



CYCLICAL MAINTENANCE MANUAL FOR HISTORIC BARTRAM'S GARDEN



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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 safe guarded 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.”¹

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

¹ 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>.

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 spread sheet 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. **WOOD ROOFING SHINGLES**

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. **METALS: E.G., FLASHING, LEAD COATED COPPER STANDING SEAM METAL ROOF, OTHER METAL ROOFS**

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 loose snow guards with mechanically fastened snow guards as needed.

6. **WATER CONDUCTION SYSTEMS: GUTTERS, DOWNSPOUTS, DRAINS, SCUPPERS**

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. **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 should be factory mixed color to match adjacent construction or shall be paintable.

8. **WOODWORK: DOORS, WINDOWS, SHUTTERS, CORNICE, PORCHES, TRIM, SIDING, WINDOW WELL COVERS**

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. **STORM/SCREEN WINDOWS (as installed)**

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. **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 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. STRUCTURAL CHECKPOINTS

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. TERMITES

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. **ELECTRIC (LIGHTING, WIRING, VENTS, SECURITY MONITORING)**

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. **FIRE EXTINGUISHERS**

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.

Additional material was obtained from:

Colorado Historical Society, "Historic Properties Maintenance Plan and Historic Properties Maintenance Checklist," Humphries Poli Architects, 2002.

<http://www.coloradohistory-oahp.org/programareas/shf/plan.htm>

"Care and Maintenance of Your Fire Extinguisher." *Fire Extinguisher: 101*. Web. 05 Aug. 2010. <http://www.fire-extinguisher101.com/careandmaintenance.html>.

"How-To - Old Plaster - Replace, Fix Cracks, Repair Holes." *Home Remodeling, Repair and Improvement - Products, Ideas and How-To Tips*. Web. 05 Aug. 2010. <http://www.oldhouseweb.com/how-to-advice/walls-and-ceilings/repairing-old-plaster/>.

MacDonald, Mary L. "Preservation Brief 21: Repairing Historic Flat Plaster--Walls and Ceilings." *U.S. National Park Service - Technical Preservation Services*. National Park Service, Oct. 1989. Web. 05 Aug. 2010. <http://www.nps.gov/hps/tps/briefs/brief21.htm>.

National Park Service. "Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines for Rehabilitating Historic Buildings- Building Mechanical Systems." *U.S. National Park Service - Technical Preservation Services*. Web. 05 Aug. 2010. <http://www.nps.gov/hps/tps/tax/rhb/mechanical01.htm>.

Park, Sharon C. "Preservation Brief 24: Heating, Ventilating, and Cooling Historic Buildings: Problems and Recommended Approaches." *U.S. National Park Service - Technical Preservation Services*. Oct. 1991. Web. 05 Aug. 2010. [http://www.nps.gov/hps/tps/briefs/brief24.htm#HVAC Do's and Don'ts](http://www.nps.gov/hps/tps/briefs/brief24.htm#HVAC%20Do's%20and%20Don'ts).

Vermont Division for Historic Preservation Office, "Inspection Checklist for Historic Buildings," no date. <http://www.historicvermont.org/general/Checklist.pdf>

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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 DArchitects.