumbarton House Board's Building and Grounds Committee: Sally Smyser is a community relations consultant. Since retiring from the National MultiCultural Institute and the Peace Corps, she has served as a docent at LACMA, National Gallery of Art and Dumbarton House. A graduate of Smith College, she has lived in the US and Europe. As part of the Master Site Plan task force, and the board, she provides project history and perspective important for implementing the planning process results.

Architect Richard Bierce: has conducted 40 IMLS/Heritage Preservation-funded site assessments including many for onsite storage space assessment. He has worked as a preservation architect with the National Trust for Historic Preservation, the City of Alexandria, and served on the Boards of Directors for two National Historic Landmark sites: Hammond-Harwood House in Annapolis, MD, and Woodlawn/Pope-Leighy House in Northern Virginia. After conducting our CAP survey and space needs assessment he knows Dumbarton House very well. He will participate in both meetings, review materials ahead and after, and prepare interim and final recommendations.

Facilitator and Sustainability Consultant: Sarah Brophy is an independent museum professional working on environmental sustainability in the museum field. She is co-author, with Elizabeth Wylie, of The Green Museum: A Primer on Environmental Sustainability (AltaMira Press, 2008), and an adjunct professor in the GWU Graduate Program in Museum Studies, teaching The Green Museum. She is co-chair of the AAM's Professional Interest Committee on Environmental Sustainability (PIC-GREEN) and is leading the PIC-Green partnership with the US Green Building Council to develop LEED pilot credits to address museums' energy and daylighting concerns in the LEED credit system. She offers perspective on energy efficiency approaches at other museum and historic site properties. She will conduct staff practices audit, facilitate meetings, coordinate document drafting, and co-write Lessons Learned for NEH.

David Hoffman, PE, CPD, LEED AP, Senior Vice President Gipe Associates: Dave began working for Gipe in 1988 after graduating from University of Maryland Baltimore County with a Bachelor in Science & Engineering as a Mechanical Design Engineer. He is responsible for surveys, studies, specifications, designs, quality reviews and construction administration for various projects for the firm. He is Certified in Plumbing Design and Certified by the National Council of Examiners for Engineering and Surveying. He will guide HVAC system review and design, and share in the building-envelope and conditions assessment portion of the work. He has design systems for Ward Waterfowl Museum, Chesapeake Bay Maritime Museum, and geothermal for Teackle Mansion, all in Maryland. He reduces consumption before changing energy approaches, and has a penchant for smart and simple over cool and new.

Brian Ramer, a Baltimore conservation consultant, is the project collections preservation professional. He graduated from the conservation training program at the Institute of Archaeology, University of London, in 1977. For 35 years he has specialized in preventive conservation. He has surveyed the conservation needs of a diverse range of institutions and has extensive experience in environmental control in historic structures, facility assessments, and plans for renovation/expansion of collection areas. Many projects have involved collaboration with preservation architects and mechanical engineers, and clients include many historic house museums with collections similar in scope to those of Dumbarton House.

Calvert Jones is a well-established HVAC system design and maintenance contractor, and they have alternative energy systems experience. <http://calvertjones.com/index.php>. They have worked with Dumbarton House since 1991 after the installation of the current system. Gerry Rodino will represent the company and will provide system descriptions and annual maintenance records, and participate in both meetings.

VII. Project results and dissemination

The project deliverable is a report that proposes specific types of system changes and upgrades, with sequencing, based on recommended systems and space options. The project will be not be at schematic design phase, but once recommendations are adopted, the consultants will have enough information to prepare schematic designs. The next step is The National Society's review of the report at its late September 2012 meeting, then making an informed choice on the sequencing of the capital upgrade process, and plans for funding.

The project director and curator and/or sustainability consultant will prepare proposals for conferences at Small Museums Association and Virginia Association of Museums, and happily join NEH on any panel it might propose to conferences. They will prepare web posts for Dumbarton House and for The National Society's newsletter to 15,000 members <http://www.dumbartonhouse.org/> and for the Professional Interest Committee on Sustainability at AAM, hosted on the AAM website <http://www.aam-us.org/getinvolved/comm/green.cfm>. Staff will collaborate with the DC Preservation League to present Behind the Scenes: Preservation Discussions in an Historic House (The League has asked for more programs since the first two on plaster restoration and wallpaper research); and host visits from the GWU Green Museum class on environmental sustainability and collections care in house museums.