Preserving Bartram's Garden:

A comprehensive plan for the restoration and preservation of buildings and structures

Prepared for
The John Bartram Association
54th and Lindberg Blvd.
Philadelphia, PA 19148

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of the Pew Center for Arts and Heritage Philadelphia, PA

Report prepared by
Heritage Consulting Inc.
422 South Camac Street
Philadelphia, PA 19143
215 546 1988

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Executive Summary

The Preservation Plan for Bartram's Garden was written for the John Bartram Association, located at 54th and Lindbergh Blvd. in Philadelphia, and funded through a grant provided by The Heritage Philadelphia Program of the Pew Center for Arts and Heritage in Philadelphia, PA.

There can be no singularly more important goal for the John Bartram Association than to address the long-term sustainability of the Garden's rich unique cultural assets and resources. Its buildings and structures, historic and modern, define the Garden's unique character. Bartram's Garden is a National Historic Landmark and one of the world's most treasured public gardens. This Preservation Plan maps a future course for the Association as it continues its stewardship of this extraordinary historic place. This comprehensive study of all eight historic and modern buildings at Bartram's Garden provides for a thorough and detailed understanding of the various physical, organizational and financial issues facing the long-term preservation of the Garden. The Plan includes a summarization of urgent and immediate, as well as longer term, preservation and maintenance needs and recommendations for careful planning and budgeting for major systems replacement and site upgrades over the next ten years.

Maintenance is Key to the Visitor Experience and Preservation

Bartram's Garden's landscape offers a fascinating, uninterrupted timeline of history that stretches back thousands of years. Archeological investigations conducted in the past decade provide a record of a complex and rich past. The Bartram legacy, history, garden, and natural lands all shape how the Garden is interpreted to the public.

The Interpretive Plan focuses on the core story of the Bartram family with John Bartram, his efforts and achievements, taking a central position. The influx of new visitors who will use the Schuylkill River Trail will create new opportunities to engage visitors. The staff is exploring new means to interact with visitors, in person and online through the web site, blog, guided, and self-guided tours. With anticipated increase in visitation, the need for a comprehensive maintenance plan is even more critical. Well-maintained visitor facilities are key to a quality visitor experience and to delivering the interpretive program.

Preservation as Policy

The Preservation Plan stresses Board adoption of a strong regular maintenance program with a dedicated strategy for implementation and monitoring.

Regular inspections by the Facilities Committee of the Board using the Cyclical Maintenance Manual and Inspection Spreadsheets prepared as part of the Preservation Plan will do more to preserve Bartram's Garden and prevent irreversible damage than almost any other activity at the site.

Urgent Action Is Needed

The following repairs and preservation work need to be addressed in the next two to three years. In most cases planning and development of a scope of work for each project must take place before accurate costs can be determined for bidding and fundraising purposes. There are several urgent preservation needs.

Bartram House Roof

The John Bartram House cedar roof is at the end of its useful life. Fortunately, this project is programmed in the City of Philadelphia's capital budget for FY 2014. As the current strategic plan, Phase One concludes in 2013, the scope of work for the new roof would be included in Phase Two, ending 2018. Another possibility is that the current strategic plan be revised to reflect time period ending 2015, which would then include the roof repair. This project is currently funded and included in the Strategic Plan goals.

Cost: Not yet determined
Funds available: $290,000 in FY 2014 city capital budget

Repair and Upgrade of All Restroom Facilities

The repair and upgrade of the restroom facilities in the educational offices and the Bartram House are essential as visitor amenities. There are recurring leaks and odors that are unacceptable for facilities used by the general public, guests at special events, and rental functions that generate income for the operating budget. This project is currently unfunded and not included in the Strategic Plan goals.

Cost: $25,000 to $50,000
Funds available: 0

Bartram House HVAC

The HVAC system in the Bartram House needs to be redesigned so that it can function for a quality museum environment that will ensure stable environmental conditions (humidity and temperature) for the protection of the Bartram House and its collections. This project is currently unfunded but is included in the Strategic Plan goals.

Cost: Not yet determined
Funds available: 0

Barn and Coach House Roofs

The Historic Barn and Coach House cedar roofs are both close to the end of their useful life, and need to be replaced. This project is currently unfunded and is not included in the Strategic Plan goals.

Cost: Not yet determined
Funds available: 0

Recommendations
As a very first step, the Board of the Association needs to understand and adopt the Preservation Plan and agree to maintenance and preservation as a policy of the organization. The next step is for the organization to understand all the costs associated with maintenance and preservation and create a long-term actionable plan to fund urgent, short term and future maintenance and preservation needs. The Board's Facilities Committee should lead this effort.

The Association's Board has the following tools available to plan for the preservation and maintenance of the historic and modern structures:

Preservation Plan – sets long-term framework and makes the case for preservation and maintenance (this report.)

Cyclical Maintenance Plan and Inspection Spreadsheets – included as an appendix to this report. The Facilities Committee in their twice-yearly inspection of all interior and exteriors of all buildings should use the Inspection Spreadsheet for each building. The Cyclical Maintenance Manual describes how to undertake repairs according to accepted historic preservation standards.

Volunteer Plan—a document, which identifies how volunteers can be used throughout the Garden and sets out priorities for involving volunteers in specific projects.

Job Description and Hiring of Property and/or Facilities Manager—samples of job descriptions from other historic sites with equally important gardens were gathered as part of the peer interviews with these properties and supplied to staff. A facilities manager is a critical staff position to assure that the National Historic Landmark is well maintained for visitors.

Cyclical Maintenance Plan—prepared in 2009 by Greg Mahoney, a Drexel University student, that supplies costs and a schedule of short and long-term maintenance and replacement costs for major systems and building materials in the historic and modern buildings at Bartram's Garden.

Strategic Plan and/or Development Plan to fund identified costs, short and long term—The 2010 Strategic Plan sets the long-term agenda for the entire site. The Strategic Plan contains references to maintenance and preservation issues, as part of the overall stewardship mission of the Association. The Development Plan must be updated to align the urgent preservation needs of the property with possible sources of support.

The Preservation Plan appendix includes:

- Memo on the need for a Safety Day at Bartram's Garden;
- Memos summarizing findings of two sets of focus groups undertaken for this project;

- Summary memo about the interviews with leaders of four peer historic sites that have significant gardens;
- Cyclical Maintenance Manual for Bartram's Garden and Inspection Sheets

Introduction

There can be no singularly more important goal for the John Bartram Association than to address the long-term sustainability of the Garden's rich, unique cultural assets and resources. Its buildings and structures, both historic and modern, define the Garden's unique character and status as a National Historic Landmark and one of the world's most treasured public gardens.

This Preservation Plan maps a future course for the Association as it continues its long stewardship of this extraordinary historic place. This comprehensive study of all eight historic and modern buildings at Bartram's Garden provides for a thorough and detailed understanding of the various physical, organizational and financial issues facing preservation of the historic and modern buildings that are the heart of Bartram's Garden.

How the Preservation Plan is Organized

The Preservation Plan for Bartram's Garden is organized into four sections. The first section gives a brief historical background and architectural description of the historic and modern buildings and landscape of the National Historic Landmark property. The second section describes the treatment and use of the buildings on the site. Most of this section focuses on current conditions of the buildings and reflects the need to maintain them for future generations. There is an overview of the roles of both the City of Philadelphia and the John Bartram Association Board of Directors in their partnership to maintain this site for the public. A portion of this section is devoted to the need for proactive and regular maintenance as the most effective way to prevent costly catastrophic repairs and restoration work.

We include a review of the 2008 Cyclical Maintenance Study prepared by a Drexel University student that describes the needs for various systems replacement over the next twenty years. We include suggestions for additions to this study so that the John Bartram Association Board of Directors has a more accurate understanding of the true annual costs to maintain the site. The Plan includes a summarization of urgent and immediate, as well as longer term, preservation and maintenance needs and provides recommendations for careful planning and budgeting for major systems replacement and site upgrades over the next ten years.

The third section of the report describes the current use and interpretation of the buildings at Bartram's Garden. The final section of the Preservation Plan contains our recommendations to the Board of the John Bartram Association and its committees on policy matters; improvements to the relationship with the City of Philadelphia; suggestions on staffing and implementation of maintenance tasks; how maintenance should be funded at Bartram's Garden; and a framework for the creation of a formal volunteer program to involve more people in maintaining the precious historic resources at Bartram's Garden.

Purpose of the Preservation Plan for Bartram's Garden

Architects associated with the National Park Service at Independence National Historical Park first developed planning documents for historic properties in the 1930's. Today, planning documents for historic properties provide a means for document original construction, alterations, and owners, identify current conditions, and make prioritized recommendations for future work. From their inception, the content and structure of these planning documents has evolved into "Historic Structure Reports," and recently, in a more abbreviated form, "Preservation Plans."[1] A Historic Structure Report for the John Bartram House was completed in 1978 and was used to guide the 1984 restoration of the 1743 structure. The other historic properties at Bartram's Garden have not been subject to a Historic Structures Report.

This most recent effort, to create a comprehensive Preservation Plan for all eight historic and modern buildings at Bartram's Garden, is driven by ongoing maintenance and preservation concerns for the property. The Association needs to plan and carefully budget for urgently needed major systems replacement and site upgrades in the next ten years. The Preservation Plan also acknowledges that the historic buildings at Bartram's Garden are unique and irreplaceable resources, and that the John Bartram Association must continue its 125-year long stewardship obligation by prioritizing needed work and responsibly planning for the future of this remarkable place.

Research Undertaken

Heritage Consulting Inc. undertook two major series of interviews in the Winter of 2010 and Spring of 2011 with stakeholders. The first round of interviews included both Board and staff members at Bartram's Garden. A second series of interviews looked to four peer historic sites that contained equally significant gardens and historic buildings. We hoped to gain insights from these site stewards about lessons they have learned about best practices in maintenance and preservation.

For this project, we reviewed eleven reports and studies completed about Bartram's Garden in the last dozen years. When added together the total volume of the publications examined stretched across more than two feet of shelf space, and contained recommendations and advice from countless hours of consultant work. These reports served as a valuable resource to our understanding of past maintenance efforts, as well as to the thinking of previous Board members and staff as they established policies and implemented procedures at the Garden.

The consultants also met with the Bartram's Garden Facilities Committee twice to inspect the modern and historic buildings and assist the Committee in developing maintenance priorities for 2012 based on their inspections using the Cyclical Maintenance Manual and Inspection Spreadsheets created for the Preservation Plan. These inspections are included as an appendix in the Preservation Plan.

[1] Dominique M. Hawkins, *Historic Structures Report and Preservation Plans: A Preparation Guide, Second Edition*, New Jersey Historic Preservation Office, 1996, 3.

The Preservation Plan also benefits from comments made by participants in two sets of focus groups. On February 12, 2011, we facilitated a community meeting at the monthly City Lights meeting at New Spirit Church at 5800 Chester Ave. in Southwest Philadelphia, with 25 attendees. The purpose of the meeting was to gain feedback from Southwest Philadelphia residents about current activities at Bartram's Garden and seek their input on new programming and planned future uses of the property and structures.

Another focus group was held with 24 top staff members and colleagues from area botanical gardens, arboreta, historic sites and environmental organizations, on November 2, 3 and 4, 2010 at Bartram's Garden. In these focus groups, we wanted to understand perceptions, opinions, beliefs, and attitudes of these key individuals about programming, visitor services and interpretation as the Schuylkill River Trail construction begins at Bartram's Garden next year. The comments from these focus group participants helped inform the section on interpretation of this Plan.

As part of our research and focus group work, we prepared a memo encouraging Bartram's Garden to undertake a "Safety Day," which was held on November 11, 2010. The purpose of safety day was to identify locations of fire, alarm and safety equipment, review safety and lockup procedures with all staff, conduct a walk through to point out artifacts to be salvaged in an emergency, and undertake a fire drill with the Fire Marshall from the local firehouse. The memo outlining the need for a safety day is attached in the appendix. We also facilitated a staff retreat on March 18-19, 2011, to assist the staff in identifying the core story to be interpreted at Bartram's Garden for the 2011 visitor season.

Credits, a list of interviewees, the Cyclical Maintenance Manual and Inspection Spreadsheets and various memos dealing with focus groups and interviews are included in the appendix. The Preservation Plan was written by Donna Ann Harris and Alexander Balloon of Heritage Consulting Inc.

Part I. Historical Background and Architectural Description: An Overview of Bartram's Garden

The homestead of John Bartram (1699-1777), America's first botanist, co-founder of the American Philosophical Society, and a towering figure in colonial Philadelphia's scientific community, is today America's oldest surviving botanical garden. The 45-acre site on the Schuylkill River in Southwest Philadelphia features Bartram's 18th century home and farm buildings, historic botanical garden, wildflower meadow, water garden, freshwater wetland, parkland, and a river trail. The house was named a National Historic Landmark in 1963. It is also a certified historic structure, regulated by the Philadelphia Historical Commission.

An unassuming Quaker farmer with a rudimentary education, Bartram became widely known in America and Europe as an eminent botanist. Famed Swedish botanist Carolus Linnaeus called him "the greatest natural botanist in the world" and his work is still held in high regard today.

Bartram traveled the wilds of the American colonies in search of curious seeds and plants to bring back to his garden. His goal was to document all the native flora of the New World. Bartram's most famous discovery is the *Franklinia alatamaha* tree, which he is credited with saving from extinction. All *Franklinias* today are descendants of those grown by the Bartram family.

Like many intellectuals of his era, Bartram was interested in all things philosophic and scientific. He studied the medicinal uses of plants and sometimes treated neighbors who could not afford medical care. He became a member of the Library Company and founded the American Philosophical Society with his friend, Benjamin Franklin.

Bartram maintained a correspondence with learned men of Europe and America. Peter Collinson, a wealthy Quaker merchant and amateur botanist in England, became a long-time correspondent and good friend, although the two never met. Bartram regularly shipped Collinson and others who lived abroad, seeds and plants from the New World. Bartram is credited with introducing 200 species of plants to Europe. King George III named Bartram the Royal Botanist in America in 1765, and in 1769 he was elected a member of the Royal Academy of Science in Stockholm.

Bartram and his heirs lived in the stone house over a period of 125 years. The garden and its successful nursery business continued to flourish under Bartram's descendants, who accomplished another first, publishing the new nation's first catalogue of American plants in 1783.

John's son, William (1739-1823), often accompanied his father on plant gathering trips. William Bartram gained international fame in his own right for his botanical expeditions, nature illustrations and writings, which inspired Romantic poets such as Wordsworth and Coleridge.

William Bartram wrote *Travels*, a book about his four-year journey through the American South. *Travels* is still considered a classic of nature literature today.

In the mid-1800s Philadelphia industrialist Andrew M. Eastwick, who resolved to preserve the Bartram legacy, purchased the Bartram homestead and garden. Later on, Philadelphia City Council member Thomas Meehan, understanding the significance of the historic botanical garden created by John Bartram and his family members joined Bartram descendents in pressing the City to purchase the land. In 1891, the City of Philadelphia bought the property as a public park and historic site. The non-profit John Bartram Association was formed in 1893 to assist the City with care of the property.

Today the John Bartram Association operates Bartram's Garden as a house museum and botanical garden in cooperation with the City of Philadelphia's Department of Parks and Recreation and welcomes some 35,000 visitors annually.[2]

Physical Description of Buildings and Landscape

Historic and Modern Buildings

John Bartram House

The John Bartram House is the oldest structure on the site of Bartram's Garden today, original construction on the Bartram House having begun in 1731. The house was originally one-room deep, two-and-a half stories with a gable cedar roof, and built of coursed Wissahickon Schist ashlar, split and laid by Bartram's own hands.[3] With the growth of his family, additions were necessary, and in 1770 the peak of the roof was lifted. The whole house was extended toward the river, making the attic larger and the house two rooms deep. At the same time Bartram erected the recessed porch with three Ionic masonry columns in the center of the riverside façade. The porch was subsequently enclosed on the second floor level. The carved stone window framing, capitals, and inscription all give the façade both individuality and vitality. A one-story wing was added onto the south end of the house during the era when Ann Bartram Carr and her husband lived here. A complimentary wing was added onto the north elevation in the 20th century, where restrooms are now located. Its original woodwork, paneled walls, many closets, and deep windowsills characterize the interior of the house. Nearly every room on the first floor has a door to the outside. The Bartram House is an extraordinary example of a Colonial era Philadelphia farmhouse. Today, the Bartram House is interpreted as a historic house museum.[4]

Historic Barn and Barn Education Office

Constructed by John Bartram Jr. in 1775, this barn is the oldest in Philadelphia. It is constructed in a stone ashlar pattern of Wissahickon Schist with raked joints. The gable roof is made of cedar, similar to the John Bartram House. A large earth ramp leads to the main floor of the barn.

[2] John Bartram Association "Historic Bartram's Garden: King's Botanist in America".
[3] National Register Listing, "John Bartram House and Gardens," 2 July 1975.
[4] Ibid., 7.

Small windows punctuate the barn. Currently, the barn is a renovated multipurpose space. The adjacent Education Office addition, constructed in 2003, has a poured concrete foundation, stained wood paneling exterior, and a metal roof. The addition houses offices for the education program and public restrooms on the first floor.

Stable and Dovecote
This historic building is constructed of a stone rubble pattern of Wissahickon Schist with patchwork masonry, rubble stone quoining at the corners and punctuated by heavy wooden doors. A gabled cedar roof with decorative fascia board shelters the stable. Small windows punctuate the facade. The historic dovecote is adjacent, with prominent wooden architectural features. This building formerly housed the museum garden shop and is to be converted into a visitor orientation center in 2012.

Coach House and Seed House
This small barn dates from the Bartram family's period of occupancy. The building is of an architectural composition similar to the stable. It is built of stone rubble of Wissahickon Schist with patchwork masonry. The building's corners made of rubble stone quoining. The Coach House includes a gabled cedar roof with decorative fascia board. The exterior has heavy wooden doors at both ground and loft level. Consisting of four separately erected structures now under one roof, the Seed House includes an ice pit and cold cellar, a shed and greenhouse built in 1760. Evident on the south side are stone carvings by John Bartram and three openings for flues and a Franklin stove. The Coach House was rehabilitated as a multipurpose space for meetings and educational programs. The second, loft level houses the Bartram Archives. The Seed House complex includes storage for maintenance staff and building services, and a kitchen used by outside caterers for weddings and special events.

Administration Building
The Administration Building was constructed in 2003. The exterior of the building includes stained exposed wood paneling with heavy wooden shutters. The building has a low architectural profile and a gable metal roof with a polycarbonate facing at the gable ends. The building was recently rehabilitated and currently houses Bartram staff, and a new garden shop and welcome center.

Horticulture Barn
Constructed in 2003, the Horticulture Barn is similar in style to the Administration Building, and includes stained exposed wood paneling and a metal gable roof with polycarbonate facing at the gable ends. The building has a low architectural profile, punctuated by a large central door to accommodate maintenance equipment. This building was rehabilitated in 2011 to include garden staff offices, with plans to install new staff restrooms in 2012.

Historic and Modern Landscapes[5]

Archeology
Bartram's Garden offers a fascinating, uninterrupted timeline of history that stretches back thousands of years. Archeological activities at the site are ongoing. Excavations in the past have found artifacts from many different historical periods including: jasper flakes (indicating the presence of prehistoric toolmakers); intact flowerpots from the Bartram era; 18th century pewter shoe buckles; delicate cut-glass Victorian trinkets; and early 20th century fill from Works Progress Administration projects at the Garden.

Historic Garden
The historic garden includes a number of exhibit gardens. The native plant exhibit of the Lower Garden features herbaceous and woody plants, all native species that were listed in the Bartram's 1783 catalogue and subsequent editions. These plants include Carolina Allspice, Virginia Sweetspire and Witherod Viburnum amid a carpet of ferns and wildflowers. The upper areas include a kitchen garden, common flower garden, and a new flower garden.

Meadow
This 15-acre meadow was created on a former industrial site in the 1980s. Meadow grasses and wildflowers were planted by the John Bartram Association with assistance from the Philadelphia Water Department and Philadelphia Committee of the Garden Club of America. At the base of the meadow is a new boat dock giving boaters, canoers and kayakers access to the Lower Schuylkill River. Summer ferryboat cruises are also available in partnership with the Schuylkill River Development Corporation.

Wetland
There are two tidal wetlands at Bartram's Garden, one natural and one man-made. In 1997 thousands of native wetland plants, including bullrushes, marsh grasses, irises, hibiscuses, and marsh roses were planted. These are the only wetlands along the lower Schuylkill River. In addition to recreational activities, the wetland provides new habitat for wildlife, including many shorebirds, and helps improve the water quality of the river.

In 2011, the Philadelphia Airport will fund a $150,000 in-kind mitigation effort to restore Bartram's Garden's natural wetalands. The project will remove 60 invasive trees and plant hundreds of native species.

River Trail
This winding trail through the flood plain is bordered by wetland species such as American Sweet Gum, Green Ash, Silver Maple, River Birch, Common Alder, Black Cherry, Bald Cypress and Black Willow. The Paper Mulberry along the trail is an introduced species. Carved on nearby bedrock are tidal markings from the 1780s through the 1850s.

[5] Adapted from John Bartram Association website building descriptions, See www.bartramsgarden.org.

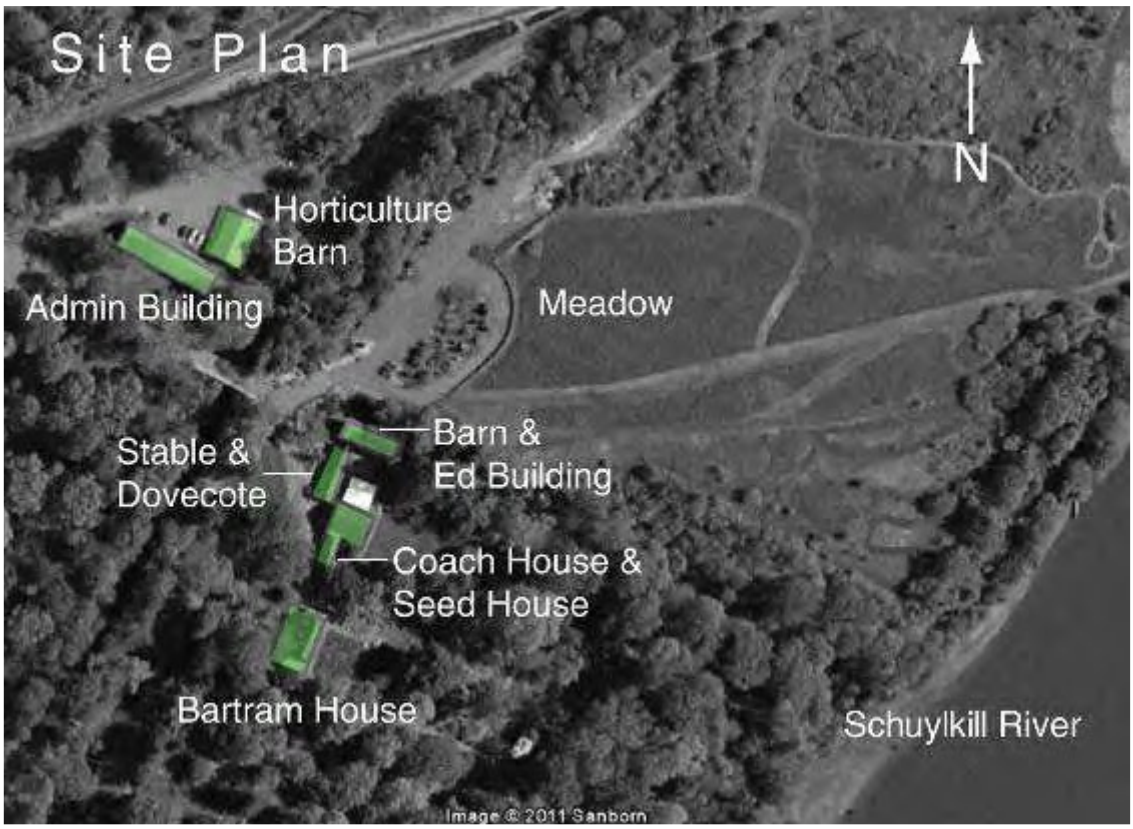

Figure 1: Bartram's Garden has a complex of multiple buildings (Alexander Balloon)


Figure 2: The historic barn has been rehabilitated as a multi-use space. (Donna Ann Harris)

Part II. Treatment and Use

Treatment and Preservation Philosophy

The John Bartram Association was founded in 1893 to ensure the preservation, interpretation and enhancement of Bartram's Garden. The organization works in partnership with the City of Philadelphia, the owner of the site. Over the years, buildings in Bartram's Garden have undergone different preservation treatments according to the Secretary of the Interior's *Standards for Treatment of Historic Properties*.[6]

The Secretary of the Interior provides definitions of these preservation treatments:

Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.[7]

Rehabilitation is defined as the act or process of making possible a compatible use for a property through repair, alterations and additions while preserving those portions or features, which convey its historical, cultural or architectural values.[8]

Restoration is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

Reconstruction is defined as the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.[9]

Treatments Used at Bartram's Garden

Based on these definitions from the Secretary of the Interior, the historic buildings at Bartram's Garden have received the following treatments.

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[6] "The Secretary of the Interior's Standards for the Treatment of Historic Properties" National Park Service 1992. Updated: "Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings." 1995, See http://www.nps.gov/history/local-law/arch_stnds_8_2.htm.

[7] Ibid.

[8] Ibid.

[9] Ibid.

- The exterior of the John Bartram House has been *restored*;
- The exteriors of the Dovecote/Stable and Coach House/ Seed House have been *restored;*
- The exterior of the historic barn has been partially *restored;*
- The interiors of the Stable, Coach House/Seed House and Historic Barn have been *preserved and rehabilitated*, and
- The interior of the Bartram House has been *restored.*

None of the buildings at Bartram's Garden have been *reconstructed*.

History of Treatments at Bartram's Garden

The first large-scale "restoration" of the John Bartram House took place in preparation for the 1926 Sesquicentennial Celebration in Philadelphia. The John Bartram Association in cooperation with the Philadelphia Chapter of the American Institute of Architects (AIA) restored both the John Bartram House and the Garden for visitors from across the world. After their completed project, the Fairmount Park Commission undertook annual maintenance for the site.

However, it was not until the 1970s that the John Bartram Association hired its first part-time administrator, and shortly after the organization hired its first full-time executive director. Both executives advocated further restoration of buildings on the grounds.

<u>1984-1995</u>

In 1984, after the organization's first major capital campaign "New Growth for America's Oldest Garden," the Association restored the John Bartram House interior, and renovated the Coach House for archival storage, meeting space, classrooms and what was then considered a catering kitchen.[10] The project also renovated the Stable into a museum shop. The following year, in partnership with the Fairmount Park Commission and the Philadelphia Water Department, the Association acquired and converted the adjacent former cement factory property into an urban meadow.

In 1992, staff from the Philadelphia Museum of Art assessed environmental conditions in the Bartram House to determine if important historic objects in the collection could be safely displayed and stored in the building. Their report stated that there were significant threats to preservation of the historic building, including temperature swings of as much as 20 degrees, relative humidity readings below 50%, light levels above the recommended range of 5-10 foot candles, and UV radiation two to three times the ideal. The HVAC system installed in 1992 in the Bartram House caused these wild fluctuations in temperature and humidity and continues to do so today. The PMA report of 1992 stated that the inadequate and inappropriate environmental conditions were an urgent need for attention at the Bartram House. These conditions have not changed, and they still pose an imminent threat to preservation of the house and artifacts displayed at the house today.

[10] The kitchen was not renovated to commercial kitchen standards.

1995-2001

The second capital campaign "The Fourth Century Fund," conducted between 1995 and 1999, completed many preservation and planning projects and resulted in significant organizational growth. These projects included:

Physical Projects

- Establishment of Archives and Library (1998)
- Adaptive Reuse of Coach House, Barn and Stable (1995-1999)
- Restoration of Root Cellar/Ice Pit and Seed House Complex (1995-1999)
- Establishment of Man-made Wetlands
- Construction of Education Offices and Public Restrooms
- Acquired Site for New Administration Building
- Installation of new Interpretive Signage

Studies and Plans

- Comprehensive Conservation Study for John Bartram House (Frens and Frens)
- Historic American Landscapes Survey (National Park Service)
- Kitchen Garden Plan and Restoration
- Catalogue and Mapping of Living and Permanent Collections (By a Volunteer)
- Interpretive Plan: "Man's Love and Use of Nature"

Organizational Growth

- Creation of Living Collections and Historic Collections Curator position
- Establishment of the Organizational Endowment

During this period, the John Bartram House underwent extensive maintenance projects including plaster and paint repairs in 1996, completion of the Conservation Assessment Study and Recommendations in 1998, and in 2001 the removal of Portland Cement pointing, cleaning, foundation improvements, security improvements, and exterior painting of the Bartram House.

2001-Present

Between 2001 and 2005, preservation activities accelerated. These included the addition of a new Administration Building and Education Addition to the Historic Barn in 2003 as well as a $250,000 preservation project for the John Bartram House. The organization, in partnership with the City of Philadelphia, constructed a functioning dock, allowing access to the Schuylkill River in 2006.

The most recent growth of the organization occurred between 2005 and 2007. Projects included:

- Updated Interpretive Plan (2006)
- Master Site Plan (2009)
- Conservation of Stable (2006-2007)
- Masonry Conservation of Coach and Seed House (2008)
- John Bartram House Roof Cleaning (2005)

- New Strategic Plan (2010).

Preservation has been an important goal at Bartram's Garden since the John Bartram Association's first major project in 1926. Over time, the Association has expanded its organizational capacity, hired staff, established an endowment, and expanded programming. Preservation is an ongoing process, and significant capital projects to both preserve and expand activities at Bartram's Garden will be crucial over the next decade, as it has for the last 80 years.

The Future

Funded projects planned for the near future include:

- Schuylkill River Trail through the Bartram Meadow, to be completed in 2012. This will connect Bartram's Garden to the 150-mile recreational trail and to other regional and local trail systems.
- Urban Farm in partnership with Pennsylvania Horticultural Society and UPenn's Urban Nutrition Initiative (UNI). This will create a green resource center (greenhouse) for community gardeners, as well as a 1.5-acre urban farm to be managed by UNI and local high schools students. The farm will be located on the former tennis courts and ball field.
- Orientation Exhibit in the Stable. A new visitor orientation space will be located in the former gift shop space in the Stable. Planning for this new use has not yet begun.

Maintenance is Preservation

Regular and general maintenance should be a policy of any historic site. Lack of regular upkeep, such as cleaning of gutters, can make an enormous difference to prevent accelerated deterioration.

Regular and on-going maintenance of historic properties is the most effective way to prevent costly catastrophic repairs and restoration work. This Preservation Plan and its accompanying Cyclical Maintenance Manual and Inspection Spreadsheets (attached in the appendix) are designed to help the John Bartram Association identify and correct minor problems on all of the historic and modern buildings on the campus before neglect or deferred maintenance evolves into expensive restoration work.

The Cyclical Maintenance Manual and Inspection Spreadsheets provide guidance in working to minimize the deterioration of the historic and modern buildings, their important features and finishes. The Cyclical Maintenance Manual contains maintenance guidelines and timetable for each type of material. The Manual encourages cleaning using the gentlest means possible (as established by research through controlled testing of various methods), and identifies necessary materials and equipment to perform the work.[11]

[11] Hawkins, 11.

Taking action and conducting simple and timely repairs as part of a twice yearly and campus wide inspection effort is an effective strategy that can prevent the needless expenditure of hundreds of hours and thousands of dollars in the future. Repairs made as part of a regular maintenance schedule will be smaller in scope, less costly and retain more of the original building fabric. Regular maintenance is also the most effective and least destructive means to preserve an historic structure. It avoids the wholesale replacement of historic building materials that have otherwise been damaged beyond repair. Maintenance prevents failure of structural systems as well as the irreversible deterioration of delicate decorative finishes.

Regular maintenance using no-cost or low cost solutions will extend the useful life of the investments made by this and prior generations of Bartram's Garden stewards. Experts have expounded on the benefits of routine maintenance. "The cost of performing regular maintenance is generally lower and can be spread over a longer time period than a typical restoration project. Simply put, planned maintenance is proactive while restoration is reactive. The good news about preventative maintenance is that, of the problems that can arise in a building, most manifest themselves visually. Therefore, a watchful eye goes a long way in identifying problems as they start, thereby reducing the amount of damage caused over time."[12]

Regular inspections, ideally twice a year, using the Cyclical Maintenance Manual will do more to preserve Bartram's Garden than almost any other activity at the site. The process of inspection also identifies when and how an architect, engineer, contractor or other professional should be called upon for assistance to correct an identified problem. One inspected, repairs must be prioritized, funded and implemented by the Board through the Facilities Committee or by staff.

Facilities Management Staff

One of the major recommendations of this Preservation Plan is to hire a staff member who will be responsible for managing the historic buildings and grounds. Peer sites we interviewed had two to four full-time staff who were experienced carpenters, masons, or general contractors. The cost to staff and equip this function varied between $70,000 and $278,000 yearly. These organizations decided it was cheaper and faster to have an in-house crew capable of undertaking regular building maintenance work on historic structures, rather than contracting these tasks out. Bartram's Garden should consider this a best practice to be emulated in the future.

Review of the Existing Condition of the Historic and Modern Buildings at Bartram's Garden

Role of the City of Philadelphia at Bartram's Garden Today

The effort to acquire Bartram's Garden as a public park in the mid and late 19th century was led by Bartram descendants, Thomas Meehan (then a City Council member), and with assistance

[12] Colorado Historical Society, Historic Properties Maintenance Plan and Historic Properties Maintenance Checklist by Humphries Poli Architects, found at http://www.coloradohistory-oahp.org/programareas/shf/plan.htm.

from the Arnold Arboretum in Boston, Massachusetts.[13] The property was purchased by the City of Philadelphia in 1891. Today, The John Bartram Association has a lease with the City for the John Bartram House and after 125 years continues their loving stewardship of this amazing historic site.[14]

The City, as owner of the property, has ongoing involvement with Bartram's Garden, including fiduciary oversight responsibilities. Two senior Park staff members serve on Bartram's Garden Board of Directors or committees: Lori Hayes, District Manager of the Horticulture Center / West Philadelphia Trees serves on the Horticulture Committee and Robert Allen, Director of Property and Concessions Management, City of Philadelphia, Department of Parks and Recreation, serves on the Board of Directors.

The City of Philadelphia, through its recently created Department of Parks and Recreation, continues to provide a variety of in-kind services to the site that presently amounts to more than $47,000 worth of needed services each year.[15]

These services include:

- Oil heat at the Bartram House;
- Water and electrical service for the entire campus;
- HVAC maintenance contract for Bartram House only;
- Seasonal mowing of grass on the entire site;
- Seasonal care of baseball fields;
- Emergency tree maintenance and removal ;
- Security in the form of the ranger corps opening and closing the site daily; and
- Summer horticultural intern.[16]

Upcoming City Funded Capital Projects

The restoration of the roof of the Bartram House is scheduled for FY2015 in the City of Philadelphia's Capital Program for a cost of $290,000 according to a letter of commitment from the City.[17] This sum, determined by the City, is for the roof restoration only. It is important to note that the current roof is at the end of its useful life, and over next few years will likely need increased attention until the restoration project begins.

New directional signage is mentioned in the 2006 Interpretive Plan as an item to be installed in 2008[18]. The Park is also a conduit for funding for Federal projects, such as the Schuylkill River Trail, a portion of which loops through Bartram's Garden. Construction is set to begin in 2012.[19]

[13] John Bartram Association, Findings Report for the Strategic Plan 2008, 8.

[14] Ibid., 31.

[15] Ibid., 12.

[16] Ibid., 31-32.

[17] Personal interview with Robert Allen conducted by the author, 12 March 2011. Letter from City of Philadelphia regarding capital projects, mentioned during Facilities Committee meeting April 25, 2011.

[18] Ibid., 32.

[19] Ibid., 32.

The Schuylkill River Trail project includes major grounds improvements, new restrooms, and visitor readiness projects. There are no other City funded capital projects planned, scheduled or under way.

While appreciative of all the City does for the Garden now, there is concern that the government's role in future maintenance may be lessened due to dwindling staff and financial resources.

Board Role in Managing the Historic Buildings

As the long-time steward of Bartram's Garden, the Board of Directors of the John Bartram Association maintains the property through a lease agreement with the City and complies with all applicable codes and ordinances, and provides insurance for the protection of the property. In the last 30 years, the Association has undertaken planning and funding of costly restoration projects that have immeasurably improved the site's interpretive value and visitor appeal.

As part of the development of the Preservation Plan, interviews were held with four knowledgeable Board members and four senior staff members to gain their perspectives on the condition and maintenance of the historic and modern buildings at the site.

The Board and staff members who were interviewed disagree on how well the buildings are now maintained. Staff members, who work directly with the site daily, have specific concerns about maintenance issues and believe the site has significant ongoing needs. Staff members made the following comments:

- Since 2002 [maintenance] really has not been anyone's specific interest and the house has been ignored for close to a decade.
- The paths are bad, benches are broken, there is tree deadfall and trees down throughout, and it is passable but not what it could be. The buildings are in dire need of maintenance and care. They need paint, plumbing, cleaning." There is paint peeling and the walls need repair.
- The windows have not been washed in a decade. The floors need to be cleaned, and dusted. We need to hire an outside firm, to do this, such as painting the windows, wash them, but that is not in the budget because it is too expensive.[20]

The Board members interviewed however, were unfamiliar with these needs, and saw the site as mostly well maintained. Board members made the following comments:

- The site and the buildings are well maintained and they looked well cared for.
- In general, the site and the buildings were well maintained.
- The house is in good shape. Other buildings looked ok. The drive into the site looks scruffy, but that could be because it is a natural landscape maintained in a semi-wild state.
- The buildings do look like someone cares about them now. They are in good shape.

[20] Donna Ann Harris, Memorandum Board Interviews on Maintenance Issues, 24 February 2011, 4.

- The site looks good considering that there is no mechanism for routine maintenance.
- Maintenance and cleanliness is important, periodically done here, but overall the site looks good.[21]

The staff and several Board members agreed that the Board was probably less familiar with physical conditions of the site than the staff. Staff saw an opportunity for better coordination between Board and staff for maintenance, with the Facilities Committee taking the lead in advocating for maintenance at the Board level.

Both Board and staff agree that not enough money is being allocated or spent on routine maintenance of the site. Board members were very articulate about the financial pressures on the endowment, and the lack of funds to properly maintain the historic complex. All agreed that the endowment was too small to provide sustainable funding for maintenance of the site.

All Board members believed the future prospects for the site were on a positive trajectory, given the projects in construction or planned, including the Schuylkill River Trail, the urban farm, welcome center in the Administration Building, and the planned orientation center in the Stable.

In 2010, the John Bartram Association Board allocated $20,000 towards routine and emergency repairs, and maintenance costs for the historic and modern buildings at Bartram's Garden. This is the first time that the Board has made this allocation and both staff and Board agreed it was an important step toward meeting its preservation and stewardship mission. These funds were allocated from investment interest from the Bartram's Garden endowment. Board members also agreed that the $20K allocated for maintenance was insufficient based on needs. Of this sum, $6,500 was also used to pay for security personnel from 6-9 PM during the visitor season to curb vandalism on the site. Effectively the budget for maintenance and urgent repairs then was $13,500.

Role of the Facilities Committee

The Board of Directors created the Facilities Committee more than a decade ago, and this committee has taken on a variety of responsibilities over the years. During the construction of the new Administration Building and Horticultural Barn in the early 2000's the committee participated in planning the project construction. As the organization has matured, this committee has invested more of its time on repair and maintenance issues related to the physical plant.

For the last several years, this committee has worked with staff to identify and obtain cost estimates for maintenance projects, most notably the roof at the John Bartram House. While the City of Philadelphia is responsible for maintenance of the John Bartram House, the committee contacted qualified roofers to obtain several estimates for restoration of the Bartram House roof.

[21] Donna Ann Harris, Memorandum Staff interviews on Maintenance Issues 16 April 2011, 6.

The committee has also used the Cyclical Maintenance Study by Greg Mahoney written in 2008 (see paragraph below for further information) as a baseline to understand the long-term preservation needs for the historic and modern building. This report, created in the early months of Louise Turan's tenure as Executive Director, was a Drexel University construction management program internship project. Its intent was to survey both the historic and modern buildings in a systematic way to create cost estimates for repair and replacement of building systems such as heating, ventilating and air conditioning. There was also acknowledgement that building materials such as roofs, walls and paths would need repair. Further information about this Study appears below. It has proven quite valuable to the work of the Facilities Committee and more recently the preparation of the Preservation Plan.

Since the completion of the Cyclical Maintenance Plan in 2008, the Facilities Committee has annually issued Maintenance Priorities List for use by Board and staff to guide immediately needed and longer-term repairs and minor upgrades in the historic and modern buildings.

In the last few years the Facilities Committee has meet several times each year to identify and undertake small projects supported by the staff. While the committee has identified larger maintenance and restoration projects to undertake, they have been hampered by the lack of funding to implement their work. In 2010, the Director with Board concurrence allocated $20,000 towards maintenance and needed repairs. A primary role of the Facilities Committee has been to assist and advise the Director and staff on building and facilities needs and maintenance projects.

In 2011, the Facilities Committee spent most of the allocated funds on repairs to the Coach House kitchen and adjacent storage/classroom space. In FY 2012, maintenance priorities shifted due to more funds being needed to address emergency repairs. Due to ongoing cash problems for the organization, the Facilities Committee had to forego up to $2,500 of its budgeted maintenance funds. Repairs that were made addressed only very urgent, immediate needs to repair leaking toilets in the Education Barn, one of the most heavily used restrooms by public. The Coach House interior was also painted in 2011.

The consultants shared with the Facilities Committee the needs identified in 2008 Drexel Maintenance Study for $20,000 in annual maintenance costs. We have updated this chart to reflect items not included in this 2008 study, especially specific preservation tasks such as carpentry, masonry repair, and roof maintenance. This chart appears on the next page, showing a true estimate of annual maintenance costs to be $28,000 in current dollars. This information, coupled with the cost estimates developed by the Facilities Committee for their annual Maintenance Priorities list (see this list on page 28), will be shared with the Executive Committee as part of their budget development process.

The Facilities Committee was seen as a logical group to undertake an advocacy role for the historic and modern buildings. However, they currently have no staff assigned to them to serve as a conduit among the committee, staff and Board.

Some staff were able to cite specific repair needs, but there is no formal means to report and address these needs. It is hoped that the Preservation Plan will guide priorities for maintenance at the Board level through the Facilities Committee. The Facilities Committee can play a lead role in this discussion as it agrees on its purpose. Recommendations about changing the role and function of the Facilities Committee appears later in this report.

Figure 3 The exterior of the Coach House has been restored and the interior is used for classroom and meeting space. The Bartram Archive is on the second floor of this building (Alexander Balloon).

Figure 4. The Seed House has been restored on the exterior, and is used for garden storage (Alexander Balloon).

Bartram's Garden Estimated Annual Building Maintenance Costs
Drexel Cyclical Maintenance Study 2008 and Updates 4-2011

Annual Estimated Maintenance Costs					
2008					***NEW***
	HVAC service contracts	Plumbing repairs	Building Structure repairs	Electrical repairs	Wood roof maintenance
Stable and Dovecote	1,627	None	~~244~~ *1200	250	*1000
Coach House and Seed House/archives	4,266	250	~~544~~ *850	300	*1000
Administration Bldg.	2,893	600	~~409~~ *500	366	
Bartram House	Paid by City	250	~~44~~ *1000	Paid by City	*1000
Barn and Education Office	2,367	200	~~244~~ *850	200	*1000
Horticultural Barn	*2,893	None	~~100~~ *350	200	
Totals	~~14,834~~ 14,046	1,300	~~1,585~~ 4,750	1,316	4,000
Total Costs All Structures	~~**19,035**~~ **25,412**				

Vandalism: Estimated $3,000/year

Total Yearly Building Maintenance Costs ***$28,412***

*indicates revised figure based on new information from James Dart and Andrea Taylor

Cyclical Maintenance Study by Drexel Intern

The Cyclical Maintenance Study completed in April 2008 by a Drexel University student Greg Mahoney provides a good starting point to consider long-term preservation needs at Bartram's Garden. This was the first time such a study had been undertaken for the property. The Drexel Study models two aspects of maintenance. First, it establishes a base assumption for annual maintenance needs. Second, it models important capital improvements for individual buildings. Together they establish an estimate of immediate and long-term capital improvements and maintenance needs at Bartram's Garden.

The Drexel University Cyclical Maintenance Study establishes a baseline estimate for annual maintenance costs of approximately $20,000. It includes routine maintenance of HVAC, plumbing, electrical and selected building elements. Our review of these costs shows that they undercount the true cost of building maintenance by omitting important preservation needs including masonry repair, carpentry and plasterwork in Bartram's Garden's important historic buildings. For example, the Drexel Study's estimates annual physical building maintenance costs for the Bartram House at $44. Even at first glance, this is a significant underestimate of true cost. Additionally, annual vandalism at the site costs $3,000, a figure not included in the Drexel Study's estimate. These are important real costs of routine maintenance and must be added to this baseline estimate. Additionally the report does not adjust for inflation in calculating costs for future years.[22]

The capital program suggested by the Drexel Study illustrates the high level of fluctuation in capital needs as seen in the chart below. In some years, the estimated capital expenditure is zero, while in other years the capital needs exceed $50,000. For budgeting purposes, standard maintenance budgeting sets aside an annual reserve for replacement to account for the annualized cost of capital improvements. This establishes a fixed level of annual investment to prevent large fluctuations year over year.[23] The spikes for capital replacement projects in years 2017, 2020, 2022, and 2025 are particularly high. In addition, distant future projections are subject to potential change in the event of systems failure or more rapid deterioration.

Mr. Mahoney's report identified that the Association needed to amass more than $60,000 yearly to pay for both regular maintenance and capital projects. This $60,000 yearly sum will pay for two things: regular maintenance costs (annual HVAC contracts plumbing, electrical and building structural repairs) as well as create the fixed level of annual investment needed to prevent high fluctuations year after year. The reserve is needed to build up a fund to pay for very high cost systems replacements such as roofs and HVAC systems that have must be replaced when their useful life is spent. The chart below shows the annual regular maintenance costs in green, and the high cost replacement items (roofs, HVAC systems) in red.

[22] See attached chart. Inflation has been estimated for this report to be 2.3%, a current estimate from the Bureau of Economic Analysis for years 2008-2011. This is subject to change in future years with potential economic fluctuation.

[23] See attached charts.

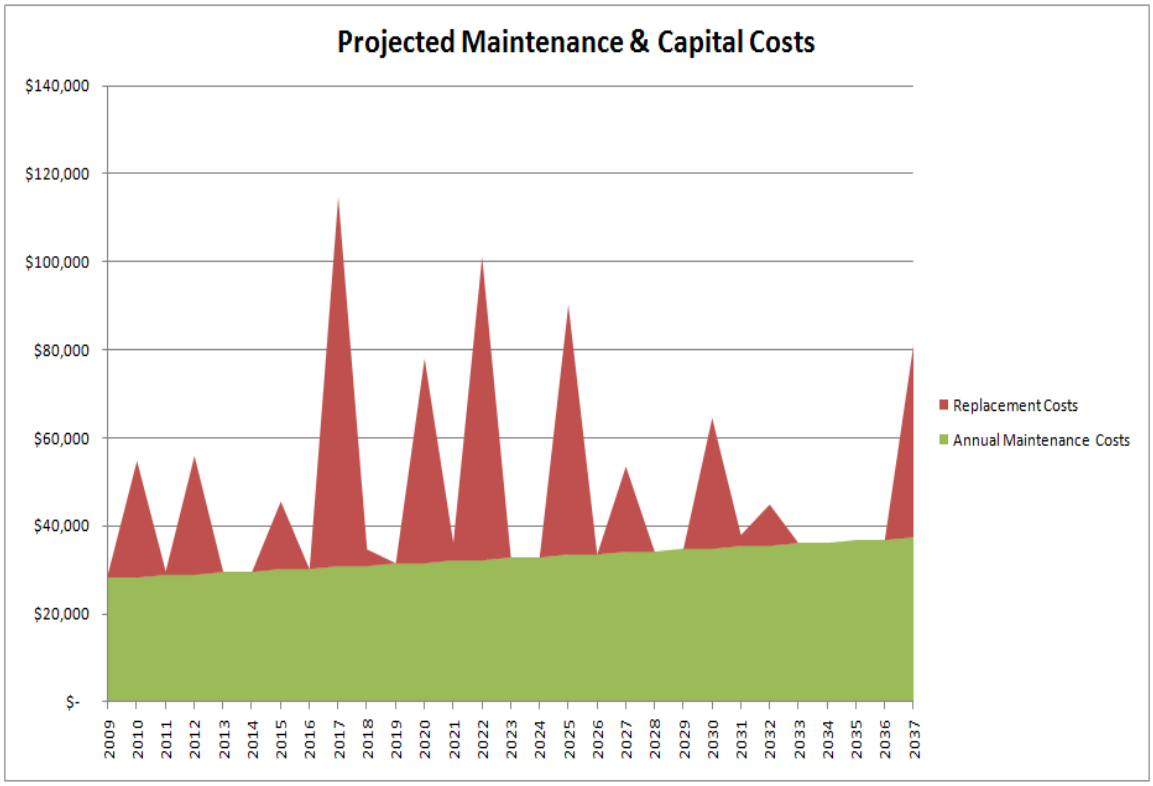

Figure 5: Annual Maintenance at Bartram's Garden is stable for future years (green), while Replacement Costs (red) fluctuate drastically from year to year (Drexel University Cyclical Maintenance Study with adjustments).

More Accurate Yearly Costs Needed

The Drexel Study establishes accurate costs for many building elements, but there are some additional elements that must be considered to present an accurate picture of capital needs for the entire campus. The planned replacement of environmental controls (HVAC) in the John Bartram House for year 2012 is estimated to be nearly $20,000 in the Drexel Study. However, the current environmental system design is not sufficient to preserve the house or offer the optimum environment to display the site's collection of historic artifacts according to the Philadelphia Museum of Art study mentioned earlier and the Conservation Assessment prepared in 2006. An evaluation and installation of a new environmental system to prevent fluctuation in temperature and humidity is crucial to preserve and protect the John Bartram House and its historic artifacts. Similarly, the replacement of Portland cement pointing on the Historic Barn masonry is not included, an important preservation need. Additionally the report budgets for Tennis Court repair and Baseball Field maintenance, but subsequent strategic planning at Bartram's Garden has identified alternate uses for these areas.[24]

[24]Greg Mahoney, Drexel University, Student Intern Project, Cyclical Maintenance Study, 2008.

In order to establish a complete maintenance and capital expenditure model it is important to clarify the financial commitment of both the City of Philadelphia Department of Parks and Recreation and the John Bartram Association. Clarifying financial commitments of both parties provides more budget certainty for future years.

Jim Dart, long time architect associated with Bartram's Garden provided additional costs to the consultants for wood roof maintenance and additional costs for painting, simple carpentry and masonry repairs that were excluded from the Drexel Study. Finally, the site is subject to vandalism and the yearly costs over the last few years have been $3000. This figure is also included in our estimated annual maintenance costs presented on page 24.

Current Maintenance and Capital Expenditure Needs

Currently Bartram's Garden has no formal facility maintenance program or staff. There is one staff member, Bill Butler, who has broad maintenance and janitorial responsibilities. Board and staff universally agreed that he is overtaxed with responsibilities for overseeing special events during the prime visitor season. Andrea Taylor, Director of Administration serves as the key contact for all repair and maintenance contracts and is the point of contact for the City services.

Managing the Garden's buildings and grounds is a large and complicated job. The site covers 45 acres and 16,195 square feet of physical infrastructure that is a mix of both historic and modern construction. The conditions of the facilities range from recently completed buildings (Administration Building and Horticultural Barn) and restrooms constructed in the 1950's, to pathways constructed in the 1930's.

All of the historic buildings except the Bartram House have been adaptively re-used for new programs. The number of visitors each year is increasing, particularly in the education program in which more than 8,500 children participate annually. The expected completion of the Schuylkill River Trail will bring even more visitors to the site.

Prior to the creation of this Preservation Plan and its accompanying Cyclical Maintenance Manual and Inspection Spreadsheets, there had been no comprehensive assessment of the physical infrastructure for the development of an ongoing maintenance program. In addition, no analysis had been completed on the effects of increased visitation with the completion of the Schuylkill River Trail in 2012. Until 2010, there was no budgeted line item for maintenance of grounds and historic and modern buildings at Bartram's Garden. The creation of this Preservation Plan is viewed by staff and Board as an important first step toward addressing long-term preservation needs and filling the organization's stewardship mission.

Urgent Preservation Needs

A review of the Drexel University Study and the Cyclical Maintenance Manual and Inspection Spreadsheets prepared by Heritage Consulting Inc. identifies important preservation and capital needs. The most pressing include:

- John Bartram House Cedar Roof: This roof was replaced in 1975 and is now 36 years old; the usual lifespan of a cedar roof is between 25 and 30 years. Cedar roofs, because they are historically accurate, are more expensive and labor intensive than traditional asphalt-shingle roofs. This project has been programmed in the City of Philadelphia's capital budget for FY2015 for $290,000, as previously noted.

- John Bartram House HVAC System: The Bartram House HVAC system was installed in 1992 and boiler system in 2009. As early as 1992 conservators recognized that the HVAC system as installed was insufficient for its role in maintaining constant humidity and temperature for this historic house museum property. The HVAC system needs to be redesigned so that it can function for a quality museum environment that would ensure stable environmental conditions (humidity and temperature) for the protection of the Bartram House and its collections. The current HVAC system fails regularly, which results in more frequent paint and plaster repairs and higher maintenance costs on the interior of the building. It has been nearly 20 years, and nothing has been done to correct this problem. This is an urgent preservation need. No funds for planning or implementation have been programmed into the City's Capital Budget or the Bartram Association's budget.

- Historic Barn and Coach House Cedar Roof: The Historic Barn roof was installed in 1990 and the Coach House (comprising the Stable and Seed House) roof was installed in 1991. The useful life of these roofs is 25 to 30 years and replacement will be needed between 2015 and 2020. Preliminary inspections of these roofs reveal a need for replacement sooner than anticipated. Previous reports have recommended regular antimicrobial roof cleaning to prevent faster degradation.

- Bartram House Interior Paint and Plaster Repair: Interior paint and plaster repairs are needed now. The current color scheme is incorrect, and there is plaster exfoliation and decay from continuing moisture infiltration problems. The major 2001 drainage work helped to reduce rising damp and other moisture infiltration, but there are still environmental challenges.

- Historic Barn Portland Cement Mortar Removal: Inappropriate Portland Cement mortar has been removed from the Bartram House and outbuildings, but the Historic Barn still retains this incorrect and potentially damaging mortar. This mortar is detrimental to the original stone wall and needs to be replaced.

- Repair and Upgrade of Restroom Facilities in Educational offices and Bartram House: These restroom facilities were completed in the 1990s and 1950s respectively and are showing their age. There are recurring leaks and odors that are unacceptable for facilities used by the general public, guests at special events, and rental functions that generate income for the operating budget. Facilities Committee members intend to make this a high priority item for the 2012 budget year.

The Facilities Committee has developed a Maintenance Priorities Plan for the past two years and has made recommendations to the Executive Committee for the upcoming budget for FY 2012. Their report is attached below.

Figure 6. The Stable and Dovecot have been restored on the exterior. The interior of the Stable will be rehabilitated as a visitor orientation center in 2012.

Figure 7. The West façade of the John Bartram House has been restored. This building is being used as an historic house museum (Alexander Balloon).

Bartram's Garden Facilities **Prioritized Maintenance Plan 2011-2012** Re-issued April, 26, 2011

LEGEND - When to Do
1 = Now, do in next 6-12 mos
2 = Next 2 yrs.
3 = Within 5 yr. plan period
4 = Beyond 5 yrs

This can be used to budget for Planned Maintenance in next Fiscal Year.
Additional funds must be budgeted for unexpected and urgent repairs.

Area	Location/Type of Work	Date	2011 Update Work needed to be done	Priority	Est. Cost	Paid by	Contractor	Notes or Status
1.0	**BARTRAM HOUSE**							
1.1	**Main House**							
	Roof - cedar shakes	2014	at end of useful life, signif biogrowth	3	$70,000	City	??	$290K in city cap budget 2014
			monitor for leaks	1				
	Gutters leaking	2011	Drain leader at SW corner not connected	1	$200	JBA	JBG	
	Floor - 1st		Kitchen floor boards need fix	1	$500	City	FP	
	Exterior Paint	2011	Shutters, Restroom Ext wall	1	$2,000	JBA	Nickles ?	
	Interior Paint	2012	needs paint touch-up, incl. stair risers	1	$500	JBA		
			Rising damp a continuing problem, esp. south	4				
			Wall and ceiling repairs required @ 2nd floor due					
	Interior Plaster		to 3rd flr HVAC leak	1	$500			
	HVAC		Dehumidificaton not working- Replace	3		City		? Use part of $290 cap budget
1.2	**Bathrooms attached to house - 20th c**		Bathrooms in poor condition					
	Roof		Leaking, sealed in 2009, but temp. fix.	2		JBA		
	New flashing to stone	?	Leaking	3		JBA		
	Exterior Paint		Paint re-peeling. Low wall boards rotting					
	Interior walls , vents	Check	Moisture in wall, painted 2009, redo yearly?	1	$300	JBA		windows to repaint
3.0	**COACH HOUSE**							
3.1	Exterior	2010	Repairs roof edge in 2009	3		JBA		
	Roof - cedar	2014	Old, few yrs left, signif. biogrowth	3		City		
	General Interior		In need of cosmetic plaster repairs			JBA		
3.2	**Large room**							
	HVAC condensate leak	2007	Condensate leak solved, but temp. pan fix			JBA	Goldner	
	Ceiling	2010	Has been repainted			JBA		
	Walls - Painting	2010	Has been repainted			JBA		
	Floor		Could be better finish	3		JBA		
3.3	**Ice pit**							
	Plumbing	2011	Kitchen pipe leak dripped to ice pit	1	$200			
	Fan		Fan runs constantly due to moisture, replace?	2				
	Floor	2011	Deteriorated bricks and settlement	1	$300	JBA		
3.4	**Archives**							
	Flooring		HVAC water stains on carpet, repaint stair risers	2				
	Peeling paint on duct	?	Still undone- Needs strip, prime, paint	3		JBA		
3.4	**Kitchen & Work Room entry**							
			Refurbished Kitchen in 2009					
	Work Room adjacent upgrade	2010	Depends on funding	2	$5,000			
	Termite damage	2010	On-going treatment contract			FPC	Western	
3.5	**Seed House**							
	Electrical Panel		Panels need to be labeled	1	Staff	JBA		
	Far South Room		In need of a floor	2				
4.0	**18th c. BARN**							
4.1	**Barn**							
	Roof		Significant visible gap at ridge at edge, check	1	$300			
	Exterior Masonry & Paint		Some peeling of roof edge. Needs mortar point patching, Portland cement mortar too hard.					
	Interior Wall Painting		When was this painted?, when needed again?	3	$3,000			
	Interior Floor	2011	Caulking repairs needed	2	$1,000			
	Interior Plaster		Cosmetic repair, SE corner	2				
4.2	**Education office**							
	HVAC over barn steps	2011	Condenser condensation driops seasonally	1	$300	JBA	Goldner	
	Exterior							
4.3	**Restrooms at Courtyard**					JBA		
		2011	Toilets, faucet leaks repair, ? long term plan?	1	$2,600	JBA	Madsen	Unatttractive to users,leaks, smell
5.0	**STABLE - Gift Shop**	2011	repurpose for Orientation					
6.0	**ADMINISTRATION BLDG**							
	Shutters		Much effort to close daily	4				
	Basement		Sewer Pump has failed 2-3 yrs, good 2 yrs now	2	$500			Remove hoses out of basement
	So. End Storage/Showers	2011	Repurposed Rebuilt Shop and restroom					
	New Visitor space and Shop	2011						
7.0	**HORTICULTURAL BARN**							
	Plumbing at sinks	2011	All redone 2011					
	Archaeology Room		Unfinished					
8.0	**COURTYARD**							
9.0	**DRIVEWAY/PARKING**							
	Bridge and Potholes		Major Grant Applied for	2				
	Need Lighting		missing lights	2	$250 each			
10.0	**OTHER**							
	Wedding Pav. Platform	2011-12	Remove from Barn Courtyard	2		GET GRANT FIRST		
	SIGNAGE at Entrance		Temporary Signage	2		Major Grant Applied for		
	TOTAL		to be spent in next 6-12 mos.		$7,700			

Figure 8: The HVAC System in the Bartram House is insufficient; it has been a documented problem since the 1990's (Alexander Balloon)

Figure 9: Significant biogrowth (green color) on the Coach House roof may shorten the life of the roof. Treatment to remove this will extend the useful life of the roof (Alexander Balloon)

Figure 10. Paint is peeling from the wooden shutters and metal hinges on the Conservatory portion of the John Bartram House (Donna Ann Harris).

Figure 11. Water stains on the wall and ceiling on the second floor of the John Bartram House. These stains are from a leak that occurred in February 2011 in the HVAC system installed on the third floor (Donna Ann Harris).

Figure 12. Plaster repairs are needed under the window in this second floor room of the John Bartram House. This damage was caused by water infiltrating from the flashing along the top of the roof of the north addition to the Bartram House where restrooms are currently located (Donna Ann Harris).

Figure 13. Paint chips on the stair risers inside the John Bartram House (Donna Ann Harris).

Unfunded and Future Maintenance Needs

We have used the Drexel University Study and the Facilities Committee Maintenance Priorities to identify major capital projects that are needed in the next ten years. None of these projects have funding committed either from the City of Philadelphia or the John Bartram Association. Some of these projects would qualify as deferred maintenance, while others are systems upgrades. All of these are costly repairs and represent the cost "spikes" in the previous chart.

- Restroom upgrades and repairs at the Bartram House and Barn
- Bartram House HVAC system redesign and replacement
- Metal roof replacement on Bartram House additions
- Archives HVAC replacement
- Septic system replacement Administration Building
- Stable and Dovecote HVAC replacement
- Historic Barn HVAC replacement
- Coach House and Seed House HVAC replacement
- Historic Barn Portland cement mortar removal
- Orientation center at the Stable and Dovecote
- Grounds improvements: pathways, roads and drives.

Figure 14: Significant upcoming replacement costs like those planned for the roof the Bartram House are an important consideration (Alexander Balloon)

Part III. Current Use and Interpretation of Bartram's Garden

The 2010 Master Plan and the 2009 Strategic Plan for Bartram's Garden do not anticipate any change in preservation treatment for any of the historic buildings, or restoring a previously rehabilitated building for interpretation purposes. All rehabilitated buildings will remain as flexible programming space.

There are several recent use changes. The historic stable, which for many years housed the garden shop, will be repurposed to become an orientation center for visitors in 2012. The Administration Building has been reconfigured into the new garden shop and welcome center for visitors. Offices for the Horticultural staff have moved from the Administration Building into the modern Horticultural Barn where offices were created from former storage spaces.

As of this writing in May 2011, the historic and modern buildings on the Bartram's Garden are currently used for:

1. Stable and Dovecote—being converted to a visitor orientation center
2. Coach House/ Seed house/Archives—classroom or flexible meeting space; kitchen; archives, garden and general maintenance storage
3. Bartram House—visitor interpretation
4. Historic Barn and Education Building—staff offices in Education Building, flexible meeting space in Historic Barn
5. Horticulture Barn—staff offices, equipment storage
6. Administration Building—welcome center, garden ship, staff offices, and meeting room. Planned for 2012 are new ADA-compliant visitor bathrooms as part of the trail construction.

Overview of Current Interpretive Program and Impact on the Historic Resources During the Next Five Years

Over the past year Bartram's Garden has refocused its interpretive efforts on the core message of the historic site. As a central part of this endeavor, the story of John Bartram and his efforts and achievements are once again taking a central position. Therefore, the historic buildings and resources at Bartram's Garden are even more crucial components in communicating this message. The following represents the core story used for interpretation for visitors.

Core Story

"John Bartram and his family members were scientists and lifelong learners. Their passion to explore this place and the world around them caused them to wander the Eastern seaboard in search of new plants. Their curiosity and wonder about plants and nature caused them to be actively engaged in the discovery and exchange of plants and ideas in the realms of both art and science. They created a naturalist's garden here by the river, which through millennia of human use and natural forces, can be seen today if you observe closely.[25]

[25] The core story was developed at a Bartram's Garden staff retreat held on March 18 and 19. Heritage Consulting staff member Donna Ann Harris facilitated this discussion.

Our visitors continue the long tradition of those who made pilgrimages here to be inspired by Bartram's treasured plants and habitats. Many people including generations of Bartram, Eastwick and Meehan families have been responsible for preserving this site so we can share its wonders with our visitors today."

This core story is meant to inform how the staff interprets the site to visitors on guided tours. It also provided context for creation of year-round public programming, self-guided brochures, website content, and educational materials for special events and community programs. Staff has already begun using the core story developed at a staff retreat in March 2011, to inform programs for the coming visitor season. It will guide interpretive development for programs and tours in the near future.

Anticipated Changes to Visitation

While the staff at Bartram's Garden has worked internally to improve the interpretive experience for visitors, external changes and the projected completion of the Schuylkill River Trail in 2012 will bring many new visitors to Bartram's Garden.[26] In 2009, 216,000 people passed by the Schuylkill Banks area of the trail.[27] This extension will dramatically increase visitation and bring some of these trail users to the Garden.

Visitors to Bartram's Garden who chose to leave the trail and come into the historic core of Bartram's Garden will need to pay an admission fee to take a guided tour through the complex. To prepare for these new visitors, Bartram's Garden must reconsider how the site is presented to visitors. The new welcome center and garden shop at the Administration Building is one of the first steps to upgrade the visitor experience at Bartram's Garden. Additionally the new parking area, new restrooms, and upgrades to the sales area near the Horticultural Barn will help welcome these new visitors.

The former location of the garden shop at the Stable will be turned into a visitor orientation space. There are also plans for additional wayfinding signage. Consideration also needs to be given to a small café or picnic area, bike service areas and pet policies. It will be essential to match these visitors with their desired interpretive experiences, ranging from historic house tour, having a snack or resting after a long bike ride and enjoying the garden.

In preparation for these visitors and in conjunction with interpretive changes, maintenance is an important element of their experience. If the physical condition of the historic buildings is in a state of significant disrepair, it detracts from the core message. For example, peeling paint on the exterior of the John Bartram House, the most important historic building at the site and central to the core interpretive message, detracts from the core interpretive experience.

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[26] This topic was the major topic of discussion with the Focus Group of environmental, garden and historic site representatives held in November 2010.

[27] "Schuylkill River Trail 2009 User Survey and Economic Impact Analysis." See (http://www.railstotrails.org/resources/documents/wherewework/northeast/Schuylkill%20River%20Trail%20Users%20Survey_Final_low%20res.pdf).

The staff is exploring new means to interact with visitors, in person and on-line through the web site, blog and tours. The historic buildings at Bartram's Garden are the embodiment of the core story of the Bartram Family and their passion and curiosity to explore the world around them. How these buildings are used for interpretation is only limited by the creativity of staff and volunteers involved in relating the site's story to the public.

Starting a Formal Volunteer Program

Currently Bartram's Garden has an ad hoc volunteer program run by Todd Greenberg, the head gardener. Volunteers come as individuals or groups to work on the garden on a regular schedule on specified Saturdays in season. This program has grown in the last several years and all told about 250 volunteers participate. There is no formal orientation, job descriptions, and retention or recognition activity for volunteers.

There is interest in expanding this informal volunteer program to other parts of Bartram's Garden, especially working with the historic structures. There is need for specialized as well as routine maintenance projects, which might be able to be carried out by skilled volunteers or contractors volunteering their labor. This concept needs to be developed into a formal volunteer program, supported by the Board and implemented by staff. Key to establishing a formal volunteer program would be identifying a staff member to supervise a volunteer coordinator who would implement such a program. The role of the volunteer coordinator is to create a recruitment program, work with staff to create job descriptions, place volunteers in jobs, offer regular orientation, appreciation events and determine volunteer training needs. In order for the appropriate staff member to take on this responsibility, their current job description would have to be reviewed to determine what task(s) would be eliminated to allow enough time to take on this new program responsibility.

Conclusion

It has often been said that maintenance is preservation in its purist sense. The continuing effort by the Board to combat deterioration of the historic buildings each year by devoting small sums to catch and fix problems before they become major restoration projects is a wise investment of both time and the limited funds available. While this is a strong and timely preventive measure, the Board's duty is to create policy to guide the future of this noble site.

Part IV. Recommendations

The following recommendations are based on data collected in meetings with Board and staff, focus groups, and interviews with peer historic sites and gardens, who shared with us their best practices for budgeting and maintaining their historic buildings. They are organized by entity responsible for the recommended action:

Executive Committee

- Submit the Preservation Plan to the full Board for adoption and approval to ensure the Board as a full understanding of the short and long-term preservation needs of the Garden.

- Ensure the organization has resources to hire maintenance staff and/or property manager. A full- or part-time staff member is needed to be responsible for the entire facility, for both buildings and grounds, to assure that the site is visitor-ready each day and that identified maintenance issues are implemented as budgeted yearly.

- Include preservation needs and costs as part of the Strategic Plan to provide a source of funding. If the Board intends to enter into a planned giving program in the near future, then maintenance can be stressed as one of the ongoing concerns for the site that only a larger endowment can adequately address.

- Create a formal reserve fund of $40,000 annually to plan for capital projects, i.e. larger repairs, system replacement, and restoration projects over time.

Building Preservation and Facilities Committee

- Rename the Facilities Committee to better reflect is broadened responsibilities to oversee the implementation of semi annual inspections and implementing repairs.

- Review and *c*irculate the draft of the Preservation Plan to the Executive Committee upon completing internal review with staff.

- Organize a Board "walk around" either in small groups or individually over the next three months to show the current level of maintenance of the historic buildings at Bartram's Garden.

- Conduct a preservation training session for Board members who may be unfamiliar with preservation practices and techniques.

- The Facilities Committee should commit to regular (twice yearly) Cyclical Maintenance Inspections and make a brief report to the Executive Committee and the Board after each inspection

- Provide the Executive Committee and Finance Committees with annual budget of maintenance priorities to inform annual operating budget. Set a schedule for repairs for each quarter. Assist staff with implementation and contracting until full time staff is secured and funded.

Governance Committee

- Identify and nominate a few more Board member prospects with interests in preservation, architecture, museums or historic sites, to begin to balance the current Board composition, which is dominated by members focused primarily on landscape, horticultural, botanical and environmental issues. Assure that the Executive Committee has a balance of Board members interested in both history and garden preservation.

Staff

Implement Routine Maintenance and Repairs

- Continue to conduct an annual "safety day" at Bartram's Garden; conduct regular fire drills and update the emergency contact list twice yearly.

- Create a central file cabinet and a location on the shared computer drive for maintenance inspections to serve as a central repository for records of routine maintenance, including cyclical projects such as paint, masonry, woodwork, plaster, and other sensitive preservation areas. These records should include photography.

- Create a volunteer corps of individuals or preservation-minded contractors who can assist in routine building maintenance projects (see section below on volunteers).

- Continue the successful past efforts to identify and apply for capital grants and other sources for repairs and deferred maintenance, as they are available.

Relationships with the City

- Meet with City representative and other city staff at least twice yearly to update them on needs and successes at Bartram's Garden. Assure that appropriate staff at Parks and Recreation are invited and encouraged to participate as complimentary guests to key events and activities.

- Maximize the current relationship with the Department of Parks and Recreation staff and assure good continuing communication with them about the condition of Bartram's Garden.

- Assure the utilities, heating oil, park rangers, personnel and maintenance contractors paid by the City are allocated and well used.

- Review current allocations by the City for all utilities in the Bartram House: oil heat, electric, water, and HVAC maintenance to maximize these free resources.

- Work closely with the Department of Parks and Recreation staff on grass cutting, security patrols, maintenance of other city constructed amenities such as dock, gates, signs, picnic tables, benches and paths.

- Continue to advocate for capital funds for Bartram's Garden House roof repair. Monitor the City's capital budget to assure that these sums scheduled for 2014 remain in the pipeline and begin to prepare for this large project. Determine if extra funds dedicated for roof repair can be earmarked for Bartram House HVAC redesign and replacement.

- Begin to advocate for replacement of the current HVAC system in the Bartram House with Department of Parks and Recreation Staff in an effort to place this need into the City's Capital Budget cycle. Show how the fluctuation levels in heat, humidity and leaks from the HVAC system negatively affect the interior finishes and historic artifacts displayed and stored in the building and hasten their degradation.

Identify funding

- Continue to identify sources of revenue from city, state and federal government funds for restoration, deferred maintenance, and apply for grants as appropriate.

- Based on the Strategic Plan, *c*ontinue to identify projects at Bartram's Garden that might appeal to potential individual donors. Continue to cultivate donors for specific projects at a variety of price points. Stan Hywet Hall and Garden and Sonnenberg Gardens use this technique to good effect.

Partnership development

- Continue to create partnerships with larger organizations and institutions to bring new programming and capital projects to Bartram's Garden.

Future opportunities for using volunteers

- Commit to and formalize the current ad hoc volunteer efforts at Bartram's Garden by creating a comprehensive, organization-wide volunteer program. If there is keen interest to develop a formal volunteer program, assign a current staff member to be the volunteer coordinator or identify a volunteer to take on this job.

- Have all staff participate in volunteer management training to familiarize themselves with motivations of volunteering and methods of volunteer recruitment, appreciation and retention.

- Create job descriptions for volunteer projects especially for short assignments that can be completed in a day or an afternoon to encourage repeat volunteers.

- Offer incentives or awards, yearly recognition program and events for individual volunteer participants to thank them, many times, for their work.

- Identify partner organizations that might be willing to help if offered appropriate incentives for volunteering.

- Consider whether to allocate 10% of each staff member's time to manage volunteers across the entire organization. Acknowledge that management of volunteers takes time, and identify what staff projects /activities will be let go to take on these new management responsibilities.

Earned income

- Review pricing structure for rental functions at Bartram's Garden to determine if current pricing is competitive with similar sized and situated historic sites and other for-profit competitors.

List of interviews

We thank the following people for participating in telephone or personal interviews.

Peer historic sites and gardens
David Hutchings, Executive Director, Sonnenberg Mansion and Gardens State Historic Site, Canandaigua, NY
Sean Joyce, Chief Financial Officer and Operations and Mark Gilles, Restoration Architect from Stan Hywet Hall and Gardens, Akron, OH
Charles Duell, President, Middleton Place, Ashley, SC
Michelle Rosatti, Deputy Director, Wave Hill, Bronx, NY

Bartram's Garden Board Members
Steven Bessellieu, Board President
Robert Allen, Property and Concessions Management, City of Philadelphia, Department of Parks and Recreation, Board Member
Chris Lang, Facilities Committee Chair, Executive Committee member, Board member
Ellie Penniman, Board Member

Bartram's Garden Staff Members
Louise Turan, Executive Director
Stephanie Phillips, Director of Development
Joel Fry, Bartram Scholar
Leslie Gale, Education Director

Other Bartram's Garden Staff members interviewed
Melanie Snyder, former Education Director
Bill Butler, Facilities Coordinator
Todd Greenberg, Head Gardener

Other interviewees
Theresa Stuhlman, Preservation and Development Administrator, City of Philadelphia Department of Parks and Recreation

Focus Groups

Environmental, garden, historic site and teacher stakeholder focus group

Three focus groups were held on November 2, 3 and 4, 2010 at Bartram's Garden to understand perceptions, opinions, beliefs, and attitudes of key individuals about topics and programs related to Bartram's Garden for the Preservation Plan.

Participants in alphabetical order:

1. Kimberly Andrews, Shofuso Japanese House and Garden, Executive Director
2. Nina Brisbee, Philadelphia Zoo, Director of Facilities
3. William Cahill, Retired Teacher
4. Allen Crawford, Plankton Art Co., Owner
5. Alex Doty, The Bicycle Coalition of Greater Philadelphia, Executive Director
6. Derick Dreher, Rosenbach Museum and Library, Executive Director
7. Bill Gerhman, EnRoute Marketing, President
8. Kristin Grovenveld, The Arts Sphere, Executive Director
9. Lori Haynes, City of Philadelphia Dept. of Parks and Recreation, District Manager Cobbs Creek Park
10. Nichole Juday, Wyck, Horticulturist
11. Sean Kelly, Eastern State Penitentiary, Programs Director
12. Rich Lewandowski, Mt. Cuba Center, Executive Director
13. Sharon Loving, Longwood Gardens, Head of Horticulture
14. Paul Meyer, Morris Arboretum, Executive Director
15. Martha Moffit, Woodford Mansion/ Ryerss Museum, Executive Director
16. Claire Sawyers, The Scott Arboretum, Director
17. Sarah Clark Stuart, Bicycle Coalition of Greater Philadelphia, Campaign Director
18. Joseph Symick, Schuylkill River Development Corporation, President
19. Bill Thomas, Chanticleer, Executive Director
20. Kurt Zwikl, Schuylkill River Heritage Area, Executive Director

Community Meeting Focus Group

On February 12, 2011, Bartram's Garden staff attended the monthly City Lights meeting at New Spirit Church at 5800 Chester Ave. in Southwest Philadelphia. The purpose of the meeting was to gain feedback from Southwest Philadelphia residents about current activities at Bartram's Garden and seek their input on new programming. Twenty-five community residents attended this meeting.

Credits

This report was written by Donna Ann Harris, principal of Heritage Consulting Inc. and Alexander Balloon, consultant with Heritage Consulting Inc. We thank Louise Turan, Stephanie Phillips and Chris Lang for their comments on this document. Photos taken by Donna Ann Harris or Alexander Balloon unless noted. Cover photos: left to right: Bartram's Garden, National Park Service, Alexander Balloon.

Biography

Donna Ann Harris is the principal of Heritage Consulting Inc., a Philadelphia-based consulting firm that works nationwide in three practice areas: downtown and commercial district revitalization, historic preservation and nonprofit organizational development. Ms. Harris works with one full time and two part time associates in her office based in Center City Philadelphia.

Before starting her firm in 2004, Ms. Harris was state coordinator for the Illinois Main Street program for two years and the manager of the Illinois suburban Main Street program for four Years. During her tenure as State coordinator, Ms. Harris served 56 Illinois Main Street communities, led a staff of 12 and managed a budget of over a million dollars.

Ms. Harris has worked with state and local Main Street programs in 17 states since starting her Firm in 2004. She has spoken for the last five years at the National Main Street Center annual Conference, and at the International Downtown Association annual meeting for the last two Years. Ms. Harris has published several feature articles in The National Trust Main Street Center's monthly journal *Main Street News*: "Make More Money from Members," (August, 2008); "Is a BID Feasible for Your Town? Ten Questions to Ponder," (April 2007) and "A Valiant Effort" and "What You Can Do, Lessons From Illinois Main Street," (January 2005).
Prior to her Main Street career, Ms. Harris spent 15 years as an executive director of three startup and two mature historic preservation organizations. In these positions in New Jersey, Pennsylvania and Illinois, she began membership drives, lead strategic planning efforts, PR and a capital campaign, raised more than $3.75 million in grants, managed staffs ranging in size from two to eight, and was responsible for organizational, project and endowment budgets of up to $2.6 million.

As a preservation planner with more than 25 years of professional experience, Ms. Harris has assisted citizen groups and government agencies to identify appropriate reuses for threatened historic properties that ensure the long term preservation and maintenance of the site. Past projects range from conceptual site plans, reuse planning and feasibility studies, preparation of RFPs, grant writing, tourism product development, historic preservation elements of municipal master plans and historic resource research.

Ms. Harris has been speaking about and consulting with historic house museums around the

country about alternative uses and stewardship responsibilities for the last four years. Her book *New Solutions for House Museums: Ensuring the Long-Term Preservation of America's Historic Houses* was published by AltaMira Press in 2007. She has published articles about reuse of historic house museums in *History News*, the quarterly magazine of the American Association for State and Local History and *Forum Journal*, the quarterly journal of the National Trust for Historic Preservation. In the past three years, Ms. Harris has spoken at more than 30 national, regional and statewide conferences about her house museum research.

Ms. Harris earned a Master of Science degree in Historic Preservation from Columbia University in New York City, and a Master of Governmental Administration degree from the Fels Center of Government at the University of Pennsylvania in Philadelphia. She holds a BA in both American Studies and Art History from the State University of New York at Albany.

Alexander Balloon is a consultant for Heritage Consulting Inc. Mr. Balloon has experience in both historic preservation planning and research design.

With Heritage Consulting, Mr. Balloon has completed several major projects including historic preservation planning, architectural research, heritage tourism product development, public involvement, and economic impact evaluation. He has assisted in public engagement activities, research and analysis, and provided graphic design and production. In 2011 he shared the Grand Jury Prize from the Preservation Alliance of Greater Philadelphia for his work for the Delaware County Public History Feasibility Study and Implementation Plan.

Prior to his work with Heritage Consulting Inc., he drafted a preservation plan for the University City area of the City of Philadelphia for the University City Historical Society. He has completed a variety of projects in the City of Philadelphia and elsewhere including documentation, feasibility, and re-use studies for historic sites and properties. He also has experience in evaluation and research design, working with many non-profit clients. Mr. Balloon has a Master of Science degree from the University of Pennsylvania Graduate School of Design in Historic Preservation and a Graduate Certificate in Urban Redevelopment.
He has a Bachelor of Arts degree in Urban Studies and History from the College of Wooster.

Contact information
Donna Ann Harris, Principal
Heritage Consulting Inc.
422 South Camac Street
Philadelphia, PA 19147
215 546 1988 phone
donna@heritageconsultinginc.com
www.heritageconsultinginc.com

Appendix

Heritage
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Commercial District Revitalization ▪ Historic Preservation ▪ Non-Profit Organizational Development

August 30, 2010

To: Louise Turan, Stephanie Phillips and Andrea Taylor

From: Donna Ann Harris

Subject: The need for a "Safety Day" at Bartram's Garden

Through my readings of the various reports prepared about the buildings and grounds of Historic Bartram's Garden, I became aware that the site as whole has been cared for by generations of dedicated people. While there are not enough staff members or hours in the day to attend to all tasks to maintain the 43 acres and the modern and historic buildings, the current staff is doing the best it can given finite resources.

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Philadelphia, PA 19147
215-546-1988
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As part of my readings, especially the Conservation Assessment, it became apparent that there are a variety of safety issues that need to be addressed in and around Bartram's Garden. I am proposing that the staff institute a once a year "Bartram's Garden Safety Day" to attend to, in a concentrated time period, many of the visitor and staff safety issues for the site.

Below please find a list of items that I believe need to be addressed now as part of the preparation of the Cyclical Maintenance Plan.

- Have the local Fire Marshall come and inspect the property for advice on evacuation in case of fire
- Create emergency evacuation training procedure, and train all staff and key volunteers
- Perform regular fire drills
- Test and recharge all 18 fire extinguishers across the entire campus. (All the tags read 2007 and 2008)
- Review the storage of all chemicals, especially in the maintenance barn
- Review and restock the emergency kits in each building
- Back up on a portable drive all key digital records, especially collections documents, date this, and put in the organization's safe deposit box

- Review nightly security lock up procedures
- Review the keys contained in the key safe located in the basement of the Administration building. Check to see that all keys are accounted for, create duplicates if needed, label them and make sure the keys work
- Update the Emergency Contact List contained in the Cyclical Maintenance Manual, date it and keep in the binder and on line file.
- Give key staff members multiple copies of Emergency Contact List. Ask that they keep one copy at home; one in the glove compartment of each car; and at their desk
- Create a salvage priority list for the collections and include this in the Cyclical Maintenance Manual binder and on line file, date this record. Note location of each object and accession number (if appropriate)
- Create a list of salvage suppliers, contractors and consultants to be included in the Cyclical Maintenance Manual binder and on line file and date this record.

The group of activities mentioned above, and others recommended by the Fire Marshal, are only a small part of a proper disaster preparedness plan that is needed at Bartram's Garden. Attending to these small issues however, will make Bartram's Garden safer for visitors and staff immediately.

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November 15, 2010

To: Louise Turan and Stephanie Phillips

From: Donna Ann Harris and Alexander Balloon

Subject: **Executive Summary Focus Groups for the Preservation Plan**

Three focus groups were held on November 2, 3 and 4, 2010 at Bartram's Garden to understand perceptions, opinions, beliefs, and attitudes of key individuals about topics and programs related to Bartram's Garden for the Preservation Plan now in development. Twenty people participated in the focus groups, including Executive Directors from major regional public gardens, historic sites and arboretums. Our questions were focused on interpretation, current and future activities and educational programs, working with volunteers and the effect of the new Schuylkill River Trail extension to Bartram's Garden scheduled for completion in 2012. While there were three distinctly different constituent groups, their opinions were surprisingly similar. Several selected unedited comments from participants are included below each of the major findings.

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Interpretation

The current interpretation at Bartram's Garden emphasizes the historic house, garden, and public park as integral elements of the larger 43-acre historic site and recreation area. Participants expressed confidence in this interpretive thrust, but cautioned that any historic site, including Bartram's Garden, must maintain its relevance for today's visitor. They shared ideas about possible new opportunities for interpretation.

- The main thing that is missing from the list is Bartram himself.
- Marketing Bartram's as the first sustainable business – "doing well by doing good." Tell the business model of sustainability.
- Bartram's Garden is the "Ellis Island" of all plants. … The plants went to Philadelphia and beyond.

- What was around here when Bartram's was Bartram's? It was next to the river, for a reason, why? It's not used today. The approach from the river is a great opportunity.

New programs and activities

One of the most exciting opportunities for participants was the opportunity to create new programs and activities at Bartram's as a result of the Schuylkill River Trail. Participants lauded many of the current educational activities, and potential new and expanded programming for children, as well as new activities in the arts and eco-tourism/natural programming. There was also great interest in expanded community programs such as a community garden for local residents and possible food-based programs.

- There have been musical performances in the barn – why not expand on that?
- There are people who don't care about the history and the Bartram's, but they would really get into how many birds are here or insects. … What about a sighting book?
- Bartram's Garden was a farm – why not food? Include a Farmer's Market, it's very easy.
- Perhaps more programming to bring in local people with a specific interest in bringing in fresh food.
- Virtually all the sites had a new cell phone tours.

Volunteers

Expanding the existing volunteer program at Bartram's Garden offered both promise and potential challenges according to focus group members. Most participants emphasized that a well-planned and structured volunteer program could be useful to Bartram's. Participants cautioned that any new or expanded volunteer programs should include careful consideration of staff/volunteer interaction.

- Volunteers are critical to friend building and community building.
- People give money to things they are interested in.
- Be very cautious about the volunteer program. They are the front-line staff.
- Think about the philosophy of why you have volunteers?

Schuylkill River Trail Extension

The Schuylkill River Trail extension offers a new opportunity to capture more visitors at Bartram's Garden. Participants stressed the need for "visitor readiness" especially clear signage, way finding and visitor amenities. Increased visitation will impact the preservation of historic and natural

resources. Participants emphasized the promise and importance of capturing revenue from new trail users, and turning these new visitors into Bartram's members.

- Become a designated trailhead with parking and appropriate signage.
- Suddenly Bartram's Garden will become a known quantity, so the first impression, drive-by or on a bike can make or break your reputation
- What are needed are more interpretive materials throughout the garden, but not too much. We need welcoming signage as you enter Bartram's on the trail, way-finding signage to tell you where the restrooms, shop, food/water and places to rest are located.
- One of the big issues was how do you get people off the trail into your site to spend money?
- Key things to protect, given the influx of new visitation: Historic part of the gardens.

Final Comments and Wishes for Bartram's Garden

We offered participants the opportunity to sum up their comments and offer other thoughts that might not have been covered before.

- The trail is important – but there is life beyond the trail.
- The biggest strength is the enormous history. It is the oldest botanical garden in the region or country. You should be able to share that great story.
- Stay true to the mission, don't go far afield.
- Capture the authenticity. That's huge.

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Philadelphia, PA 19147
215-546-1988
heritageconsultinginc.com

February 22, 2011

To: Louise Turan and Stephanie Phillips

From: Donna Ann Harris and Alex Balloon

Subject: Summary Report on City Lights Community Roundtable Meeting

On February 12, 2011, Bartram's Garden staff and Heritage Consulting Inc. attended the monthly City Lights meeting at New Spirit Church at 5800 Chester Ave. in Southwest Philadelphia. The purpose of the meeting was to gain feedback from Southwest Philadelphia residents about current activities at Bartram's Garden and seek their input on new programming. Bartram's Garden has an on-going relationship with City Lights. They were an excellent group to partner with for this purpose because their mission is to "partner with existing organizations in the Kingsessing area of Southwest Philadelphia, networking to focus resources on issues of significance to area residents."[28] At monthly meetings, residents, community leaders, and friends of City Lights come together to discuss ongoing efforts and programs to improve the Southwest Philadelphia neighborhood.

More than 25 residents and friends attended this Saturday morning session. Attendees heard a brief introduction from Bartram's Staff about the Preservation Plan initiative and other projects at Bartram's Garden. After the introduction, attendees organized into four breakout groups to discuss two key questions about Bartram's Garden. The first, "How can Bartram's Garden best serve the community?" and the second "What kinds of activities would be useful of greatest interest to you?" Residents and friends were very interested and shared their ideas and thoughts within these 20-minute breakout sessions.

[28] http://www.waynepres.org/index.php?option=com_contentandtask=viewandid=142

Participants shared their candid comments, and were informed that any ideas and responses would be anonymous. Their issues and responses are listed below and separated into content areas.

Activities and Programs

Participants felt that activities and programs at Bartram's Garden are an important way to connect with the community and bring out local residents. There was some interest in and support for live performances and special events as well as ongoing weekly or monthly programs. A suggested "community garden party" event was very popular with respondents. Such an event would be most appealing if it were free and had multiple activities and programs available.

There was some interest for live performances, but the emphasis here is on events that would appeal to neighbors and perhaps be different from current offerings at Bartram's Garden.

Performances
- Drama (Plays for children, A "Stage" for the community)
- Choirs

Community-focused activities
- Crochet in the park
- Cooking
- Gardening
- Reading programs
- Intergenerational gardening
- Seniors programs
- Women's programs
- Movie nights
- Arts and Crafts (Pressing leafs, artwork, pottery)
- Family afternoons
- "Mom and Me" Programs (Hug a tree, Finding bugs under rocks)
- African-American History of Bartram's
- Truancy Programs
- Jobs for young people
- Swahili language
- Tours
- Picnic spot

Special Events
- Fun and free
- Tables at events

- Participate in other community events (festivals, special events)
- Coupons for events
- "Garden Party" for the community
- Community carnival
- Community plant day
- Zoo animals (Zoo 2 You)
- Boat rides
- Historical interpreters in costume (e.g. John Bartram, Ben Franklin)
- Family reunions and anniversaries
- Summer events

Connections and Partnerships

Participants believed that more robust connections as well as partnerships were crucial to strengthen Bartram's connections to the community. There are many existing groups, clubs, and institutions located in the Southwest neighborhood. Bartram's Garden can do more to connect with these existing organizations. While many felt that this was a good way to get more residents involved with the Garden, some also stressed the importance of Bartram's participation in already existing community events, festivals, and other activities by having a booth or display available. Clearly, the neighbors want Bartram has to come to them, on their own turf.

Community members, stakeholders and groups to tap
- Neighborhood volunteers
- Block captains
- Recreation centers
- Cornerstone Library
- Parents (through the PTO organizations, or other existing organizations)
- Churches (Catholic Social Services was cited as a receptive audience)
- Senior Centers (there are many in Southwest Philadelphia)
- Schools (public and charter)
- Social services groups (Daycare Centers, Head start)
- Teachers (through schools)

Suggested activities
- Donate plants to community partners for their greening activities
- Design and landscape assistance to community partners wishing to do greening activities
- Participate in commercial corridor activities with merchants on Baltimore, Woodland, Chester and Elmwood

- Collaborative activities with other natural and environmental partners nearby (arboretums, wildlife refuges, parks)
- A new community-focused advisory Board
- Work with Bartram Village Housing complex
- "Share more" with groups such as buses, resources, etc.

Green, Food and Nutrition

There was some discussion about opportunities for Bartram to participate in the "greening" of the community. This included emphasis on food and nutrition to connect the surrounding neighborhood with high-quality produce. Neighbors identified the following ideas.

- Fresh food and WIC Program
- Produce stand
- Nutrition programs for children
- "Grow Your Own Food" program
- Technical advice for anyone doing gardening in their yard
- Have a "green summit"

Public Outreach

Many residents in Southwest Philadelphia do not have access to digital and social media and rely primarily on traditional forms of print media including local newspapers, posters and door-to-door flyers. Participants emphasized the need for print campaigns and partnerships to deliver information about programs and events to residents.

Print Media

- Many residents don't have access to the Internet
- *Globe Times* is a local paper with good penetration into the community
- Flyers distributed Door-to-Door by Welfare to Work volunteers
- Advertising in *Globe Times*
- Church bulletins in area churches
- Southwest CDC
- Bulletin Boards at social service agencies
- Direct mail
- Large sign at entrance to the Garden
- Posters
- Brochures

Digital Media

- Gardening "Hotline"
- Facebook

Community Barriers and Challenges

There are some perceived barriers between Bartram's and the Southwest Neighborhood. Some residents felt disconnected from the site and did not feel a sense of collective ownership. Additional challenges included transportation and a lack of information about Bartram's Garden.

Perceptions

- Bartram's is a "Rich White Estate"
- Need more African-American employees
- Didn't feel welcome at some events
- We don't get a lot of Information about Bartram's Garden
- Environment isn't a priority for many residents

Transportation

- People can't get there, few have cars and public transportation after dark is a concern
- It's hard to find
- Better connections to public transit—location of the bus stop

Neighborhood character

- Why does everything stop at 55th St?
- Development and gentrification is a barrier

Based on these comments, residents seem interested in working with Bartram's Garden to expand its relationship and develop additional programs for community residents in Southwest Philadelphia.

Heritage
Consulting, Inc.

Commercial District Revitalization ▪ Historic Preservation ▪ Non-Profit Organizational Development

422 South Camac Street
Philadelphia, PA 19147
215-546-1988
heritageconsultinginc.com

June 2, 2011

To: Louise Turan and Stephanie Phillips

From: Donna Ann Harris

Subject: Summary of best practices and recommendations from peer site interviews

Over the last three months, I interviewed top staff members at four historic sites that also have equally significant gardens to learn about how they manage maintenance of their historic buildings. Louise suggested the first two buildings, and I suggested the last two buildings. These buildings were chosen because we wanted to interview sites that were not in Philadelphia thinking they might offer new approaches to maintenance. We also wished to review sites that offered a range of ownership structures and sites that were a bit larger than Bartram's Garden to see what these sites might offer Bartram's Garden for future planning purposes. The historic sites I interviewed were:

- Middleton Place, Charleston SC
- Wave Hill, Bronx NY (Owned by the City of NY)
- Sonnenberg Gardens and Mansion State Historic Site, Canandaigua NY (owned by State of NY)
- Stan Hywet Hall and Gardens, Akron OH

Here is a quick overview of these organizational statistics.[29]

[29] Information for this chart came from the interviews, IRS 990 forms, or other materials published by the organization.

Site	Budget	Acres	Total paid staff	Paid maint staff	Maint budget	Total visitation	Number of volunteers	Endowment
Middleton Place	5M	725	160	4	250K	Not available	200	3M
Stan Hywet Hall & Gardens	5.5M	70	85	2	500K	140,000[30]	300	8.4 M
Sonnenberg Gardens	650K	50	32	2	21K	30,000	300	746K
Wave Hill	5.7M	28	166	4	330K	130,000	319	20.9M
Bartram's Garden	800K	45	18	1	20K	40,000	25,000	2.5M

Summary

Year round vs. seasonal opening

Two sites are open year round, Middleton Place and Wave Hill, while Stan Hywet and Sonnenberg Gardens are open seasonally. This is not particularly noteworthy as Middleton Place is located in the south. The rest are sites that have four seasons and perhaps harsh winters. For example, winter programming at Wave Hill in New York City is devoted to inside pursuits, educational classes for adults and children and programming for visiting artists. All four sites have formal gardens that are the primary draw for visitation. Only one of these sites is located in a major tourist destination. Wave Hill is in the Riverdale section of the Bronx, and Stan Hywet is in a neighborhood of Akron. Sonnenberg Gardens is in the somewhat remote Finger Lakes region of NY State, while Middleton Place offers a resort experience on the Charles River near Charleston.

Ownership structures

Two sites profiled (Wave Hill and Sonnenberg) are owned by government with a nonprofit partner responsible for daily operation and stewardship in the form of a lease or other agreement. Wave Hill has 15 staff whose salary is paid by the City but who are supervised by Wave Hill staff. The City also provides capital support in the form of occasional restoration projects paid through the City's capital budget process. Sonnenberg Gardens receives no yearly operational support from the State of NY. This site seems to have modest prospects for development purposes due to its location in a somewhat remote section of NY State.

[30] Visitation numbers: http://www.k12academics.com/national-directories/volunteer-program/stan-hywet-hall-gardens.

The other two sites (Middleton Place and Stan Hywet) are owned by nonprofit corporations. These organizations were set up by heirs of the family to own and manage the property for the public benefit. In both cases the family is still involved with the organization as board members (Stan Hywet) or staffing (Middletown Place) because these sites were founded as recently as the 1950s (Stan Hywet) or 1970s (Middletown Place).

Educational and event programming

All but one site (Sonnenberg) have school programs. Self-guided tours are offered as well as guided tours of the historic site and grounds, most often led by docents. Middletown Place, being a plantation, has a significant African American story to tell. Other sites are homes of industrialists or wealthy landowners with an interest in gardening. All host several seasonal special events (car shows, auctions, holiday activities) to draw large crowds in addition to regular programming of guided tours of the house and garden. All have traditional high-end galas or fundraising events. From a programming standpoint there was only one particularly noteworthy offering from the four sites. At Stan Hywet, The Nooks and Crannies tour, billed as "for museum junkies" is a behind the scenes tour of the 65-room mansion. Wave Hill has studios they rent to artists for one-month residencies. New revenue approaches

Middleton Place has created a for profit subsidiary to manage their onsite restaurant and high-end hotel operations. This corporation's profits support the nonprofit. At Stan Hywet the restoration staff has been incorporated as a separate for profit subsidiary that seeks work from other historic sites, commercial entities and individuals. This operation called ARRC Inc. had revenues of $360,000 according to their IRS 990 tax return last year. While a profit center, the staff still provides services to the historic site. They do not actively market the subsidiary as they are content with the level of outside work available now.

All but one of these sites (Wave Hill) is a National Historic Landmark. Two of the sites have received a SAT grant (Sonnenberg and Stan Hywet). There are robust development departments at Wave Hill and Stan Hywet, with several staff responsible for annual gifts as well as planned giving. The Stan Hywet employs a lobbyist to help secure state funds.

Earned income

All of the sites have sizable site rental businesses, especially weddings that bring in from $25,000 (Sonnenberg) to more than $250,000 (Middleton Place) in revenues each year. Middleton Place is an anomaly compared to the rest of the sites profiled as it earns most of its income from the ancillary businesses: the hotel, restaurant and shop. This site raises half its revenue from admissions. They do have a membership program (raises 70-90K yearly) but they these revenues are plowed into the endowment, as they are not needed for yearly operating support. Rental income from weddings and events were a critical revenue source from each

site. Shop sales of plants were also a substantial source at Middleton Place, Sonnenberg and Stan Hywet.

Use of volunteers

All of these sites are highly dependent on volunteers to undertake a variety of jobs in administration, visitor services as well as maintenance. Stan Hywet Hall and Garden acknowledged that their large volunteer corps (5200 volunteer hours last year) is critical to making the site function each day. The interviewee at Sonnenberg Gardens made similar comments. While Wave Hill and Middleton Place have large volunteer corps (about 300 volunteers each site), the interviewee did not focus on the vital role of volunteers save for docent led tours of the historic site. For these two sites, paid staff seem to dominate. This would make sense because these two sites have the largest budgets and number of paid staff.

Sonnenberg Gardens has perhaps done the best job of integrated volunteers into the day-to-day function of the seasonal site. Organized into teams of volunteer and paid staff, the site has several working groups. The organizational chart lists eight volunteers by name who are essentially "unpaid staff" who take on vital functions of the workings of the site as walking tours, tram drivers, docents, housekeeping, and buildings and grounds. Stan Hywet uses volunteers throughout the organizational structure, and has an extremely active recruitment and training program before volunteers can take their posts. A paid volunteer coordinator works with the staff to place volunteers into volunteer opportunities based on job descriptions provided by staff. Middleton Place also has a paid volunteer coordinator, responsible for recruitment, retention and recognition activities. A volunteer plays this role at Sonnenberg Gardens. At Wave Hill the visitor services manager is the volunteer intake coordinator. All have formal application forms.

Maintenance needs and inspections

All sites have deferred maintenance, some more severe than others. Annual maintenance priorities are determined by staff through an inspection. Surprisingly few had formal documents or cyclical maintenance manuals that guide this effort. In one case, the document was viewed as too complex to be worth using. Most often a top staff member (the executive director or operations chief) along with the maintenance staff conduct a walk around twice a year to look at the buildings to note maintenance needs. These inspections then generate maintenance priorities and budgets for the coming year. The staff share these reports with appropriate board committees for budget approval purposes.

All fund maintenance from their current operating budget. Most have enough endowment proceeds to provide a portion of operating funds for maintenance. These sums vary from $500,000 to $21,000 that pay for repairs, HVAC contracts, security, maintenance staff and equipment. None of the sites felt they had enough money to make the needed repairs each year. Wave Hill supplied job descriptions for their Facilities Manager.

Staffing of maintenance functions

Given the vast size of some of these properties, it is surprising that maintenance crews were no larger than four people at any site. These paid staff members were experienced in carpentry, plumbing, electrical and other skilled trades/crafts and had appropriate workshops and equipment on site. Wave Hill was the only site that does not use volunteers in maintenance function. All the others have some volunteers who provide similar skilled trades to maintain the site. All sites will bid out projects that beyond the scope of the staff or volunteers to contractors, but these are larger projects or require specialized equipment (such as paving). Volunteer maintenance workers have job descriptions and word of mouth seems to be the best recruitment mechanism.

Recommendations for Bartram's Garden based on this research

Bartram's Garden can enhance its historic property maintenance and management functions by adopting some of the best practices learned from these peer site interviews.

- The Facilities Committee should commit to quarterly Cyclical Maintenance Inspections and make a brief report to the Executive Committee and Board after each inspection

- Staff the Facilities Committee to help ensure good communication between staff and Board on maintenance issues. This will also ensure that maintenance projects are identified, bid out, contractors are supervised and work completed according to the Committee's Maintenance Priorities each year. This can be implemented immediately by assigning a current staff member to this role. Ideally, this committee should have access to a trained facilities management professional with demonstrated skills in preservation.

- The Facilities Committee should continue to advocate for more funds for building maintenance based on needs uncovered in the inspections.

- The Preservation Plan will contain a list of the deferred maintenance projects identified in the Drexel University Study and integrate this with the Cyclical Maintenance Inspections for use by the Facilities Committee.

- Commit to and formalize the current ad hoc volunteer efforts at Bartram's Garden by creating a well thought out volunteer program.

    - Assign a current staff member to be the volunteer coordinator or find a volunteer to take on this job. The role of the volunteer coordinator is to create a recruitment program, work with staff to create job descriptions, place volunteers in jobs, offer regular orientation and appreciation events and determine volunteer training needs.

    - Have all staff participate in volunteer management training to familiarize themselves with motivations of volunteering, methods of recruitment, appreciation and retention.

    - Create job descriptions for volunteer projects especially for short assignments that can be completed in a day or an afternoon to encourage repeat volunteers.

    - Create incentives or awards, yearly recognition program/event for volunteer participants.

    - Identify partner organizations that might be willing to help if offered appropriate incentives for volunteering.

    - Consider whether to allocate 10% of each staff's time to managing volunteers across the entire organization.

- Review the current pricing structure for rental functions at Bartram's Garden to determine if current pricing is competitive with similar sized and situated historic sites and other for profit competitors.

CYCLICAL MAINTENANCE MANUAL

FOR

HISTORIC BARTRAM'S GARDEN

Prepared by
Heritage Consulting Inc.
422 South Camac Street
Philadelphia, PA 19147
215 546 1988
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CYCLICAL MAINTENANCE MANUAL

FOR

HISTORIC BARTRAM'S GARDEN

Introduction

Throughout its more than 125 years of existence, the John Bartram Association has advocated and lobbied the City of Philadelphia for funds needed for restoration and maintenance of Bartram's Garden. Prior to the mid 1970's, the City's Bureau of Public Property and the Fairmount Park Commission were responsible for maintenance and preservation. During that period, the John Bartram Association made suggestions for maintenance and provided funds for occasional planting efforts, but had no daily, on-site staff until the late 1970's. For the past generation, the John Bartram Association has been responsible for maintenance and restoration of the historic buildings and landscape at Historic Bartram's Garden. It is sobering responsibility. Bartram's Garden is a National Historic Landmark, and a locally designated historic structure.

In their current partnership with the City of Philadelphia's Department of Parks and Recreation (formerly the Fairmount Park Commission) under a long-term lease, the John Bartram Association has the duty to maintain the property, to comply with all applicable codes and ordinances, and to provide insurance for the protection of the property. In the last thirty years, the Association has undertaken planning and funding of costly restoration projects that have immeasurably improved the site's interpretive value and visitor appeal. All of these important assets, but especially the historic buildings and landscape, must to be safeguarded and maintained for future generations.

Now, as the John Bartram Association anticipates a new influx of visitors with the long sought completion of the Schuylkill River Trail, the Association must begin to plan for capital and maintenance expenditures, both large and small, to offer visitors a quality and satisfying experience.

Why maintain?

Affirmative and regular maintenance of historic properties is the most effective way to prevent costly catastrophic repairs and restoration work. This Cyclical Maintenance Manual is designed to help the John Bartram Association identify and correct minor problems on all of the historic and modern buildings on the campus before neglect or deferred maintenance evolves into expensive restoration work.

This manual is built on the premise that taking action and conducting simple and timely regularized repairs as part of a yearlong inspection effort can prevent the needless expenditure of hundreds of hours and thousands of dollars in the future. Maintenance is also the most effective and least destructive means to preserve an historic structure. Maintenance prevents failure of structural systems as well as deterioration of delicate decorative finishes.

Maintenance is an effective strategy for preservation of historic building fabric. Repairs made as part of a regular maintenance schedule will be smaller in scope, less costly and retain more of the original building fabric. Maintenance avoids the wholesale replacement of historic building materials that have been damaged beyond repair.

Affirmative maintenance using no cost or low cost solutions suggested in this document will extend the useful life of the investments made by this and prior generations of historic site stewards. "The cost of performing regular maintenance is generally lower and can be spread over a longer time period than a typical restoration project. Simply put, planned maintenance is proactive while restoration is reactive. The good news about preventative maintenance is that, of the problems that can arise in a building, most manifest themselves visually. Therefore, a watchful eye goes a long way in identifying problems as they start, thereby reducing the amount of damage caused over time."[31]

This Cyclical Maintenance Manual details how repairs should be conducted and when an architect, engineer, contractor or other professional should be called in for assistance to correct an identified problem.

This document is designed to be used throughout the year, and will help the Association Board and staff members to plan and budget for work on the buildings in a regular basis to protect the facilities whether historic or modern.

How to use this manual

This Cyclical Maintenance Manual, accompanying spreadsheet and maps/floor plans are meant to be used by the Board's Facilities Committee and staff members for regular visual inspections of the entire site. We recommend a seasonal or quarterly "walk around" by the Facilities Committee and staff using the spreadsheet to identify potential problems, set priorities, schedule work and control the costs of maintaining both the historic and modern buildings.

During the quarterly inspection, the Facilities Committee should note on the spreadsheet when the inspection was conducted and any comments about current conditions seen on the inspection. Staff should accompany the Facilities Committee on these quarterly inspections.

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[31] Colorado Historical Society, Historic Properties Maintenance Plan and Historic Properties Maintenance Checklist by Humphries Poli Architects, found at http://www.coloradohistory-oahp.org/programareas/shf/plan.htm.

Staff should report on any maintenance and repair work undertaken before each inspection to update the Facilities Committee.

Digital records of the inspection can be used or a paper record can be kept of each inspection. Handwritten notes on the spreadsheet can be scanned as an electronic copy and marked with the date the inspection was conducted. When the next seasonal inspection takes place, the Facilities Committee can rely on the previous document as a baseline, to determine if the repair has been undertaken, or if deterioration is continuing.

We recommend that once a year, preferably in the Spring before trees produce leaves that general photographs be taken of all the buildings. Additional photos should be taken of damage or deterioration to record current conditions. Label these photos with the date (or use the automatic dating feature on a digital camera) and store in a file with the inspection.

After the Facilities Committee members use this document for several seasons, and become familiar with it, the spreadsheet can be used as a planning and budgeting tool to set forth yearly routine maintenance needs so they can be allocated in the Bartram's Garden annual operating budget. Committee members can use the spreadsheet to prioritize and create an annual maintenance budget. This Cyclical Maintenance Manual also ties into longer-term preservation activities for building components such as historic roof or HVAC replacement. The regular review of maintenance needs allows the Facilities Committee to make recommendations to the Board for timing of capital campaigns in addition to seeking capital funding from the City of Philadelphia and other funding sources.

Finally, the Cyclical Maintenance Manual will help the Facilities Committee to prioritize major restoration and maintenance projects based on the remaining useful life of equipment and materials. The Cyclical Maintenance Manual and spreadsheet should be used in conjunction with the Facilities Maintenance Plan by Greg Maloney, Drexel University Construction Management Intern to identify costs for scheduled replacements of equipment and materials that are near or beyond their useful life.

Creating a maintenance record for Bartram's Garden

Since maintenance of the historic and modern buildings and grounds is an ongoing project, we recommend that all the maintenance information be located in one physical and virtual location so that the information is easily available to both Board members and staff.

The Cyclical Maintenance spreadsheet and recommended yearly photographic documentation will, over time, become part of the historical record of the property. These documents will also provide insight about whether deterioration is occurring faster than anticipated or how maintenance standards might need to change in response to the unique site needs of Bartram's Garden.

Designate a location for all the paper maintenance manuals, manufacturer's instructions. Most of these maintenance materials may not be available in digital form. If copies need to be made of these documents for this file, then date the original and the copy so that the most recent manual or instructions can be identified quickly.

The Cyclical Maintenance spreadsheets should be located in a logical place on the Bartram's Garden server where staff members have easy access. Separate files should be created for each quarterly inspection spreadsheet and the annual photos to be taken of the buildings and grounds.

The Bartram's Garden National Historic Landmark nominations for both the site and the historic landscape are available digitally. Architectural plans for all the restoration work undertaken over the years are located in flat files in the Archive. The Historic Structure Report, Conservation Assessment and other plans and documents for the site are also located in the Archive. More recent reports are available electronically. It would be ideal if most of these seminal restoration documents and plans were available in digital format to be most useful to the Facilities Committee and staff.

Maps and floor plans

We recommend that the laminated version of the maps/floor plans of each building that were created by Heritage Consulting Inc. and augmented by Joel Fry with the artifacts to be salvaged, be kept with the key safe in the basement of the Administration Building. These maps/floor plans of each building show the locations of all fire extinguishers, fire pulls, water shut offs/spigots, electrical and security panels. The addition of the artifacts to be salvaged to these maps/floor plans will be very helpful in an emergency. Joel Fry has provided this information, which includes a photograph of each item along with its accession number, brief description and provenance for this project. These floor plans are one part of a larger disaster preparedness plan needed at Bartram's Garden.

We have included in this Manual the Emergency Contact List, which include names and phone numbers of Board and staff, accountant, attorney, and emergency contacts for police, fire, important city departments and all utilities. It also has an extensive list of contractors, consultants and service personnel for all of the buildings on the campus. This list is current as September 2010, but will need to be updated regularly. We also recommend that an additional page of disaster preparedness suppliers and contractors be included as an appendix to this Emergency Contact List.

We hope this Cyclical Maintenance Manual will help the John Bartram Association to logically plan for the future of the remarkable legacy that is Bartram's Garden.

Cyclical Maintenance Manual
For
Bartram's Garden

A. EXTERIOR

1. WINDOW WELLS

INSPECTION SCHEDULE: Twice a year, Spring and Fall
OPERATION:

a. Check condition of window and trim.

b. Remove leaves and debris.

c. Check for standing water. Unclog any drains at bottom of window wells. If standing water is a regular occurrence, work with an appropriate professional to determine how to keep the areaway dry.

d. Check wood window well covers for tight fit, repair, and repaint as needed.

2. MASONRY, INCLUDING BRICK AND STONE WORK

INSPECTION SCHEDULE: Once a year, Spring or Fall, after rainstorm
OPERATION:

a. Check for moist areas, cracks, crumbling material, loose pieces, missing mortar, or efflorescence (white discoloration).

b. Check where moisture is entering masonry and repair any leaks in roofing, cornice, flashing, downspouts, and joints between masonry and other materials.

c. If significant cracks, surface spalling, or material deterioration is found, review condition of masonry with a registered architect, materials conservator, or restoration contractor experienced in evaluating masonry. A report on the findings and any proposed remedial actions should be made to the John Bartram Association and the Philadelphia Historical Commission for buildings registered with the commission. The Association should cause work to be performed in accordance with consultant's recommendations and approved by Philadelphia Historical Commission for buildings registered with the commission prior to start of work.

d. Re-flash, re-caulk leaking joints as required.

e. Repoint joints with loose or crumbling mortar using mortar which matches original in color, texture, constituent composition, and workmanship. Mortar should not have high Portland cement content and should be no harder than surrounding masonry or original mortar.

f. Repointing work should be performed only in accordance with a proposal submitted to and approved by the John Bartram Association and the Philadelphia Historical Commission for buildings registered with the commission prior to start of work. Repointing should be done as follows: Remove deteriorated or loose mortar to a minimum depth of 2.5 times joint width; clean joints; apply fresh mortar to wetted joints in layers not thicker than 1/4 (one quarter) inch. Joints should maintain original width and be tooled to match original finish. Sample panels for both joint cleaning, repointing should be reviewed and approved by the John Bartram Association and the Philadelphia Historical Commission for buildings registered with the commission prior to continuing with work.

g. Masonry should not be cleaned except in accord with a proposal submitted to and approved by the John Bartram Association and the Philadelphia Historical Commission for buildings registered with the commission. Cleaning should be done with materials and techniques, which will not damage the masonry. Sandblasting, wire brushes, grinders, sanding discs, or other abrasive methods should not be used. Nor should any harsh chemical, which weakens the masonry, be applied. Materials and techniques should be selected based on results of test patches. Any chemical cleaner should be chemically neutralized and thoroughly rinsed in order to remove residues. Low-pressure water wash should not exceed 600-psi pressure at the nozzle, nor 4-gpm volume.

h. Snow removal materials, which might damage masonry, e.g. salt, should not be used, including adjacent to walls.

i. Masonry work should be patched to match the original in color and texture using a low Portland-cement content patching material. All repairs should be well documented as to proportions of cement, lime, sand and other aggregates, and coloring used. Review the mortar analysis undertaken for the restoration of the John Bartram House for specific mix proportions.

3. STUCCO AND CONCRETE

INSPECTION SCHEDULE: Once a year, Spring, after a rainfall
OPERATION:

a. Check for moist areas, cracks, loose pieces or crumbling stucco or concrete.

b. Repair using stucco or concrete patching material which matches the composition, color, texture, and finish of existing using a low Portland-cement content patching material. Adequately bond patches to substrate and reinforce large patches with appropriate reinforcement materials.

c. Re-flash or re-caulk cracks and leaking joints as required.

4. <u>WOOD ROOFING SHINGLES</u>

INSPECTION SCHEDULE: Twice a year, late Spring and early Fall and after winds higher than 40 m.p.h.
OPERATION:

a. Check for worn, loose, or missing shingles. Keep roofs free of leaves, moss, fungi, and debris.

b. Repair leaks, weak areas and loose attachments.

c. Replace missing shingles with shingles matching existing; or with a material compatible to the architecture and historic era of the building. Submit a proposal to and gain approved of the work by the John Bartram Association and the Philadelphia Historical Commission for buildings registered with the commission before starting work.

5. <u>METALS: E.G., FLASHING, LEAD COATED COPPER STANDING SEAM METAL ROOF, OTHER METAL ROOFS</u>

INSPECTION SCHEDULE: Twice a year, late Spring and early Fall and after winds higher than 40 m.p.h.
OPERATION:

a. Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes.

b. Check for loose, damaged or missing sections. Check substrate underneath for moisture damage, especially at attachment points.

c. Replace damaged or missing sections to match existing sections using appropriate methods for specific metals. Repair leaks and weak areas.

d. Reattach loosened metals masonry or wood substrate.

e. Remove rust using materials and methods which will not accelerate pitting and corrosion of the metal. Where applicable, prime and paint according to section 11 below.

f. Review snow guards, especially attachments made with Silicone. Reattach any lose snow guards with mechanically fastened snow guards as needed.

6. <u>WATER CONDUCTION SYSTEMS: GUTTERS, DOWNSPOUTS, DRAINS, SCUPPERS</u>

INSPECTION SCHEDULE: Three times a year, Spring, Fall and Winter
OPERATION:

a. Test for leaks or blocked sections of water conduction systems.

b. Clean system of any blockages and repair leaks. Remove leaves and other debris in Spring and after leaves fall.

c. Check for any loose or missing gutters, downspouts or other system components. Reattach or replace as necessary.

d. Any replacement sections shall match existing or be of a design, material, and installation similar to the historic era and architecture of the property.

7. <u>CAULKING COMPOUND</u>

INSPECTION SCHEDULE: Twice a year, Spring and Fall
REPLACEMENT SCHEDULE: As required, about every 6 years
OPERATION:

a. Check caulking for brittle, cracked or missing pieces.

b. Remove any damaged area, clean, prime or seal according to manufacturer's specifications, provide backer rods and bond-breaker tape as required, replace caulk. Sealant should be factory mixed color to match adjacent construction or shall be paintable.

8. <u>WOODWORK: DOORS, WINDOWS, SHUTTERS, CORNICE, PORCHES, TRIM, SIDING, WINDOW WELL COVERS</u>

INSPECTION SCHEDULE: Twice a year, Spring and Fall
OPERATION:

a. Check for moisture damage, warping, splitting, and unsound joints. Check window putty for cracks or missing sections.

b. If wood is decayed, determine source of moisture, for leaks, and replace decayed wood to match original material. Repair unsound or loosened joints. Replace missing wooden elements to match original in dimensions, species, workmanship, and finish.

c. In painted woodwork seal fine cracks with wood filler. Check putty for cracks or missing pieces.

d. Paint and other finish coatings should be in accordance with Section 11 below.

e. Check for loose attachments of hardware. Reattach as necessary.

f. Examine alignment of stairs and railings, look for excessive wear, deterioration. Grease doors in Maintenance Barn. Oil hinges in Barn/Education building.

g. Check wood window well covers for tight fit, repair, and repaint as needed.

9. <u>STORM/SCREEN WINDOWS (as installed)</u>

INSPECTION SCHEDULE: Twice a year.
OPERATION:

a. Remove debris; unclog drainage slots in frames.

b. Check for loose joints, deteriorated paint, corrosion, holes, moisture damage, and wear. Repair any loose joints or attachments.

c. When paint finish deteriorates, prepare and repaint according to Section 11 below. Color should match adjoining window sash and frame.

10. <u>GLASS</u>

INSPECTION SCHEDULE: Twice a year
OPERATION:

a. Check for cracked or broken panes of glass.

b. Where cracked glass is loose, replace. Replace all broken glass. Replacement panes should be salvaged historic glass if applicable, and tempered or other safety glass where required.

c. Clean glass every three months.

11. PAINT

INSPECTION SCHEDULE: Twice a year
REPLACEMENT SCHEDULE: Every 5 to 8 years
OPERATION:

a. Check for worn or bare spots, blistering, peeling, and mildew.

b. Check where moisture is entering wood and stop leaks.

c. Wash mildew with fungicide.

d. Split blisters, scrape peeling areas, remove rust and sand rough spots. Deteriorated paint finishes should not be removed using sandblasting, open-flame burning methods, or rotary mechanical tools.

e. Prime and paint (two finish coats) using products compatible with the surface material and according to manufacturer's specifications.

f. For ferrous metals, scrape and wire brush deteriorated paint and rust from metal. Repaint to match the woodwork color based on historic models for the historic buildings.

g. Use the paint analysis from the restoration of the John Bartram House and other buildings as guide for paint color to be used. Use the Munsell color matching system for paint color as identified in reports. Match the paint color that comes closest from various manufacturers' color pallets and use this color consistently.

12. EXTERIOR LIGHT FIXTURES (as installed)

INSPECTION SCHEDULE: Twice a year
OPERATION:

a. Check for deteriorated paint, rust, corrosion, moisture damage, and wear.

b. Repair any loose joints, weak links, attachments or hardware.

c. When metal finish deteriorates, restore to match original.

d. When paint finish deteriorates, repaint according to Section 11 above.

e. Replace broken glass to match original.

13. <u>STRUCTURAL CHECKPOINTS</u>

INSPECTION SCHEDULE: Once a year

OPERATION:

a. Check exposed exterior and interior surfaces of walls and foundations, with particular attention to areas of stairway, floor and wall openings, and changes in wall masonry material. Check for cracks, collapsing, leaning or bulging areas or other signs of uneven settlement, movement or structural deterioration.

b. Check interior wall surfaces at upper levels, with particular attention to joints between side and front and rear walls, joints between floors and end walls, and joints between partitions and ceilings. Check for cracks, crumbled plaster, gaps, or other signs of movement.

c. If deteriorated structural members, significant cracks or other signs of movement are observed, review structural condition of building with qualified engineer to ensure adequate safety standards and precautions. A report on the findings and any remedial actions should be provided to the John Bartram Association. For remedial action which will affect the exterior appearance of the building, the John Bartram Association will provide to the Philadelphia Historical Commission for buildings registered with the commission, a proposal for their review and approval prior to start of work. In cases where hazardous conditions require immediate remedies, the Association should proceed without prior approval but shall make every reasonable effort to notify the Philadelphia Historical Commission for buildings registered with the commission and to undertake remedial actions compatible with the historic appearance of the property.

14. <u>TERMITES</u>

INSPECTION SCHEDULE: Twice a year, Spring and early Fall
OPERATION:

a. Inspect building for termites and other wood-damaging insects. Note evidence of insect activity: small holes in the wood, small piles of sawdust, clay tubes on pieces of wood or actual insects. A professional exterminator should undertake the Fall inspection.

b. Treat as necessary.

B. EXTERIOR LANDSCAPE AND HARDSCAPE FEATURES

1. LANDSCAPE STRUCTURES: WALKWAYS, PATHS, PAVEMENTS, RETAINING AND OTHER WALLS, GATES AND GARDEN STRUCTURES ADJACENT TO HISTORIC BUILDINGS

INSPECTION SCHEDULE: Annual or more often as noted below
OPERATION:

a. Check materials for cracks, loose elements, and loose mortar joints, moist or bulging areas. Repair as necessary.

b. Rebuild any unstable sections of walkways, walls, or pavements with particular attention to tripping or other safety hazards.

c. Unclog any drainage swales behind walls, drains through walls or in impervious surface areas, or catch basins.

d. Repoint any joints with loose or crumbling mortar according to Section 2 above.

e. Remove debris, trash and dead leaves from walks, stairs, pavements, courtyards, window wells or areaways once a month.

C. INTERIOR

1. METALS: E.G., HINGES, DOOR HARDWARE, WINDOW HARDWARE

INSPECTION SCHEDULE: Twice a year, late Spring and early Fall
OPERATION:

a. Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes.

b. Check for loose, damaged or missing sections. Check substrate underneath for moisture damage, especially at attachment points.

c. Replace damaged or missing sections to match existing sections using appropriate methods for specific metals. Repair leaks and weak areas.

d. Reattach loosened metals masonry or wood substrate.

e. Remove rust using materials and methods which will not accelerate pitting and corrosion of the metal. Where applicable, prime and paint according to Section 3 below.

2. GLASS

INSPECTION SCHEDULE: Twice a year
OPERATION:

a. Check for cracked or broken panes of glass.

b. Where cracked glass is loose, replace. Replace all broken glass. Replacement panes shall be salvaged historic glass if applicable, and tempered or other safety glass where required.

c. Clean glass every three months.

3. PAINT

INSPECTION SCHEDULE: Twice a year
REPLACEMENT SCHEDULE: Every 5 to 8 years
OPERATION:

a. Check for worn or bare spots, blistering, peeling, and mildew.

b. Check where moisture is entering wood and stop leaks.

c. Wash mildew with fungicide.

d. Split blisters, scrape peeling areas, remove rust and sand rough spots. Deteriorated paint finishes should not be removed using sandblasting, open-flame burning methods, or rotary mechanical tools.

e. Prime and paint (two finish coats) using products compatible with the surface material and according to manufacturer's specifications.

f. For ferrous metals, scrape and wire brush deteriorated paint and rust from metal. Repaint to match the woodwork as noted above in Section 11. f.

g. No paint analysis has been undertaken for the interiors of the Historic Bartram House or other buildings, so the current colors are speculative. Consider undertaking interior paint analysis at time of next wholesale repainting of the interior of the Bartram House and follow advice of the consultant for color matching.

4. CAULKING COMPOUND

INSPECTION SCHEDULE: Twice a year, Spring and Fall
REPLACEMENT SCHEDULE: As required, about every 6 years
OPERATION:

a. Check caulking for brittle, cracked or missing pieces.

b. Remove any damaged area, clean, prime or seal according to manufacturer's specifications, provide backer rods and bond-breaker tape as required, replace caulk. Sealant shall be factory mixed color to match adjacent construction or shall be paintable.

5. WOODWORK: INTERIOR TRIM, ARCHITECTURAL FEATURES, PANELING, ETC.

INSPECTION SCHEDULE: Twice a year, Spring and Fall
OPERATION:

a. Check for moisture damage, warping, splitting, and unsound joints. Check window putty for cracks or missing sections.

b. If wood is decayed, determine source of moisture, for leaks, and replace decayed wood to match original material. Repair unsound or loosened joints. Replace missing wooden elements to match original in dimensions, species, workmanship, and finish.

c. In painted woodwork seal fine cracks with wood filler. Check putty for cracks or missing pieces.

d. Paint and other finish coatings shall be in accordance with Section 3 above.

e. Check for loose attachments of hardware. Reattach as necessary.

f. Examine alignment of stairs and railings, look for excessive wear, deterioration. Grease doors in Maintenance Barn. Oil hinges in Barn/Education.

6. INTERIOR PLASTER

INSPECTION SCHEDULE: Twice a year
OPERATION:

a. Check for loose spots, sagging, large cracks, and significant holes in plaster.

b. Check for efflorescence (visible salts) on plaster.

c. Where plaster is deteriorated use a compatible method of repair to match original. Match plaster type, color, and quality for a compatible repair.

7. MECHANICAL BUILDING SYSTEMS (HVAC)

INSPECTION SCHEDULE: Quarterly or more often as specified below
OPERATION:

a. Change and clean filters, vents, and condensation pans to control fungus, mold, and other organisms as often as needed.

b. Inspect for adequate ventilation, ensure that area is free of musty smell.

d. Check for visible signs of moisture damage from HVAC system (staining, wet patches, bubbling)

e. Ensure that a semi-annual inspection is performed by qualified HVAC professional prior to the start of heating and air conditioning seasons.

8. PLUMBING (WATER HEATER, PLUMBING FIXTURES, WATER SUPPLY, ETC.)

INSPECTION SCHEDULE: Twice a year or more often as noted below
OPERATION:

a. Check water, waste and vent piping and fittings. Visually inspect for leaks, corrosion, damage and ease of operation. Check kitchen sinks and garbage disposal equipment.

b. Check for leaks in water heater, drain to reduce sediment build-up. Check temperature setting, and safety mechanisms.

c. Check metal ductwork for holes, loose connections. Keep air handlers clear of debris/exhaust. Ensure HVAC units are regularly inspected by a qualified professional at least annually. Change filters as needed.

d. Check spigots on exterior of buildings. Turn water on in the barn in spring, drain and shut off water in fall.

9. <u>ELECTRIC (LIGHTING, WIRING, VENTS, SECURITY MONITORING)</u>

INSPECTION SCHEDULE: Twice a year
OPERATION:

a. Check interior incandescent and florescent bulbs, replace if burned out. Check fittings and wall connections. Check electrical outlets for damage, secure plate connections. Check smoke detectors. Check wiring, sockets and fixtures. Visually inspect for sparks, frayed ends, loose connections, corrosion and other damage. Use a licensed electrical contractor to make repairs as needed. Check and clean vent hood in kitchen.

b. Check security monitoring, test annually, ensure regular inspection by licensed professional.

10. <u>FIRE EXTINGUISHERS</u>

INSPECTION SCHEDULE: Once a year
OPERATION:

a. Check all fire extinguishers, test annually, ensure regular inspection by a licensed professional. Ensure that extinguishers are not blocked by equipment, coats or other objects that could interfere with access in an emergency.

b. Ensure extinguisher pressure is at the recommended level. On extinguishers equipped with a gauge, the needle should be in the green zone - not too high and not too low.

c. Note if the nozzle or other parts are damaged in any way, and if the pin and tamper seal are intact.

d. Check to see that there are no dents, leaks, rust, chemical deposits and/or other signs of abuse/wear. Wipe off any corrosive chemicals, oil, debris, etc. that may have deposited on the extinguisher.

Works consulted

The Cyclical Maintenance Manual was adapted from Philadelphia Historic Preservation Corporation, Minimum Maintenance Program for Façade Easements. Successor organization: Preservation Alliance for Greater Philadelphia, 1616 Walnut Street, suite 1620, Philadelphia, PA 19103.

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Credits

The Cyclical Maintenance Plan, Spreadsheets, maps/floors plans and Emergency Contact List were completed by Donna Ann Harris and Alexander Balloon of Heritage Consulting Inc. with the oversight of Jim Dart AIA of DArchitect

Photos on cover from John Bartram Association (left), National Parks Service (center), and Alexander Balloon (right)

Historic Bartram's Garden
Cyclical Maintenance Manual

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
1	Bartram House	Coach House & Seed House	Barn/education office	Stable & Dovecote	Administration Building	Horticulture Barn			Daily	Weekly	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	After a storm, winds over 40MPH		
2							**Building Envelope**																	**Date completed**	**Notes**
3	X	X	X	X	X	X	*Window Wells, Stoops, Stairs, Landings, Exterior Porches, Siding*	Check condition of window and trim. Remove leaves and debris. Check for standing water. Unclog any drains at bottom of window wells. If standing water is a regular occurrence, keep area dry. Check for level surfaces, alignment, dirt, damage, discoloration on landings, stairs and porches. Check wood window well covers for tight fit, repair, repaint as needed.					15									15				See Individual Building Notes
4	x	X	X	X			*Masonry, Including Brick & Stonework*	Check for moist areas, cracks, crumbling material, loose pieces, missing mortar, efflorescence (white discoloration). Check where moisture is entering masonry and repair any leaks in roofing, cornice, flashing, downspouts, joints between masonry and other materials.													1		X		
5	x	X	X	X	X	X	*Stucco & Concrete*	Check for moist areas, cracks, loose pieces or crumbling stucco or concrete.						1									X		
6	x		X		X	X	*Lead Coated Copper & Metal Roofing*	Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes. Check for loose, damaged or missing sections.							15					15				X		
7	X	X	X	X			*Wood Roofing Shingles*	Check for worn, loose, or missing shingles. Keep roofs free of leaves, moss, fungi, and debris.							15					15			X		
8	X	X	X	X	X	X	*Metals: Flashing, Locks, Hinges & Other Elements*	Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes. Check for loose, damaged or missing sections. Check substrate underneath for moisture damage, especially at attachment points.					15									15			X		
9	X	X		X			*Water Conduction Systems: Gutters, Downspouts, Drains, Scuppers*	Test for leaks or blocked sections of water conduction systems. Clean system of any blockages and repair leaks. Remove leaves and other debris in Spring and after leaves fall. Check for any loose or missing gutters, downspouts or other system components.		in winter			15					15					15				
10	X	X	X	X	X	X	*Caulking Compound*	Check caulking for brittle, cracked or missing pieces.						1								1				
11	X	X	X	X	X	X	*Woodwork: Doors, Windows, Shutters, Cornice, Porches, Fascia Trim, Siding*	Check for moisture damage, warping, splitting, unsound joints. Check window putty for cracks or missing sections. . Repair unsound or loosened joints. Replace missing wooden elements to match original in dimensions, species, workmanship, and finish. Check putty for cracks or missing pieces. Check for loose attachments of hardware. Reattach as necessary. Grease door/track hinges in Maintenance Barn. Oil hinges on doors in Barn/education building.					15									15				
12	X	X	X		X	X	*Storm/Screen Windows if installed*	Remove debris; unclog drainage slots in frames. Check for loose joints, deteriorated paint, corrosion, holes, moisture damage, and wear. Repair any loose joints or attachments.					1								1					
13					X	X	*Corrugated Plastic Sheeting*	Check for cracks or breaks in panels, repair or replace if loose or broken.																	
14	x	X	X	X	X	X	*Glass*	Check for cracked or broken panes of glass. Where cracked glass is loose, replace. Replace all broken glass.					1							1					
15	x	X	X	X	X	X	*Paint*	Check for worn or bare spots, blistering, peeling, mildew. Check where moisture is entering wood and stop leaks. Wash mildew with fungicide.					15							15					

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
1	Bartram House	Coach House & Seed House	Barn/education office	Stable & Dovecote	Administration Building	Horticulture Barn			Daily	Weekly	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	After a storm, winds over 40MPH		
16	X	X	X*	X	X	X	*Exterior Light Fixtures if installed*	Check for deteriorated paint, rust, corrosion, moisture damage, and wear. Repair any loose joints, weak links, attachments or hardware. When metal finish deteriorates, match original.						1						1						
17	X	X	X	X	X	X	*Structural Checkpoints*	Check exposed exterior and interior surfaces of walls and foundations, with particular attention to areas of stairway, floor and wall openings, and changes in wall masonry material. Check for cracks, collapsing, leaning or bulging areas or other signs of uneven settlement, movement or structural deterioration. Check interior wall surfaces at upper levels, with particular attention to joints between side and front and rear walls, joints between floors and end walls, and joints between partitions and ceilings. Check for cracks, crumbled plaster, gaps, or other signs of movement.														1				
18	X	X	X	X	X	X	*Termites*	Inspect building for termites and other wood-damaging insects. Note evidence of insect activity: small holes in the wood, small piles of sawdust, clay tubes on pieces of wood, or actual insects.					1						1						
19	X	X	X	X	X	X	*Pest Management*	Check for nests, holes, animal droppings and material decay. Inspection by Integrated Pest Management company monthly.		X	1	1	1	1	1	1	1	1	1	1	1	1			
20	X	X	X	X	X	X	*Photo documentation*	Take digital photos of the exterior of the building. Take overall and specific condition photos yearly to document the exterior condition of the building. Label clearly and store in maintenance files for review before inspections next year.					15												
21	*Education Wing Only																								
22								**Interior features**																	
23	X	X	X	X	X	X	*Metals: Hinges, Door and Window Hardware*	Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes. Check for loose, damaged or missing sections.					15								15				
24	X	X	X	X	X	X	*Glass*	Check for cracked or broken panes of glass. Where cracked glass is loose, replace. Replace all broken glass. Inspect UV Glass in Bartram House.					15								15				
25	X	X	X	X	X	X	*Paint*	Check for worn or bare spots, blistering, peeling, mildew. Check where moisture is entering wood and stop leaks. Wash mildew with fungicide.					15								15				
26	X	X	X	X	X	X	*Caulking Compound*	Check caulking for brittle, cracked or missing pieces. Check putty for cracks or missing pieces.						1							1				
27	X	X	X	X	X	X	*Woodwork: Doors, Windows, Trim, Paneling, Flooring, Stairs and Railings*	Check for moisture damage, warping, splitting, unsound joints. Check window putty for cracks or missing sections. If wood is decayed, determine source of moisture, stop leaks. Examine for damaged, missing molding, secure connections. Check floors for warping, excessive wear, damage. Check for loose attachments of hardware, reattach as necessary. Examine alignment of stairs and railings, look for excessive wear, deterioration. Clean windows every 3 months. Grease doors in Maintenance Barn. Oil hinges in Barn/Education.					15				15			15				15		
28	X	X	X	X			*Plaster: Ceilings, walls*	Check for cracks, chips, water stains.					15								15				
29	X						*Fireplaces*	Inspect damper, flue for operability/cleanliness.												1					

Historic Bartram's Garden
Cyclical Maintenance Manual

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
1	Bartram House	Coach House & Seed House	Barn/education office	Stable & Dovecote	Administration Building	Horticulture Barn			Daily	Weekly	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	After a storm, winds over 40MPH		
30	X	X	X	X	X	X	*HVAC*	Check for leaks in water heater, drain to reduce sediment build-up. Check temperature setting, safety mechanisms. Check metal ductwork for holes, loose connections. Keep air handlers clear of debris/exhaust. Ensure HVAC units are regularly inspected by a qualified professional at least annually. Change filters as needed. Check vent hood in kitchen.					15			15			15			15			
31	X	X	X	X	X	X	*Plumbing: Vents, Fixtures, Water supply, dishwasher*	Check water, waste and vent piping and fittings. Visually inspect for leaks, corrosion, damage. Check fixtures for drips, leaks, ease of operation. Check kitchen sinks, disposal equipment. Check spigots on exterior of buildings. Turn on water in Maintenance Barn in spring, drain pipes in fall.				Water on								Water off					
32	X	X	X	X	X	X	*Electric: Lighting and Wiring*	Check interior incandescent and florescent blubs, replace if burned out. Check fittings and wall connections. Check electrical outlets for damage, secure plate connections. Check smoke detectors.		X											1	1			
33	X	X	X	X	X	X	*Security monitoring*	Check security monitoring, test annually, ensure regular inspection by licensed professional.											1						
34	X	X	X	X	X	X	*Fire extinguishers*	Check all fire extinguishers, test annually, ensure regular inspection by licensed professional.											1						
35	X	X	X	X	X	X	*Trash Pick Up*	Pick up trash daily, remove all trash daily from building	X																
36	X	X	X	X	X	X	*Photo documentation*	Take digital photos of the interior of the building. Take overall and specific condition photos yearly to document the interior condition of the building. Label clearly and store in maintenance files for review before inspections next year.					15									1			

Bartram House				
	Building Envelope		**Date completed**	**Notes**
X	*Window Wells, Stoops, Stairs, Landings, Exterior Porches, Siding*	Check condition of window and trim. Remove leaves and debris. Check for standing water. Unclog any drains at bottom of window wells. If standing water is a regular occurrence, keep area dry. Check for level surfaces, alignment, dirt, damage, discoloration on landings, stairs and porches. Check wood window well covers for tight fit, repair, repaint as needed.	Inspected 4/25 by Facilities Committee	Rotting & peeling siding near bathrooms.
x	*Masonry, Including Brick & Stonework*	Check for moist areas, cracks, crumbling material, loose pieces, missing mortar, efflorescence (white discoloration). Check where moisture is entering masonry and repair any leaks in roofing, cornice, flashing, downspouts, joints between masonry and other materials.		Rising damp @ perimeter, especially South Addition. Interior of bathrooms in bad condition
x	*Stucco & Concrete*	Check for moist areas, cracks, loose pieces or crumbling stucco or concrete.		
x	*Lead Coated Copper & Metal Roofing*	Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes. Check for loose, damaged or missing sections.		
X	*Wood Roofing Shingles*	Check for worn, loose, or missing shingles. Keep roofs free of leaves, moss, fungi, and debris.		Some biogrowth. End of useful life.
X	*Metals: Flashing, Locks, Hinges & Other Elements*	Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes. Check for loose, damaged or missing sections. Check substrate underneath for moisture damage, especially at attachment points.		Rusting hinges on exposed areas without paint. (shutters)
X	*Water Conduction Systems: Gutters, Downspouts, Drains, Scuppers*	Test for leaks or blocked sections of water conduction systems. Clean system of any blockages and repair leaks. Remove leaves and other debris in Spring and after leaves fall. Check for any loose or missing gutters, downspouts or other system components.		Drain leader @ SW corner not connected. Gutters leaking?
x	*Caulking Compound*	Check caulking for brittle, cracked or missing pieces.		
X	*Woodwork: Doors, Windows, Shutters, Cornice, Porches, Fascia Trim, Siding*	Check for moisture damage, warping, splitting, unsound joints. Check window putty for cracks or missing sections. . Repair unsound or loosened joints. Replace missing wooden elements to match original in dimensions, species, workmanship, and finish. Check putty for cracks or missing pieces. Check for loose attachments of hardware. Reattach as necessary. Grease door/track hinges in Maintenance Barn. Oil hinges on doors in Barn/education building.		Wall and ceiling repairs required @ 2nd floor due to HVAC flooding. Paint peeling on bathrooms, paint peeling on shutters. Shutters bad condition, in need of significant repair soon.
X	*Storm/Screen Windows if installed*	Remove debris; unclog drainage slots in frames. Check for loose joints, deteriorated paint, corrosion, holes, moisture damage, and wear. Repair any loose joints or attachments.		
x	*Glass*	Check for cracked or broken panes of glass. Where cracked glass is loose, replace. Replace all broken glass.		Cracked glass @ 3rd floor
x	*Paint*	Check for worn or bare spots, blistering, peeling, mildew. Check where moisture is entering wood and stop leaks. Wash mildew with fungicide.		Shutters and restroom exterior wall in need of paint
X	*Exterior Light Fixtures if installed*	Check for deteriorated paint, rust, corrosion, moisture damage, and wear. Repair any loose joints, weak links, attachments or hardware. When metal finish deteriorates, match original.		
X	*Structural Checkpoints*	Check exposed exterior and interior surfaces of walls and foundations, with particular attention to areas of stairway, floor and wall openings, and changes in wall masonry material. Check for cracks, collapsing, leaning or bulging areas or other signs of uneven settlement, movement or structural deterioration. Check interior wall surfaces at upper levels, with particular attention to joints between side and front and rear walls, joints between floors and end walls, and joints between partitions and ceilings. Check for cracks, crumbled plaster, gaps, or other signs of movement.		Check structure below kitchen. Sagging at west wall.
X	*Termites*	Inspect building for termites and other wood-damaging insects. Note evidence of insect activity: small holes in the wood, small piles of sawdust, clay tubes on pieces of wood, or actual insects.		
X	*Pest Management*	Check for nests, holes, animal droppings and material decay. Inspection by Integrated Pest Management company monthly.		Problem with squirrels inside of house.

Bartram House				
X	*Photo documentation*	Take digital photos of the exterior of the building. Take overall and specific condition photos yearly to document the exterior condition of the building. Label clearly and store in maintenance files for review before inspections next year.		
		Interior features		
X	*Metals: Hinges, Door and Window Hardware*	Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes. Check for loose, damaged or missing sections.		Door @ SW room on 3rd floor doesn't open
X	*Glass*	Check for cracked or broken panes of glass. Where cracked glass is loose, replace. Replace all broken glass. Inspect UV Glass in Bartram House.		
X	*Paint*	Check for worn or bare spots, blistering, peeling, mildew. Check where moisture is entering wood and stop leaks. Wash mildew with fungicide.		Paint @ stair risers, window trim @ 3rd floor
X	*Caulking Compound*	Check caulking for brittle, cracked or missing pieces. Check putty for cracks or missing pieces.		
X	*Woodwork: Doors, Windows, Trim, Paneling, Flooring, Stairs and Railings*	Check for moisture damage, warping, splitting, unsound joints. Check window putty for cracks or missing sections. If wood is decayed, determine source of moisture, stop leaks. Examine for damaged, missing molding, secure connections. Check floors for warping, excessive wear, damage. Check for loose attachments of hardware, reattach as necessary. Examine alignment of stairs and railings, look for excessive wear, deterioration. Clean windows every 3 months. Grease doors in Maintenance Barn. Oil hinges in Barn/Education.		Paint peeling. Stair risers in need of a touch-up. Kitchen loor in need of Repair
X	*Plaster: Ceilings, walls*	Check for cracks, chips, water stains.		2nd floor North window water damage above bathroom. General plaster repair. Must address moisture and squirrels first. Ongoing problems with rising damp.
X	*Fireplaces*	Inspect damper, flue for operability/cleanliness.		
X	*HVAC*	Check for leaks in water heater, drain to reduce sediment build-up. Check temperature setting, safety mechanisms. Check metal ductwork for holes, loose connections. Keep air handlers clear of debris/exhaust. Ensure HVAC units are regularly inspected by a qualified professional at least annually. Change filters as needed. Check vent hood in kitchen.		Outdated HVAC system. Moisture a problem, need dehumidification.
X	*Plumbing: Vents, Fixtures, Water supply, dishwasher*	Check water, waste and vent piping and fittings. Visually inspect for leaks, corrosion, damage. Check fixtures for drips, leaks, ease of operation. Check kitchen sinks, disposal equipment. Check spigots on exterior of buildings. Turn on water in Maintenance Barn in spring, drain pipes in fall.		Bathrooms in need of repair and upgrade
X	*Electric: Lighting and Wiring*	Check interior incandescent and florescent blubs, replace if burned out. Check fittings and wall connections. Check electrical outlets for damage, secure plate connections. Check smoke detectors.		
X	*Security monitoring*	Check security monitoring, test annually, ensure regular inspection by licensed professional.		
X	*Fire extinguishers*	Test proper operation, recharge and replace as needed		
X	*Trash Pick Up*	Pick up trash daily, remove all trash daily from building		
X	*Photo documentation*	Take digital photos of the interior of the building. Take overall and specific condition photos yearly to document the interior condition of the building. Label clearly and store in maintenance files for review before inspections next year.		
	Other Notes:	Basement door was locked, couldn't access		

Coach House & Seed House				
	Building Envelope		**Date completed**	**Notes**
X	*Window Wells, Stoops, Stairs, Landings, Exterior Porches, Siding*	Check condition of window and trim. Remove leaves and debris. Check for standing water. Unclog any drains at bottom of window wells. If standing water is a regular occurrence, keep area dry. Check for level surfaces, alignment, dirt, damage, discoloration on landings, stairs and porches. Check wood window well covers for tight fit, repair, repaint as needed.	All Inspected 4/25 by Facilities Committee	Clean leaves in window well on SE façade
X	*Masonry, Including Brick & Stonework*	Check for moist areas, cracks, crumbling material, loose pieces, missing mortar, efflorescence (white discoloration). Check where moisture is entering masonry and repair any leaks in roofing, cornice, flashing, downspouts, joints between masonry and other materials.		Very good shape overall, some biogrowth on courtyard where water runs off roof onto masonry wall
X	*Stucco & Concrete*	Check for moist areas, cracks, loose pieces or crumbling stucco or concrete.		
X	*Wood Roofing Shingles*	Check for worn, loose, or missing shingles. Keep roofs free of leaves, moss, fungi, and debris.		Significant biogrowth. Monitor.
X	*Metals: Flashing, Locks, Hinges & Other Elements*	Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes. Check for loose, damaged or missing sections. Check substrate underneath for moisture damage, especially at attachment points.		
X	*Water Conduction Systems: Gutters, Downspouts, Drains, Scuppers*	Test for leaks or blocked sections of water conduction systems. Clean system of any blockages and repair leaks. Remove leaves and other debris in Spring and after leaves fall. Check for any loose or missing gutters, downspouts or other system components.		
X	*Caulking Compound*	Check caulking for brittle, cracked or missing pieces.		
X	*Woodwork: Doors, Windows, Shutters, Cornice, Porches, Fascia Trim, Siding*	Check for moisture damage, warping, splitting, unsound joints. Check window putty for cracks or missing sections. . Repair unsound or loosened joints. Replace missing wooden elements to match original in dimensions, species, workmanship, and finish. Check putty for cracks or missing pieces. Check for loose attachments of hardware. Reattach as necessary. Grease door/track hinges in Maintenance Barn. Oil hinges on doors in Barn/education building.		
X	*Storm/Screen Windows if installed*	Remove debris; unclog drainage slots in frames. Check for loose joints, deteriorated paint, corrosion, holes, moisture damage, and wear. Repair any loose joints or attachments.		
X	*Glass*	Check for cracked or broken panes of glass. Where cracked glass is loose, replace. Replace all broken glass.		
X	*Paint*	Check for worn or bare spots, blistering, peeling, mildew. Check where moisture is entering wood and stop leaks. Wash mildew with fungicide.		
X	*Exterior Light Fixtures if installed*	Check for deteriorated paint, rust, corrosion, moisture damage, and wear. Repair any loose joints, weak links, attachments or hardware. When metal finish deteriorates, match original.		
X	*Structural Checkpoints*	Check exposed exterior and interior surfaces of walls and foundations, with particular attention to areas of stairway, floor and wall openings, and changes in wall masonry material. Check for cracks, collapsing, leaning or bulging areas or other signs of uneven settlement, movement or structural deterioration. Check interior wall surfaces at upper levels, with particular attention to joints between side and front and rear walls, joints between floors and end walls, and joints between partitions and ceilings. Check for cracks, crumbled plaster, gaps, or other signs of movement.		
X	*Termites*	Inspect building for termites and other wood-damaging insects. Note evidence of insect activity: small holes in the wood, small piles of sawdust, clay tubes on pieces of wood, or actual insects.		
X	*Pest Management*	Check for nests, holes, animal droppings and material decay. Inspection by Integrated Pest Management company monthly.		

	Building Envelope		Date completed	Notes
X	*Photo documentation*	Take digital photos of the exterior of the building. Take overall and specific condition photos yearly to document the exterior condition of the building. Label clearly and store in maintenance files for review before inspections next year.		
		Interior features		
x	*Metals: Hinges, Door and Window Hardware*	Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes. Check for loose, damaged or missing sections.		
X	*Glass*	Check for cracked or broken panes of glass. Where cracked glass is loose, replace. Replace all broken glass. Inspect UV Glass in Bartram House.		
X	*Paint*	Check for worn or bare spots, blistering, peeling, mildew. Check where moisture is entering wood and stop leaks. Wash mildew with fungicide.		Archives: Paint peeling ductwork
X	*Caulking Compound*	Check caulking for brittle, cracked or missing pieces. Check putty for cracks or missing pieces.		
X	*Woodwork: Doors, Windows, Trim, Paneling, Flooring, Stairs and Railings*	Check for moisture damage, warping, splitting, unsound joints. Check window putty for cracks or missing sections. If wood is decayed, determine source of moisture, stop leaks. Examine for damaged, missing molding, secure connections. Check floors for warping, excessive wear, damage. Check for loose attachments of hardware, reattach as necessary. Examine alignment of stairs and railings, look for excessive wear, deterioration. Clean windows every 3 months. Grease doors in Maintenance Barn. Oil hinges in Barn/Education.		Refinish floor on stair treads leading to archives. Concern about floor in far south room of seed house.
X	*Plaster: Ceilings, walls*	Check for cracks, chips, water stains.		Damage in stairways to ice pit as well as up to archives, moisture damage, dripping from HVAC. In need of cosmetic repairs.
x	*HVAC*	Check for leaks in water heater, drain to reduce sediment build-up. Check temperature setting, safety mechanisms. Check metal ductwork for holes, loose connections. Keep air handlers clear of debris/exhaust. Ensure HVAC units are regularly inspected by a qualified professional at least annually. Change filters as needed. Check vent hood in kitchen.		HVAC leaks, pan cracked, dust on coils. Room needs a general clean out. In need of a maintenance solution to clogs.
X	*Plumbing: Vents, Fixtures, Water supply, dishwasher*	Check water, waste and vent piping and fittings. Visually inspect for leaks, corrosion, damage. Check fixtures for drips, leaks, ease of operation. Check kitchen sinks, disposal equipment. Check spigots on exterior of buildings. Turn on water in Maintenance Barn in spring, drain pipes in fall.		Kitchen single plumbing damage, water runs on masonry in basement, possible damange, sinking bricks below area to repair/relay
X	*Electric: Lighting and Wiring*	Check interior incandescent and florescent blubs, replace if burned out. Check fittings and wall connections. Check electrical outlets for damage, secure plate connections. Check smoke detectors.		Label electrical panels in seed house
X	*Security monitoring*	Check security monitoring, test annually, ensure regular inspection by licensed professional.		
X	*Fire extinguishers*	Test proper operation, recharge and replace as needed		
X	*Trash Pick Up*	Pick up trash daily, remove all trash daily from building		
X	*Photo documentation*	Take digital photos of the interior of the building. Take overall and specific condition photos yearly to document the interior condition of the building. Label clearly and store in maintenance files for review before inspections next year.		
	Other Notes	Technology: dust protection in closet near archives, general organization? Water stains on carpet in Archives. What is door with hinges that locks on SE façade in the seed house?		

Barn/education office				
	Building Envelope		**Date completed**	**Notes**
X	*Window Wells, Stoops, Stairs, Landings, Exterior Porches, Siding*	Check condition of window and trim. Remove leaves and debris. Check for standing water. Unclog any drains at bottom of window wells. If standing water is a regular occurrence, keep area dry. Check for level surfaces, alignment, dirt, damage, discoloration on landings, stairs and porches. Check wood window well covers for tight fit, repair, repaint as needed.	All Inspected 4/25 by Facilities Committee	
X	*Masonry, Including Brick & Stonework*	Check for moist areas, cracks, crumbling material, loose pieces, missing mortar, efflorescence (white discoloration). Check where moisture is entering masonry and repair any leaks in roofing, cornice, flashing, downspouts, joints between masonry and other materials.		Painting west wall cracking south wall, and all walls. South courtyard wall in good condition. Portland cement on Barn; general need for patch pointing
X	*Stucco & Concrete*	Check for moist areas, cracks, loose pieces or crumbling stucco or concrete.		
X	*Lead Coated Copper & Metal Roofing*	Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes. Check for loose, damaged or missing sections.		
X	*Wood Roofing Shingles*	Check for worn, loose, or missing shingles. Keep roofs free of leaves, moss, fungi, and debris.		Significant crack @ ridge
X	*Metals: Flashing, Locks, Hinges & Other Elements*	Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes. Check for loose, damaged or missing sections. Check substrate underneath for moisture damage, especially at attachment points.		
x	*Water Conduction Systems: Gutters, Downspouts, Drains, Scuppers*	Test for leaks or blocked sections of water conduction systems. Clean system of any blockages and repair leaks. Remove leaves and other debris in Spring and after leaves fall. Check for any loose or missing gutters, downspouts or other system components.		
X	*Caulking Compound*	Check caulking for brittle, cracked or missing pieces.		
X	*Woodwork: Doors, Windows, Shutters, Cornice, Porches, Fascia Trim, Siding*	Check for moisture damage, warping, splitting, unsound joints. Check window putty for cracks or missing sections. . Repair unsound or loosened joints. Replace missing wooden elements to match original in dimensions, species, workmanship, and finish. Check putty for cracks or missing pieces. Check for loose attachments of hardware. Reattach as necessary. Grease door/track hinges in Maintenance Barn. Oil hinges on doors in Barn/education building.		Painting of exterior woodwork. Outside walls, treatment for wood? What is the life of wood slats? Has it been 20 years?
X	*Storm/Screen Windows if installed*	Remove debris; unclog drainage slots in frames. Check for loose joints, deteriorated paint, corrosion, holes, moisture damage, and wear. Repair any loose joints or attachments.		
X	*Glass*	Check for cracked or broken panes of glass. Where cracked glass is loose, replace. Replace all broken glass.		
X	*Paint*	Check for worn or bare spots, blistering, peeling, mildew. Check where moisture is entering wood and stop leaks. Wash mildew with fungicide.		Need for painting on the education building
X*	*Exterior Light Fixtures if installed*	Check for deteriorated paint, rust, corrosion, moisture damage, and wear. Repair any loose joints, weak links, attachments or hardware. When metal finish deteriorates, match original.		
X	*Structural Checkpoints*	Check exposed exterior and interior surfaces of walls and foundations, with particular attention to areas of stairway, floor and wall openings, and changes in wall masonry material. Check for cracks, collapsing, leaning or bulging areas or other signs of uneven settlement, movement or structural deterioration. Check interior wall surfaces at upper levels, with particular attention to joints between side and front and rear walls, joints between floors and end walls, and joints between partitions and ceilings. Check for cracks, crumbled plaster, gaps, or other signs of movement.		

	Building Envelope		Date completed	Notes
X	*Termites*	Inspect building for termites and other wood-damaging insects. Note evidence of insect activity: small holes in the wood, small piles of sawdust, clay tubes on pieces of wood, or actual insects.		
X	*Pest Management*	Check for nests, holes, animal droppings and material decay. Inspection by Integrated Pest Management company monthly.		
X	*Photo documentation*	Take digital photos of the exterior of the building. Take overall and specific condition photos yearly to document the exterior condition of the building. Label clearly and store in maintenance files for review before inspections next year.		
		Interior features		
X	*Metals: Hinges, Door and Window Hardware*	Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes. Check for loose, damaged or missing sections.		
X	*Glass*	Check for cracked or broken panes of glass. Where cracked glass is loose, replace. Replace all broken glass. Inspect UV Glass in Bartram House.		
X	*Paint*	Check for worn or bare spots, blistering, peeling, mildew. Check where moisture is entering wood and stop leaks. Wash mildew with fungicide.		When was this painted?
X	*Caulking Compound*	Check caulking for brittle, cracked or missing pieces. Check putty for cracks or missing pieces.		
X	*Woodwork: Doors, Windows, Trim, Paneling, Flooring, Stairs and Railings*	Check for moisture damage, warping, splitting, unsound joints. Check window putty for cracks or missing sections. If wood is decayed, determine source of moisture, stop leaks. Examine for damaged, missing molding, secure connections. Check floors for warping, excessive wear, damage. Check for loose attachments of hardware, reattach as necessary. Examine alignment of stairs and railings, look for excessive wear, deterioration. Clean windows every 3 months. Grease doors in Maintenance Barn. Oil hinges in Barn/Education.		Floor caulking-joints (material) repairs
X	*Plaster: Ceilings, walls*	Check for cracks, chips, water stains.		Crack on SE corner
X	*HVAC*	Check for leaks in water heater, drain to reduce sediment build-up. Check temperature setting, safety mechanisms. Check metal ductwork for holes, loose connections. Keep air handlers clear of debris/exhaust. Ensure HVAC units are regularly inspected by a qualified professional at least annually. Change filters as needed. Check vent hood in kitchen.		HVAC leaking on steps. Drainage path?
X	*Plumbing: Vents, Fixtures, Water supply, dishwasher*	Check water, waste and vent piping and fittings. Visually inspect for leaks, corrosion, damage. Check fixtures for drips, leaks, ease of operation. Check kitchen sinks, disposal equipment. Check spigots on exterior of buildings. Turn on water in Maintenance Barn in spring, drain pipes in fall.		Bathrooms smell like a barn and leak. I need of replacement. Plumbing a major problem
X	*Electric: Lighting and Wiring*	Check interior incandescent and florescent blubs, replace if burned out. Check fittings and wall connections. Check electrical outlets for damage, secure plate connections. Check smoke detectors.		
X	*Security monitoring*	Check security monitoring, test annually, ensure regular inspection by licensed professional.		
X	*Fire extinguishers*	Test proper operation, recharge and replace as needed		
X	*Trash Pick Up*	Pick up trash daily, remove all trash daily from building		
X	*Photo documentation*	Take digital photos of the interior of the building. Take overall and specific condition photos yearly to document the interior condition of the building. Label clearly and store in maintenance files for review before inspections next year.		

Stable & Dovecote				
	Building Envelope		**Date completed**	**Notes**
X	*Window Wells, Stoops, Stairs, Landings, Exterior Porches, Siding*	Check condition of window and trim. Remove leaves and debris. Check for standing water. Unclog any drains at bottom of window wells. If standing water is a regular occurrence, keep area dry. Check for level surfaces, alignment, dirt, damage, discoloration on landings, stairs and porches. Check wood window well covers for tight fit, repair, repaint as needed.	All Inspected 4/25 by Facilities Committee	
X	*Masonry, Including Brick & Stonework*	Check for moist areas, cracks, crumbling material, loose pieces, missing mortar, efflorescence (white discoloration). Check where moisture is entering masonry and repair any leaks in roofing, cornice, flashing, downspouts, joints between masonry and other materials.		
X	*Stucco & Concrete*	Check for moist areas, cracks, loose pieces or crumbling stucco or concrete.		
X	*Wood Roofing Shingles*	Check for worn, loose, or missing shingles. Keep roofs free of leaves, moss, fungi, and debris.		
X	*Metals: Flashing, Locks, Hinges & Other Elements*	Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes. Check for loose, damaged or missing sections. Check substrate underneath for moisture damage, especially at attachment points.		
X	*Water Conduction Systems: Gutters, Downspouts, Drains, Scuppers*	Test for leaks or blocked sections of water conduction systems. Clean system of any blockages and repair leaks. Remove leaves and other debris in Spring and after leaves fall. Check for any loose or missing gutters, downspouts or other system components.		
X	*Caulking Compound*	Check caulking for brittle, cracked or missing pieces.		
X	*Woodwork: Doors, Windows, Shutters, Cornice, Porches, Fascia Trim, Siding*	Check for moisture damage, warping, splitting, unsound joints. Check window putty for cracks or missing sections. . Repair unsound or loosened joints. Replace missing wooden elements to match original in dimensions, species, workmanship, and finish. Check putty for cracks or missing pieces. Check for loose attachments of hardware. Reattach as necessary. Grease door/track hinges in Maintenance Barn. Oil hinges on doors in Barn/education building.		
X	*Glass*	Check for cracked or broken panes of glass. Where cracked glass is loose, replace. Replace all broken glass.		
X	*Paint*	Check for worn or bare spots, blistering, peeling, mildew. Check where moisture is entering wood and stop leaks. Wash mildew with fungicide.		What is our expectation for painting & repair? For this
X	*Exterior Light Fixtures if installed*	Check for deteriorated paint, rust, corrosion, moisture damage, and wear. Repair any loose joints, weak links, attachments or hardware. When metal finish deteriorates, match original.		
X	*Structural Checkpoints*	Check exposed exterior and interior surfaces of walls and foundations, with particular attention to areas of stairway, floor and wall openings, and changes in wall masonry material. Check for cracks, collapsing, leaning or bulging areas or other signs of uneven settlement, movement or structural deterioration. Check interior wall surfaces at upper levels, with particular attention to joints between side and front and rear walls, joints between floors and end walls, and joints between partitions and ceilings. Check for cracks, crumbled plaster, gaps, or other signs of movement.		
X	*Termites*	Inspect building for termites and other wood-damaging insects. Note evidence of insect activity: small holes in the wood, small piles of sawdust, clay tubes on pieces of wood, or actual insects.		
X	*Pest Management*	Check for nests, holes, animal droppings and material decay. Inspection by Integrated Pest Management company monthly.		
X	*Photo documentation*	Take digital photos of the exterior of the building. Take overall and specific condition photos yearly to document the exterior condition of the building. Label clearly and store in maintenance files for review before inspections next year.		
	Interior features			
X	*Metals: Hinges, Door and Window Hardware*	Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes. Check for loose, damaged or missing sections.		
X	*Glass*	Check for cracked or broken panes of glass. Where cracked glass is loose, replace. Replace all broken glass. Inspect UV Glass in Bartram House.		
X	*Paint*	Check for worn or bare spots, blistering, peeling, mildew. Check where moisture is entering wood and stop leaks. Wash mildew with fungicide.		

	Building Envelope		**Date completed**	**Notes**
X	*Caulking Compound*	Check caulking for brittle, cracked or missing pieces. Check putty for cracks or missing pieces.		
X	*Woodwork: Doors, Windows, Trim, Paneling, Flooring, Stairs and Railings*	Check for moisture damage, warping, splitting, unsound joints. Check window putty for cracks or missing sections. If wood is decayed, determine source of moisture, stop leaks. Examine for damaged, missing molding, secure connections. Check floors for warping, excessive wear, damage. Check for loose attachments of hardware, reattach as necessary. Examine alignment of stairs and railings, look for excessive wear, deterioration. Clean windows every 3 months. Grease doors in Maintenance Barn. Oil hinges in Barn/Education.		
X	*Plaster: Ceilings, walls*	Check for cracks, chips, water stains.		
X	*HVAC*	Check for leaks in water heater, drain to reduce sediment build-up. Check temperature setting, safety mechanisms. Check metal ductwork for holes, loose connections. Keep air handlers clear of debris/exhaust. Ensure HVAC units are regularly inspected by a qualified professional at least annually. Change filters as needed. Check vent hood in kitchen.		
X	*Plumbing: Vents, Fixtures, Water supply, dishwasher*	Check water, waste and vent piping and fittings. Visually inspect for leaks, corrosion, damage. Check fixtures for drips, leaks, ease of operation. Check kitchen sinks, disposal equipment. Check spigots on exterior of buildings. Turn on water in Maintenance Barn in spring, drain pipes in fall.		
X	*Electric: Lighting and Wiring*	Check interior incandescent and florescent blubs, replace if burned out. Check fittings and wall connections. Check electrical outlets for damage, secure plate connections. Check smoke detectors.		
X	*Security monitoring*	Check security monitoring, test annually, ensure regular inspection by licensed professional.		
X	*Fire extinguishers*	Test proper operation, recharge and replace as needed		
X	*Trash Pick Up*	Pick up trash daily, remove all trash daily from building		
X	*Photo documentation*	Take digital photos of the interior of the building. Take overall and specific condition photos yearly to document the interior condition of the building. Label clearly and store in maintenance files for review before inspections next year.		
	Note: Planned repurpose for orientation.			

A				
	Building Envelope		**Date completed**	**Notes**
X	*Window Wells, Stoops, Stairs, Landings, Exterior Porches, Siding*	Check condition of window and trim. Remove leaves and debris. Check for standing water. Unclog any drains at bottom of window wells. If standing water is a regular occurrence, keep area dry. Check for level surfaces, alignment, dirt, damage, discoloration on landings, stairs and porches. Check wood window well covers for tight fit, repair, repaint as needed.	Inspected by Facilities Committee on 4/25	
X	*Stucco & Concrete*	Check for moist areas, cracks, loose pieces or crumbling stucco or concrete.		
X	*Lead Coated Copper & Metal Roofing*	Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes. Check for loose, damaged or missing sections.		Snow Guards need to be replaced
X	*Metals: Flashing, Locks, Hinges & Other Elements*	Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes. Check for loose, damaged or missing sections. Check substrate underneath for moisture damage, especially at attachment points.		
x	*Caulking Compound*	Check caulking for brittle, cracked or missing pieces.		
X	*Woodwork: Doors, Windows, Shutters, Cornice, Porches, Fascia Trim, Siding*	Check for moisture damage, warping, splitting, unsound joints. Check window putty for cracks or missing sections. . Repair unsound or loosened joints. Replace missing wooden elements to match original in dimensions, species, workmanship, and finish. Check putty for cracks or missing pieces. Check for loose attachments of hardware. Reattach as necessary. Grease door/track hinges in Maintenance Barn. Oil hinges on doors in Barn/education building.		
X	*Storm/Screen Windows if installed*	Remove debris; unclog drainage slots in frames. Check for loose joints, deteriorated paint, corrosion, holes, moisture damage, and wear. Repair any loose joints or attachments.		
X	*Corrugated Plastic Sheeting*	Check for cracks or breaks in panels, repair or replace if loose or broken.		
X	*Glass*	Check for cracked or broken panes of glass. Where cracked glass is loose, replace. Replace all broken glass.		
X	*Paint*	Check for worn or bare spots, blistering, peeling, mildew. Check where moisture is entering wood and stop leaks. Wash mildew with fungicide.		
X	*Exterior Light Fixtures if installed*	Check for deteriorated paint, rust, corrosion, moisture damage, and wear. Repair any loose joints, weak links, attachments or hardware. When metal finish deteriorates, match original.		
X	*Structural Checkpoints*	Check exposed exterior and interior surfaces of walls and foundations, with particular attention to areas of stairway, floor and wall openings, and changes in wall masonry material. Check for cracks, collapsing, leaning or bulging areas or other signs of uneven settlement, movement or structural deterioration. Check interior wall surfaces at upper levels, with particular attention to joints between side and front and rear walls, joints between floors and end walls, and joints between partitions and ceilings. Check for cracks, crumbled plaster, gaps, or other signs of movement.		

	Building Envelope		Date completed	Notes
X	*Termites*	Inspect building for termites and other wood-damaging insects. Note evidence of insect activity: small holes in the wood, small piles of sawdust, clay tubes on pieces of wood, or actual insects.		
X	*Pest Management*	Check for nests, holes, animal droppings and material decay. Inspection by Integrated Pest Management company monthly.		Birds nests need to be removed. Also wasp nest
X	*Photo documentation*	Take digital photos of the exterior of the building. Take overall and specific condition photos yearly to document the exterior condition of the building. Label clearly and store in maintenance files for review before inspections next year.		
		Interior features		
X	*Metals: Hinges, Door and Window Hardware*	Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes. Check for loose, damaged or missing sections.		
X	*Glass*	Check for cracked or broken panes of glass. Where cracked glass is loose, replace. Replace all broken glass. Inspect UV Glass in Bartram House.		
X	*Paint*	Check for worn or bare spots, blistering, peeling, mildew. Check where moisture is entering wood and stop leaks. Wash mildew with fungicide.		
X	*Caulking Compound*	Check caulking for brittle, cracked or missing pieces. Check putty for cracks or missing pieces.		
X	*Woodwork: Doors, Windows, Trim, Paneling, Flooring, Stairs and Railings*	Check for moisture damage, warping, splitting, unsound joints. Check window putty for cracks or missing sections. If wood is decayed, determine source of moisture, stop leaks. Examine for damaged, missing molding, secure connections. Check floors for warping, excessive wear, damage. Check for loose attachments of hardware, reattach as necessary. Examine alignment of stairs and railings, look for excessive wear, deterioration. Clean windows every 3 months. Grease doors in Maintenance Barn. Oil hinges in Barn/Education.		
X	*HVAC*	Check for leaks in water heater, drain to reduce sediment build-up. Check temperature setting, safety mechanisms. Check metal ductwork for holes, loose connections. Keep air handlers clear of debris/exhaust. Ensure HVAC units are regularly inspected by a qualified professional at least annually. Change filters as needed. Check vent hood in kitchen.		
X	*Plumbing: Vents, Fixtures, Water supply, dishwasher*	Check water, waste and vent piping and fittings. Visually inspect for leaks, corrosion, damage. Check fixtures for drips, leaks, ease of operation. Check kitchen sinks, disposal equipment. Check spigots on exterior of buildings. Turn on water in Maintenance Barn in spring, drain pipes in fall.		Sewer pump fails every 2-3 years. Remove hoses from basement. Dusty floors.
X	*Electric: Lighting and Wiring*	Check interior incandescent and florescent blubs, replace if burned out. Check fittings and wall connections. Check electrical outlets for damage, secure plate connections. Check smoke detectors.		
X	*Security monitoring*	Check security monitoring, test annually, ensure regular inspection by licensed professional.		
X	*Fire extinguishers*	Test proper operation, recharge and replace as needed		
X	*Trash Pick Up*	Pick up trash daily, remove all trash daily from building		
X	*Photo documentation*	Take digital photos of the interior of the building. Take overall and specific condition photos yearly to document the interior condition of the building. Label clearly and store in maintenance files for review before inspections next year.		

Horticulture Barn				
	Building Envelope		**Date completed**	**Notes**
X	*Window Wells, Stoops, Stairs, Landings, Exterior Porches, Siding*	Check condition of window and trim. Remove leaves and debris. Check for standing water. Unclog any drains at bottom of window wells. If standing water is a regular occurrence, keep area dry. Check for level surfaces, alignment, dirt, damage, discoloration on landings, stairs and porches. Check wood window well covers for tight fit, repair, repaint as needed.	Inspected by Facilities Committee on 4/25	
X	*Stucco & Concrete*	Check for moist areas, cracks, loose pieces or crumbling stucco or concrete.		
X	*Lead Coated Copper & Metal Roofing*	Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes. Check for loose, damaged or missing sections.		Replace Snow Guards
X	*Metals: Flashing, Locks, Hinges & Other Elements*	Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes. Check for loose, damaged or missing sections. Check substrate underneath for moisture damage, especially at attachment points.		
x	*Caulking Compound*	Check caulking for brittle, cracked or missing pieces.		
X	*Woodwork: Doors, Windows, Shutters, Cornice, Porches, Fascia Trim, Siding*	Check for moisture damage, warping, splitting, unsound joints. Check window putty for cracks or missing sections. . Repair unsound or loosened joints. Replace missing wooden elements to match original in dimensions, species, workmanship, and finish. Check putty for cracks or missing pieces. Check for loose attachments of hardware. Reattach as necessary. Grease door/track hinges in Maintenance Barn. Oil hinges on doors in Barn/education building.		
X	*Storm/Screen Windows if installed*	Remove debris; unclog drainage slots in frames. Check for loose joints, deteriorated paint, corrosion, holes, moisture damage, and wear. Repair any loose joints or attachments.		
X	*Corrugated Plastic Sheeting*	Check for cracks or breaks in panels, repair or replace if loose or broken.		
X	*Glass*	Check for cracked or broken panes of glass. Where cracked glass is loose, replace. Replace all broken glass.		
X	*Paint*	Check for worn or bare spots, blistering, peeling, mildew. Check where moisture is entering wood and stop leaks. Wash mildew with fungicide.		
X	*Exterior Light Fixtures if installed*	Check for deteriorated paint, rust, corrosion, moisture damage, and wear. Repair any loose joints, weak links, attachments or hardware. When metal finish deteriorates, match original.		
X	*Structural Checkpoints*	Check exposed exterior and interior surfaces of walls and foundations, with particular attention to areas of stairway, floor and wall openings, and changes in wall masonry material. Check for cracks, collapsing, leaning or bulging areas or other signs of uneven settlement, movement or structural deterioration. Check interior wall surfaces at upper levels, with particular attention to joints between side and front and rear walls, joints between floors and end walls, and joints between partitions and ceilings. Check for cracks, crumbled plaster, gaps, or other signs of movement.		
X	*Termites*	Inspect building for termites and other wood-damaging insects. Note evidence of insect activity: small holes in the wood, small piles of sawdust, clay tubes on pieces of wood, or actual insects.		

	Building Envelope		**Date completed**	**Notes**
X	*Pest Management*	Check for nests, holes, animal droppings and material decay. Inspection by Integrated Pest Management company monthly.		Remove Birds Nests.
X	*Photo documentation*	Take digital photos of the exterior of the building. Take overall and specific condition photos yearly to document the exterior condition of the building. Label clearly and store in maintenance files for review before inspections next year.		
		Interior features		
X	*Metals: Hinges, Door and Window Hardware*	Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear or deteriorated finishes. Check for loose, damaged or missing sections.		
X	*Glass*	Check for cracked or broken panes of glass. Where cracked glass is loose, replace. Replace all broken glass. Inspect UV Glass in Bartram House.		
X	*Paint*	Check for worn or bare spots, blistering, peeling, mildew. Check where moisture is entering wood and stop leaks. Wash mildew with fungicide.		
X	*Caulking Compound*	Check caulking for brittle, cracked or missing pieces. Check putty for cracks or missing pieces.		
X	*Woodwork: Doors, Windows, Trim, Paneling, Flooring, Stairs and Railings*	Check for moisture damage, warping, splitting, unsound joints. Check window putty for cracks or missing sections. If wood is decayed, determine source of moisture, stop leaks. Examine for damaged, missing molding, secure connections. Check floors for warping, excessive wear, damage. Check for loose attachments of hardware, reattach as necessary. Examine alignment of stairs and railings, look for excessive wear, deterioration. Clean windows every 3 months. Grease doors in Maintenance Barn. Oil hinges in Barn/Education.		
X	*HVAC*	Check for leaks in water heater, drain to reduce sediment build-up. Check temperature setting, safety mechanisms. Check metal ductwork for holes, loose connections. Keep air handlers clear of debris/exhaust. Ensure HVAC units are regularly inspected by a qualified professional at least annually. Change filters as needed. Check vent hood in kitchen.		
X	*Plumbing: Vents, Fixtures, Water supply, dishwasher*	Check water, waste and vent piping and fittings. Visually inspect for leaks, corrosion, damage. Check fixtures for drips, leaks, ease of operation. Check kitchen sinks, disposal equipment. Check spigots on exterior of buildings. Turn on water in Maintenance Barn in spring, drain pipes in fall.		
X	*Electric: Lighting and Wiring*	Check interior incandescent and florescent blubs, replace if burned out. Check fittings and wall connections. Check electrical outlets for damage, secure plate connections. Check smoke detectors.		
X	*Security monitoring*	Check security monitoring, test annually, ensure regular inspection by licensed professional.		
X	*Fire extinguishers*	Test proper operation, recharge and replace as needed		
X	*Trash Pick Up*	Pick up trash daily, remove all trash daily from building		
X	*Photo documentation*	Take digital photos of the interior of the building. Take overall and specific condition photos yearly to document the interior condition of the building. Label clearly and store in maintenance files for review before inspections next year.		