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Case Studies

# Olmsted Park System Jamaica Pond Boathouse

Jamaica Plain, Massachusetts

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## *Planning for Preservation of the Boathouse Roof*





Preservation  
Case Studies

Olmsted Park System  
Jamaica Pond Boathouse  
Jamaica Plain, Massachusetts

*Planning for Preservation  
of the Boathouse Roof*

By Richard White, Architect/Planner

Heritage Conservation and Recreation Service  
Technical Preservation Services  
U.S. Department of the Interior  
Washington, D.C. 20243  
1979



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As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to insure the wise use of all these resources. The Department also has the major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. Administration.

**U.S. Department of the Interior**  
Cecil D. Andrus, Secretary  
Robert L. Herbst, Assistant Secretary

The Heritage Conservation and Recreation Service, a non-land managing agency within the Department, is responsible for assuring the identification, protection, and beneficial use of our important cultural, natural, and recreational resources. The Service offers grant assistance, technical information, and guidance to those in the public and private sectors involved in conservation or recreation projects.

**Heritage Conservation and Recreation Service**  
Chris T. Delaporte, Director

## Foreword

Designed by Frederick Law Olmsted in the last decades of the 19th century, the Olmsted Park System is an outstanding example of multi-use open space, encompassing the Back Bay Fens, Muddy River, Jamaica Park, Arborway, Olmsted (Leverett Park), and Franklin Park. The park system, linked by continuous parkways, provides a variety of recreational facilities to a large number of city residents.

It is most fitting that the Heritage Conservation and Recreation Service, whose task it is to identify, evaluate, and protect our Nation's cultural and natural resources and to assure our people adequate recreational opportunities, would participate in the preservation of a registered historic structure within a major park system. The Jamaica Pond Boathouse has served the public for 67 years, providing the focal point for the continuing use of Jamaica Park for such activities as winter ice-skating, summer sailing, boating, fishing, and picnicking. The boathouse itself includes a refreshment concession and restrooms. A path around Jamaica Pond, which has traditionally been used for strolling and pure scenic enjoyment, has also become a popular jogging route. It is estimated that 120,000 people use Jamaica Park annually.

The Heritage Conservation and Recreation Service is pleased to be involved in preservation projects such as this which combine our natural conservation, recreation, and historic preservation goals and interests. We are also pleased to include the Jamaica Pond Boathouse report as part of a series of reports providing responsible planning and technical information.

Chris T. Delaporte  
Director  
Heritage Conservation and  
Recreation Service

## Acknowledgments

The project for the preservation of the Jamaica Pond Boathouse roof involved a number of individuals and agencies. Victor B. Hagan, Director of the Public Facilities Department, with approval of Mayor Kevin H. White, city of Boston, initiated an application in 1975 for historic preservation grant-in-aid funds through Mrs. Elizabeth R. Amadon, the Massachusetts State Historic Preservation Officer at that time.

A \$16,000 matching grant-in-aid was awarded to the city in 1976 for needed project work on the boathouse, including historical research, site investigation and evaluation, photographic documentation, testing and analysis, chimney repointing, carpentry, roofing and flashing, painting, and architectural fees. Both Mrs. Patricia L. Weslowski, who has subsequently been appointed Massachusetts State Historic Preservation Officer, and Stuart Lesser, Chief Architect for the Public Facilities Department, City of Boston, were central to the successful completion of the project. Dr. Cynthia Zaitzevsky, Consultant in Architectural History, prepared the excellent historical background material that comprises Part 1 of the report. Dr. Judith E. Selwyn, Conservation Scientist, Director of Consulting Services, Society for the Preservation of New England Antiquities, conducted the paint and mortar analyses upon which my specifications for those items were based. Dr. Selwyn also consulted with workmen at the site at the time of the preparation of mortar for pointing. A unique aspect of the Jamaica Pond Boathouse facility is the presence of a resident custodian, Al Curtis. His day-to-day management of the boathouse contributes to the continuing success of a valuable recreational resource in the city.

Richard White

## Introduction

The Heritage Conservation and Recreation Service (HCRS) Historic Preservation Fund Grant-in-Aid Program is jointly administered with the States and Territories, the District of Columbia, and the National Trust for Historic Preservation for survey and planning and for the acquisition, protection, stabilization, preservation, rehabilitation, restoration, and reconstruction of properties listed in the National Register of Historic Places.

Matching grants of up to 50 percent are provided by HCRS for the preparation of comprehensive statewide surveys and for the acquisition and development of registered properties. States and Territories may transfer funds to local governments, private organizations, and individuals. When funds are transferred to private organizations and individuals, the public interest must be protected for a prescribed period of time. This is accomplished by deed covenants which guarantee continued maintenance of the property and public access. The administration of individual grant projects and supervision of project work are responsibilities of the State Historic Preservation Officer who is appointed by the Governor.

Technical Preservation Services, a division of HCRS, reviews and evaluates all grant-assisted acquisition and development projects submitted by the State Historic

Preservation offices to assure conformance with the Secretary of the Interior's Standards for Historic Preservation Projects (Appendix A). The division also provides technical assistance to the States through onsite monitoring and inspection of proposed, ongoing, and completed project work.

The project completion reports required of all grant recipients demonstrate how HCRS funds have been used, from the important planning component through the detailed recording of each area of project work. Photographs, sketches, or copies of the architect's final working drawings, when appropriate, are keyed into the text. The historical and technical information in project completion reports may be excerpted and published in part, or the reports published *in toto*.

Technical Preservation Services is committed to publishing and distributing to the States project completion reports that illustrate the specific processes used to document eligible project work treatments as defined in the Secretary's Standards. Additionally, one of our goals is to illustrate each of the seven treatments: acquisition, protection, stabilization, preservation, rehabilitation, restoration, and reconstruction. While the division selects exemplary project reports for publication that contain responsible technical information, it should

be stressed that "exemplary" need not mean complex, nor "technical" imply that only a few specialists will be able to understand the contents. The methods used to document a project successfully will vary depending upon the type and extent of proposed work.

We have found, however, that there is a noteworthy similarity between successful projects of varying complexity: the thoroughness of planning for actual project work and the organization and clarity of the planning documents themselves. Perhaps what offers the greatest assurance to those of us charged with protecting historic resources (other than seeing successful project work on site) is seeing a well thought out plan for project work demonstrating that (1) a reasonable scope of work has been established to best utilize often limited grant funds; (2) a responsible approach to the project work has been created through careful historical, architectural, and archeological documentation; and (3) a clear communication framework has been developed through the architect's drawings and specifications so that those people carrying out the work items may be specifically directed. Finally, a coherent report addressing both project planning and actual project work accomplished with grant funds is essential so that others may be able to adequately assess the future construction

and/or maintenance needs of the historic property.

The Jamaica Pond Boathouse roof preservation report represents such a carefully organized, well-presented plan for project work and it is this responsible planning process that we wish to emphasize.

Part 1 of the report consists of a brief history of the structure and its site. It provides valuable information about the site and the evolution of design ideas that preceded the construction of the boathouse. In other words, Part 1 puts the specific architectural and technical information presented in Part 2 into a total context, helping to create an awareness of the historical importance of the park and its related structures.

Part 2 includes detail photographs of the condition of the roof in its deteriorated state, as well as photographs of other problems directly related to the roof. The recommendations for treatments to correct the roof problems are brief, yet thorough. The architectural drawings and specifications subsequently developed by Mr. White after the physical investigation and evaluation comprise the bulk of Part 2. Their clarity in communicating the specific work items to the contractor and adherence to program standards are the main reasons for their inclusion in the report; they are, of course, a logical part of the planning

process and the technical information is sound.

Part 3 is simply a summary of project work with photographs of the ongoing and completed work items that neatly parallel the preservation problems illustrated in Part 2.

The photographs in Parts 1, 2, and 3 are an excellent example of how illustrations should function generally as an integral part of "reporting" on project work and how they may be used to visually reinforce and clarify details of written text. Most of

the photographs illustrating the text were taken by the author; exceptions are noted by courtesy lines in the captions.

Technical Preservation Services staff members James A. Caufield, Historical Architect, Kay D. Weeks, Technical Writer-Editor, and Charles E. Fisher III, Architectural Historian, contributed to the development of the original materials into their published form.

Lee H. Nelson, AIA  
Acting Chief, Technical Preservation Services Division



# 1

## Brief History of the Site and Building

The Jamaica Pond Boathouse is part of the original Boston Park System designed by Frederick Law Olmsted in the last decades of the 19th century. The Olmsted Park System, including all original structures in the system designed while Olmsted or his successor firm were associated with the Boston Park Commission, was listed in the National Register of Historic Places in 1971.

Jamaica Plain, a section of West Roxbury, was not annexed to Boston until 1874, but for years the pond had been a favorite vacation and recreation spot for Bostonians. Hundreds of people flocked to skate there every winter and numerous wood engravings and lithographs were published in mid-19th century periodicals recording such activities (Fig. 1). Sailing was equally popular in the summer; even though the pond was surrounded by summer homes, part of the shore was always open to the public for the mooring of sailboats (Fig. 2).

Jamaica Park was one of the original sites recommended for development by the Boston Park Commission in its first major report of 1876. Olmsted and the park commissioners were particularly anxious to preserve the recreational potential of the pond as well as its scenic beauty. Because the property was expensive compared to most of the sites selected for the park system, acquisition of land was deferred



Fig. 1. "Skating on Jamaica Pond, near Boston." Winslow Homer. Ballou's Pictorial Drawing Room Companion, 1859, Volume 16, page 65. Courtesy of Jamaica Plain Tuesday Club.



Fig. 2. View of Jamaica Pond from Pond Street showing site of boathouse, 1894. Courtesy of The Boston Public Library, Print Department.

to the early 1890's and Olmsted's plan for Jamaica Park was not published until 1892.

The preliminary plan of 1892 included a boathouse on the axis of Pond Street (Fig. 3). Like the swimming facilities at the south end of the pond, the boathouse was apparently to have been built on pilings. It would have been necessary to pass through this boathouse to reach a floating dock beyond.

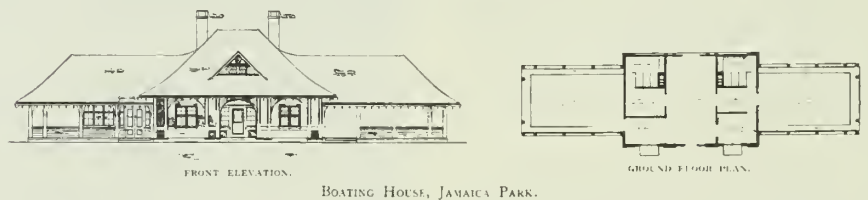
In 1894, the Olmsted firm began making sketches for the Jamaica Pond Boathouse. These were further developed into plans and elevations (Fig. 4) by Edmund M. Wheelwright, City Architect from 1891 to 1895. Although many of Wheelwright's park structures, such as the now demolished Head House at Marine Park, were monumental and rather fussily ornate, the Jamaica Pond Boathouse was to have been a simple, one-story brick structure with a shingle roof.

In 1895 the Office of City Architect was abolished and Wheelwright's unexecuted plans were dropped. Boston, and the country at large, was in the midst of an economic depression in the mid-nineties. Mayor Nathan Matthews, although anxious to complete the park system, decided to eliminate park buildings and other non-essential details from all of the parks that were not yet completed. An austere fiscal policy thus kept the boathouse from even being considered for a number of years.



Fig. 3. *Preliminary Plan of Jamaica Park. F. L. Olmsted and Co., December, 1892. Courtesy of Olmsted Associates, Inc.*

THE BOATING HOUSE on the shore of Jamaica Pond was designed to be placed upon the axis of Pond street. The plan shows in the central pavilion a waiting room 17 feet by 50 feet, with toilet rooms for men and women on either hand. Here also is a locker



room. Wide passages lead to outlooks in the two wings. It was intended to set sash between the posts of these wings during the winter. This structure was not built. It is further illustrated by Plate LXXXVIII.

Fig. 4. *Front elevation and Ground Floor Plan for proposed Boating House, Jamaica Park. Francis W. Chandler, editor, Municipal Architecture in Boston from Designs by Edmund M. Wheelwright, City Architect, 1891 to 1895, Boston, 1898, Volume II, page 45. Courtesy of the city of Boston.*

Skaters and sailors continued to use the pond, however, and by 1910 it was clear that some sort of public provisions were necessary. Rather than revive Wheelwright's plan, a new board of park commissioners engaged William D. Austin, a local architect, to create another design. Austin, a highly respected architect, had designed many other buildings for the commission including the Franklin Park Bird House.

Austin's plan called for two buildings, which in the final landscape design for Jamaica Pond, flanked a formal patio with flower beds (Fig. 5). A "Shelter Building" may be seen on the plan to the right, facing the pond; the larger of the two buildings, to the left, is labelled "Sanitary Building," and is now popularly known as the Jamaica Pond Boathouse.

Construction of the two buildings began in the spring of 1911 and was completed in June of 1912. Reflecting Olmsted's often-stated preference for park structures, they are small in scale, simple in materials (brick with tile roofing and half-timbered gables) and rustic in design, thus, interfering as little as possible with the park scenery. The "Shelter Building" is open on the sides and has traditionally been used for band concerts; the "Sanitary Building" or Jamaica Pond Boathouse has, interestingly, never been used for boat storage. Its presence throughout the years at Jamaica Pond, however, has been indispensable to the continued public use of the park.

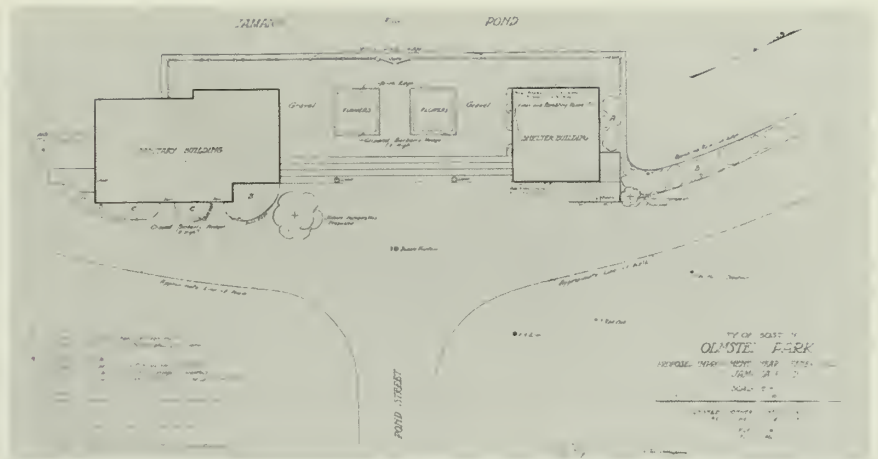


Fig. 5. *Proposed Improvements Near Shelter Building at Jamaica Pond. Olmsted Brothers, Landscape Architects, December, 1915. Courtesy of Olmsted Associates, Inc.*



# 2

## Evaluation of Roof Deterioration

Part 2 begins with the results of a detailed onsite investigation of the deteriorated condition of the roof. This investigation and subsequent evaluation were made into a report to the Public Facilities Department, City of Boston, July, 1976, outlining the problems that required correction.

In spite of the boathouse's subjection to periodic vandalism as well as to the deterioration associated with 67 years of continuous use, its essential features are intact (Fig. 6). In 1970 a fire damaged some of the original interior of the Jamaica Pond Boathouse, but did not affect the exterior.

The focus of this investigation is the deteriorated boathouse roof, which appears to be the original, constructed in 1912. Although the roof was substantially built, today even the casual observer would note the cracked tiles and missing gutters. It is apparent that preservation and some reconstruction are essential for the building to continue to serve its present function within the park system.

We were able to identify the original tile as a 5/8" slab tile manufactured by the Ludowici-Celadon Company of Chicago, Illinois. Since the majority of the tiles are in good condition and can be salvaged for reuse, it is important that an exact match be obtained for the replacement tiles. Fortunately, the tile is still available on special order from the original manufacturer and we therefore recommend that it be specified on a proprietary basis.



Fig. 6. Jamaica Pond Boathouse, east elevation, 1976. Building prior to preservation project work.



Figs. 7, 8. Roofing tiles cracked and missing.

A detailed examination of roof conditions reveal that a number of defects require immediate attention:

1. The roofing tiles are cracked and missing throughout the roof areas (Figs. 7, 8). To correct this defect, it is recommended that the existing tiles be carefully removed, salvaging as many as possible, and re-installed with the necessary replacement tiles to match.
2. The downspouts at the east, west, and south elevations are missing (Figs. 9, 10). The installation of new downspouts to match the historical configuration is recommended.



Figs. 9, 10. Missing downspouts.

3. The downspout at the east elevation does not connect properly to the existing shoe (Fig. 11). Realignment of the new downspout into the existing shoe is recommended.
4. An existing shoe (with downspout missing) is clogged with refuse (Fig. 12). Flushing out the clogged drainage shoe is advised.
5. The hip roll tiles over a dormer window and the built-in gutter are missing at the north elevation (Fig. 13). The missing tiles should be replaced and the missing portion of the built-in gutter reconstructed, both to match the original materials and configuration.



*Fig. 11. Downspout disconnected from existing shoe.*

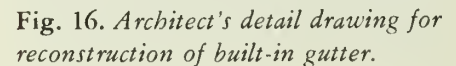
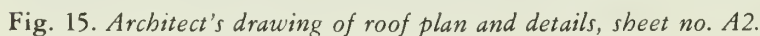
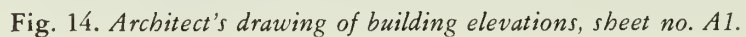


*Fig. 12. Existing shoe clogged with refuse.*



*Fig. 13. Missing hip roll tiles and missing section of built-in gutter.*

The preservation solutions to the specific problems and deficiencies of the boathouse roof outlined in the "Evaluation of Roof Deterioration" were then translated into drawings (Figs. 14, 15, 16) and specifications with the goal of preserving the existing roof's form, integrity, and materials to the greatest extent possible and reconstructing a missing portion of the built-in gutter. The complete specifications, written to Construction Specifications Institute standards, follow. All work was planned in accordance with the Secretary of the Interior's Standards for Historic Preservation Projects (Standards for Preservation).



SPECIFICATIONS

for

OLMSTED PARK SYSTEM:  
JAMAICA POND BOATHOUSE

Richard White  
ARCHITECT/PLANNER  
184 High Street  
Boston, Massachusetts

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Project No. 323-PR-2-70

OLMSTED PARK SYSTEM:  
JAMAICA POND BOATHOUSE

SECTION 1F

SUMMARY OF WORK/SITE LOCATION

1F.1 LOCATION

- A. The work is located at: 507 Jamaicaway  
Jamaica Plain, Massachusetts

1F.2 WORK TO BE PERFORMED

- A. The work covered by this Contract consists of preservation of the roof, chimney, gutters and downspouts, eaves and fascias, as indicated on the Drawings and specified herein. The intent of the contract documents is to preserve to the greatest extent possible all sound existing material and reconstruct all missing material, duplicating these items in all respects as they were originally designed and constructed. The Contract includes the following major items of work:
1. Replacement and painting of all eaves, fascias, and related wood moldings. Replacement of built-in gutters.
  2. Renailing of wood roof sheathing. Replacement of wood roof sheathing where defective.
  3. Removal and relaying of existing clay tile roof, including all new flashing throughout, gutters and leaders.
  4. Removal and re-installation of snow guards.
  5. Repointing of all masonry at chimney.
- B. It is the intention of the Specifications and Drawings to cover all of the work of all the trades. The term "work" includes labor or materials or both.
- C. Furnish all materials and do all work in accordance with these Specifications, the Drawings and the instructions provided by the City Official. The work shall include everything shown on the plans or required in the City Official's judgment by the Specifications. All work completed and materials furnished and installed shall be of the best quality and shall be in strict accordance with the intention of the Drawings, Specifications and samples. Cooperate with the Architect and the Owners so that no error or discrepancy shall cause defective materials to be used or poor workmanship to be performed.

OLMSTED PARK SYSTEM:  
JAMAICA POND BOATHOUSE

- D. Make any removals or revisions necessary to complete the work in accordance with the intent of the Drawings and Specifications.
- E. All work under this Contract shall be performed by skilled tradesmen experienced in each trade involved.

1F.3 ORDER OF THE WORK

- A. The work of this Contract shall be performed at such times as may be necessary to facilitate its orderly progress, and to effect its entire completion within the time stipulated in the Contract. Advance notice shall be given to the Official if, at any time, delays are anticipated.
- B. All work must be scheduled in cooperation with the Official representative so as to cause the least inconvenience to the normal working activities.
- C. It is mandatory that during all phases of this work all services and activities of the boathouse shall be kept in operation.
- D. The roofing tile, as specified hereinafter, shall require a substantial amount of lead time for manufacture and shipment. Therefore, the Contractor is advised to order roofing tiles upon award of Contract to prevent delay in completion of the work.

1F.4 INSTRUCTIONS RELATING TO EXISTING CONDITIONS

- A. Take measurements at the site and verify all dimensional information and site conditions indicated in the contract documents by survey and inspection. Survey information of the existing structure shown in the contract documents has been obtained from sources believed to be reliable, but neither the Official nor the City of Boston shall be liable for any error or discrepancy in such information.

END OF SECTION

# Architect's Specifications

OLMSTED PARK SYSTEM:  
JAMAICA POND BOATHOUSE

## SECTION 4A

### MASONRY

#### PART I - GENERAL

##### 4A.1 WORK TO BE PERFORMED

- A. Furnish and install the following items required to complete the work of this SECTION 4A as shown on the Drawings and specified herein:
  - 1. Perform all necessary setting, grouting, cutting, routing, drilling, removal or repair of existing masonry required to provide necessary reglets, install new gutters and downspouts and otherwise facilitate the installation work under other SECTIONS in contact with masonry.
  - 2. Rake and repoint mortar joints of the existing chimney.

##### 4A.2 RELATED WORK

- A. The following related work is to be performed under the designated SECTIONS.
  - 1. Setting to holes drilled under this SECTION 4A, fasteners and securing devices for flashing, gutters, downspouts and related sheet metal work: SECTION 7B.

##### 4A.3 SHOP DRAWINGS

- A. No shop drawings shall be required.

#### PART II - MATERIALS

##### 4A.4 MORTAR

- A. Mortar for repointing shall be composed of the following:
  - 1. White Medusa cement, 1 part by volume.
  - 2. Hydrated type S lime, 3 parts by volume.
  - 3. Mortar sand packed by Vitalini, Milford, N. H., 10 parts by volume.

OLMSTED PARK SYSTEM:  
JAMAICA POND BOATHOUSE

4. Tinting. Mortar shall be tinted with #2097 Lansco Bright Cement Yellow, manufactured by Landers-Segal Color Company, Brooklyn, N.Y., to achieve a close color match to the existing mortar. Consult with the Architect in the preparation of samples for the Architect's approval.

PART III - INSTALLATION

4A.5 RAKING AND REPOINTING

- A. All joints to be repointed shall be prepared as follows:
  1. Rake all joints to a minimum of 1/2" deep. No power equipment shall be used.
  2. Remove all mortar and foreign material from raked joints; clean joint edges; use fine brush or compressed air to remove granular particles and dust.
- B. Repoint joints as follows:
  1. Wet joint thoroughly and repeatedly prior to repointing.
  2. Do no repointing in temperatures over 90° F.
  3. Tool joints exactly as directed by the Architect, to match existing joint contour. Any joints finished other than as approved shall be corrected as necessary, by reraking, repointing and retooling.
  4. Provide moist curing, repeatedly wetting the joint and adjacent surfaces.
  5. Clean up after the work, removing mortar stains, excess mortar, etc.; use no acids; rinse thoroughly after clean up operations.

END OF SECTION

OLMSTED PARK SYSTEM:  
JAMAICA POND BOATHOUSE

SECTION 6A

CARPENTRY

PART I - GENERAL

6A.1 WORK TO BE PERFORMED

- A. Furnish and install the following items required to complete the work of this SECTION 6A as shown on the Drawings and specified herein:
1. Renail existing roof sheathing. Replace existing wood boards which are rotted or defective. Allow for a minimum replacement of 400 s.f. of existing roof sheathing with new boards. Provide unit prices for new boards at SC-9. Renailing and replacement of wood boards shall stabilize such elements and properly prepare the roof boards to receive roofing and flashing work, under SECTION 7B.
  2. Pressure treated wood cants, nailers, blocking, stripping and similar members in connection with roofing and flashing.
  3. Replace any and all exterior finish members to exactly match existing in connection with built-in gutters, eaves, fascias and related trim pieces. The Contractor is advised that all trim work shall be fabricated especially for this work to exact matching dimensions. No trim or detail which is similar but not exactly matching shall be approved for use.

6A.2 RELATED WORK

- A. The following related work is to be performed under the designated SECTIONS:
1. Masonry: SECTION 4A.
  2. Roofing and Flashing: SECTION 7B
  3. Painting: SECTION 9K

6A.3 SHOP DRAWINGS AND SAMPLES

- A. Submit complete shop drawings in accordance with the provisions of the GENERAL CONDITIONS.

OLMSTED PARK SYSTEM:  
JAMAICA POND BOATHOUSE

1. Submit shop drawings of all finish items, including built-in gutters, eaves, fascias and related trim.
2. Shop drawings shall indicate types of materials, size of members, profiles, methods of securing, and fastening members to adjacent work and a schedule showing types, finishes, locations and dimensions.
3. All dimensional information contained in the Drawings, whether numerical, tabular or graphic, is indicated only for the information of the Contractor and is not guaranteed to be totally accurate. Contractor shall verify all measurements in the field.
4. Submit for Architect's approval samples of finish wood and any other samples as may be required by the Architect.

PART II - MATERIALS

6A.4 WOOD, GENERAL

- A. The grades of all materials under this SECTION 6A shall be as defined by the rules of the recognized association of lumber manufacturers producing the materials specified. Where conflicts occur between these standards and this Specification, the more stringent requirements shall govern in each case.
- B. Lumber and finished wood work throughout shall be of sound stock thoroughly seasoned, kiln-dried to a moisture content not exceeding 12%.
- C. Work that is to be finished or painted shall be free from defects and blemishes on surfaces exposed to view that will show after the finish coat is applied. Any material which is in any way defective and not up to specifications for quality and grade, or otherwise not in proper condition, will be rejected.

6A.5 FINISH

- A. Materials for finish shall conform to, or exceed, the requirements of "Premium Grade" as established by Quality Standards of the Architectural Woodwork Institute.

## Architect's Specifications

OLMSTED PARK SYSTEM:  
JAMAICA POND BOATHOUSE

1. Indicate compliance with the Quality Standards of the Architectural Woodwork Institute which, by reference, are made a part of this SECTION 6A of the Specifications.

- B. Finish members related to built-in gutters, eaves, fascias and related moldings shall be Sugar Pine, Northern or Idaho White Pine, as approved. Grade shall be clear, select stock, "B" or better.
- C. All millwork exposed to weather shall be given wood preservative treatment as specified herein and shall be well glued where joined in fixed contact wood to wood.

### 6A.6 WOOD CANTS, NAILERS AND BLOCKING

- A. Wood cants, nailers and blocking shall be Douglas Fir, Spruce, Hemlock or Southern Pine, Merchantable Grade.
- B. Wood cants, nailers and blocking shall be pressure treated as specified herein.

### 6A.7 ROOFING BOARDS

- A. Boards for replacement of existing roof sheathing which is rotted or defective shall be Fir No. 4 Boards, Southern Pine No. 3 Boards, or any species graded Standard Boards.

### 6A.8 PRESERVATIVE TREATMENT

- A. All new carpentry and millwork materials exposed to the weather, or in contact with masonry or other dissimilar materials, shall be preservative treated, including all field cuts and fittings.
- B. Wood preservative shall be brush applied or dipped treatment in two (2) liberally applied coats of pentachlorophene in light petroleum with water repellent additive.

### 6A.9 PRESSURE TREATMENT

- A. Wood cant strips, nailers, blocking and strapping in connection with roofing and flashing shall be pressure treated.
- B. Pressure treatment shall consist of water-borne preservative complying with AWPB LP-2. After treatment, kiln-dry to a maximum moisture content of 12%.

OLMSTED PARK SYSTEM:  
JAMAICA POND BOATHOUSE

6A.10 ADHESIVES

- A. Adhesives and glues shall be non-staining waterproof types, as manufactured by 3M Company, Pittsburgh Plate Glass Company, Borden Company, or equal manufacturer.

PART III - INSTALLATION

6A.11 STORAGE AND PROTECTION

- A. All materials when delivered to the site shall be so piled and stored to insure proper drainage, ventilation and protection from the elements.

6A.12 FABRICATION

- A. Finished woodwork shall be dressed and sanded, free from machine or tool marks, abrasions, raised grain, or other defects on surfaces exposed to view. Construction and workmanship of millwork items shall conform to, or exceed, the requirements of "Premium Grade" as established by Quality Standards of Architectural Woodworking Industry, published by the Architectural Woodwork Institute.
  - 1. Joints shall be tight and so formed as to conceal shrinkage. Shop miters four inches (4") or greater shall be glued and doweled or locked with a metal splice. Miters less than four inches (4") shall be glued and splined with the spline concealed.
  - 2. Running finish shall be spliced only where necessary, and only when approved by the Architect. Where these occur, they shall be beveled and joined where solid fastenings can be made.
- B. All nail heads in finished work shall be sunk 1/6" with a nail set.
- C. Woodwork shall be properly framed, closely fitted and accurately set to the required lines and levels and shall be rigidly secured in place.
- D. All exposed finished surfaces shall be thoroughly sandpapered, eliminating all tool marks. All joints shall be carefully made and smoothed off.

OLMSTED PARK SYSTEM:  
JAMAICA POND BOATHOUSE

6A.13 ERECTION

- A. All work shall be erected absolutely level, true and secure, blind nailed where possible; otherwise so located and driven as to be invisible in the finished surfaces, and all work fitted and set in place in the most secure and workmanlike manner.
- B. Do all cutting, patching and fitting for the installation of work by other trades.
- C. Roofing boards shall be renailed for tightness and existing roofing boards which are rotted or defective shall be replaced. Resulting boarding shall be tight, sound and true to line, free of splits, rotten spots or knot holes larger than one inch (1") in diameter, and with good alignment between boards.

6A.14 CORRECTIVE WORK

- A. This Contractor shall be held responsible for materials and workmanship and shall be required to replace any work that may shrink, crack or warp, all to the satisfaction of the Architect.

END OF SECTION

OLMSTED PARK SYSTEM:  
JAMAICA POND BOATHOUSE

SECTION 7B

ROOFING AND FLASHING

PART I - GENERAL

7B.1 WORK TO BE PERFORMED

- A. Furnish and install the following items required to complete the work of this SECTION 7B, as shown on the Drawings and specified herein:
1. All clay tile roofing, including all required materials, accessories and equipment as follows:
    - (a) Removal of all clay tile and re-installation of existing clay tile in good condition over new felt underlayment.
    - (b) Removal and salvage of snow guards and re-installation of snow guards in good condition.
    - (c) All repairs to the existing roof necessitated by the installation of new or repaired roof accessories, including vents, chimney, built-in gutters, flashing, and other elements which comprise the restored roof.
    - (d) New clay tile to match exactly in color, size and texture existing roof tile to be reused. Allow for replacement of individual tiles not to exceed 60% of the roof. Such quantities are based on the existing surface to be relaid.
    - (e) New snow guards to match existing snow guards to be reused.
  2. Replace all existing metal flashing, trim, roofing and rain drainage system, complete. Include all necessary cutting, patching and sealant work required to insure a weathertight installation
  3. Connect new leaders to existing shoes where shown on Drawings. Existing shoes and connecting drainage lines shall be cleaned out and put into good working order.

OLMSTED PARK SYSTEM:  
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## 7B.2 RELATED WORK

- A. The following related work is to be performed under the designated SECTIONS.
  - 1. Pointing of masonry - SECTION 4A.
  - 2. Replacing of eaves and fascias to accommodate built-in gutters; repair and replacement of defective roof construction and sheathing: SECTION 6A.
  - 3. Painting of replacement eaves and fascias and related wood moldings: SECTION 9K.

## 7B.3 PREPARATION AND PROTECTION

- A. Preparation work required under other SECTIONS to receive work under this SECTION 7B, includes the following:
  - 1. Repair and replacement of defective roof construction and sheathing.
- B. The Roofing and Flashing Sub-Contractor shall:
  - 1. Carefully remove and stockpile at the job in a protected location, all existing roof tile from the roof. Roof tiles thus salvaged shall be retained and protected for reuse to the maximum possible extent.
  - 2. Remove and carefully store existing snow guards. Salvage for reuse all snow guards which are whole, undamaged and in sound condition.
  - 3. Protect roof areas as they are exposed by removal of roof finishes and repairs to roof, from weather and physical damage to surfaces below. The Roofing and Flashing Sub-Contractor shall protect by tarpaulins, plastic sheetings or roofing paper all areas where roofing materials have been removed to effect work.
- C. Clean out existing shoes and connecting drainage lines, which are to receive connections to new rain water leaders, so that they are in good working condition.
- D. All materials adjacent to the areas being roofed, reroofed, repaired or flashed shall be adequately protected from spotting or staining during the roofing and flashing operations.

OLMSTED PARK SYSTEM:  
JAMAICA POND BOATHOUSE

- E. All adjacent work marred or damaged by the roofing and flashing operations shall be cleaned or refinished according to the Architect's directions; all such marked or damaged materials not satisfactorily repaired or refinished shall be replaced. Such cleaning, refinishing or replacement shall be the responsibility of the Roofing and Flashing Sub-Contractor, and shall be performed at no additional cost to the Owner.

7B.4 INSPECTION AND CLEANING

- A. Inspection and examination for the work under this SECTION 7B shall be carefully done by the Roofing and Flashing Sub-Contractor prior to starting any work. He shall request the Contractor to correct any conditions which may affect his work adversely, and report to the Architect prior to commencing any portion of his work any failure of the Contractor to provide suitable installation conditions for his portion of the work.
  - 1. Old flashings, nails and roofing paper shall be removed. Nails which can't be pulled out shall have heads cut off and shanks driven into boarding.
- B. Cleaning:
  - 1. Remove all rubbish, debris and waste materials resulting from roofing and flashing operations daily during the performance of the work.
  - 2. Remove all excess roofing cement, solder and sealant and stains and spots on adjacent surfaces as work progresses.
  - 3. Surfaces to which new roofing cement must be adhered shall be cleaned of old paint or bituminous compounds.
  - 4. No roofing paper or flashing shall be placed over dirt pockets, debris, lumps of foreign materials or protusions.

7B.5 SAMPLES

- A. Submit the following samples in accordance with the provisions of the GENERAL CONDITIONS:
  - 1. Two each of the following: one as existing, removed from the building, and one new:

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- (a) Section of built-in gutter twelve (12) inches long.
  - (b) Section of downspout twelve (12) inches long.
  - (c) One (1) leader strap.
  - (d) One (1) snow guard.
2. Submit three (3) samples of roof tile to indicate full range of shades proposed for the work. Upon approval by the Architect, one full set shall be returned to the Roofing and Flashing Sub-Contractor for his use as a reference during the conduct of the work.

7B.6 SHOP DRAWINGS

A. Shop drawings shall include:

- 1. Typical flashing work, including conditions of chimney, vents, ridge and eaves.
- 2. Other typical sheet metal work, including built-in gutters, downspouts and drainage assembly members; show thickness, dimensions, details of fastenings, profiles, joints.

7B.7 GUARANTEE

- A. All work under this SECTION 7B shall be guaranteed for not less than one year from the date of final acceptance by the Owner against leaks or any defects in materials and workmanship.
- B. The Roofing and Flashing Sub-Contractor shall provide a written guarantee in triplicate, in accordance with the above terms.
- C. All leaks or defects in materials and workmanship occurring during the guarantee period shall be remedied promptly at no cost to the Owner.

PART II - MATERIALS

7B.8 ROOFING TILES

- A. All tiles shall be a nominal 5/8" thickness, 6-1/4 inches wide, 12 inches long.
- B. All tiles shall be punched for two (2) nail holes.
- C. All new roofing tile shall be as follows:

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1. Tiles shall match as closely as possible in color, texture and appearance, tiles selected by the Architect from the existing tiles to be reused.
2. Tile shall be manufactured by the following:
  - (a) 5/8" slab shingle tile manufactured by Ludowici-Celadon Co., Chicago, Ill.

7B.9 FELT

- A. Felt under the tile roof shall be 30-pound asphalt or coal tar pitch saturated roofing felt, ASTM D226.

7B.10 CEMENT

- A. Elastic cement - type recommended by the manufacturer of the roofing tiles.
- B. It shall not stain stone, corrode flashing and sheet metal or be adversely affected by long exposure to extreme outside temperature.

7B.11 NAILS

- A. Nails for felts shall be large-head galvanized roofing nails, 3/4 inch long.
- B. Nails for tile roofing shall be 1-3/4 inch copper slater's nails.

7B.12 COPPER ROOFING SHEETS

- A. Copper sheet or strip shall comply with ASTM B370, cold rolled No. 2 (bright) finish.
- B. Weight - 20 oz. per square foot (0.027" thick).

7B.13 FLASHING

- A. Cold-rolled sheet copper shall comply with ASTM B370, except use soft temper where fully concealed and supported for proper performance.
- B. Weight - 20 oz. per square foot (0.027" thick).

OLMSTED PARK SYSTEM:  
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7B.14 FORMED SHEET METAL

- A. Built-in gutters, downspouts, outlet tubes and leader heads shall be formed as shown in the Drawings of hard-temper, 20 oz. copper. All seams shall be locked and soldered, except at those joints required to provide thermal expansion.
  - 1. Downspouts shall be made in lengths, with joints telescoped 1-1/2 inches. Vertical seams shall be locked and soldered continuously.
  - 2. Each built-in gutter shall have closed ends secured to the gutter with soldered seams.

7B.15 FINISH - EXPOSED COPPER

- A. All copper facings which remain exposed to view, including but not limited to flashings and downspouts, shall have applied to them, after cleaning, one (1) coat of boiled linseed oil.

7B.16 STRAINERS

- A. Removable metal strainers shall be heavy duty copper wire mesh with 1-1/2 inch apertures.

7B.17 SNOW GUARDS

- A. Shall be as manufactured by Folsom Snow Guard Co., or equal, to match exactly in size, material and appearance, snow guards presently installed on the boathouse roof, which are to be salvaged and re-installed.

7B.18 FASTENERS, SOLDER

- A. Screws, bolts and other accessories for fastening copper shall be copper, bronze or stainless steel.
- B. Solder shall conform to ASTM B32 and be composed of 50 percent pig lead and 50 percent block tin where used on plain copper.
- C. Flux - muriatic acid killed with zinc, or an approved brand of soldering flux, shall be used. Acid shall be thoroughly washed off after soldering is complete.

7B.19 DRAINAGE FITTING

- A. Gutter reinforcement shall be hard brass bar stock of 1/8" x 1".

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- B. Leader straps shall be of copper or wrought iron, or other approved non-ferrous metal with an appearance and finish similar to existing, formed to the profile and size to match the existing.

PART III - INSTALLATION

7B.20 RESPONSIBILITY

- A. The Roofing and Flashing Sub-Contractor shall be fully responsible for the proper execution and performance of the work described herein. It shall be his responsibility to inspect all installation conditions and report to the Architect, prior to commencing any portion of this work, any conditions which would prevent satisfactory performance of his work as specified under this SECTION 7B.

7B.21 ROOFING TILE

- A. Carefully check all roof sheathing for embedded metal, old nails, soft rotten spots, splits, cracks or checks, unevenness severe enough to cause difficulty to the installation of the roofing tile. Start no work until satisfied that roof sheathing is sound.
- B. Apply 30-pound roofing felt to the entire roof deck.
  - 1. Felt shall be laid in horizontal layers with joints lapped towards the eaves at least 2" and well secured along laps, 4" minimum, and at ends, 6" minimum, as necessary to properly hold the felt in place and protect the structure until covered with roofing tile. All shall be preserved unbroken, tight and whole.
  - 2. Felt shall lap all hips and ridges at least 12" to form double thickness and shall be lapped 2" over the metal of any valleys or built-in gutters.
  - 3. Turn felt up 12" minimum on all abutting vertical surfaces to be covered with roofing tile.
  - 4. Apply double layer of felt, one roll width wide, at eaves.
  - 5. Nail felt to sheathing at 8 inch centers on all laps and edges and diagonally through the center.
- C. Apply roofing tile to match existing work as scheduled, specified, shown on Drawings or directed at the job site. Existing roofing tile shall be thoroughly cleaned of paint or other foreign material before re-installation.

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1. Except as otherwise indicated, install roofing tiles according to the recommendations of the manufacturer. Include necessary items as shown and as required to make a complete installation of shingle tile roofing, including flashings integrated with the shingle work.
2. Lay tiles regular with average exposure equal to existing installation; not less than 2" headlap on the third course. Double tiles at eave. Fasten with 1-3/4" copper nails. Fasten tiles with overlapping sheet metal with copper wire and elastic cement.
3. Cement end bands in laps.
4. Cement hip rolls in laps and fasten with 2" copper nails.
5. Cement ridges in laps and fasten with 2-1/2" copper nails.
6. Where tiles join hip stringers, make waterproof with elastic cement.
7. Locate salvaged tile in one area of the roof so as to minimize any contrast with new tile.
8. Build in all metal flashings and snow guards as roofing tile is being laid.
9. Form all ridges, hips and valleys as shown on the Drawings with sheet metal, as specified hereinafter. Do not nail through sheet metal.
10. Replace all broken or cracked roofing tiles after roofing work is substantially completed.

7B.22 SNOW GUARDS

- A. Install salvaged and replacement snow guards so as to duplicate the spacing pattern of the original installation.

7B.23 FLASHING AND SHEET METAL

- A. All flashing and sheet metal work shall be fabricated and placed in accordance with the best practice as specified in the "Modern Application of Sheet Copper in Building Construction" handbook, latest edition as published by the Revere Copper and Brass Co., Inc., and the following additional requirements, as specified herein.

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- B. Copper shall be separated from other materials by 15# roofing felt or asphaltic paint, at the discretion and upon approval by the Architect.
- C. The roofs shall be flashed and counterflushed and made watertight at all edges and at all intersections with any vertical surfaces. At all vertical masonry surfaces, parapets, chimneys, etc., reglets shall be dug, minimum 1-1/2", lead wedged 12" on center and continuously caulked.
- D. All sheet metal work shall be adequate to provide water and weathertight roofings. Liners, arrises and angles shall be sharp and true to line. Plane surfaces shall be free from waves and buckles. Joints and seams in plane surfaces shall be avoided insofar as practicable. Generally, flashing and sheet metal work shall be in lengths not exceeding eight feet and free from longitudinal joints.
  - 1. Where joint seams are soldered, the sheet metal shall be tinned for the full area of contact. Soldering flux shall be avoided. Seams shall be single locked and soaked with solder or double locked and malleted flat. Seams shall overlap in the direction of flow. Soldering shall be done slowly, with well heated sheet metals thoroughly heating the seams and completely filling them with solder.
  - 2. Provide for thermal expansion of all exposed sheet metal work exceeding 15'-0" running length, except as otherwise indicated.
    - (a) Valleys and gutters - 40'-0" maximum spacing, and located at high points in drainage system where possible.
    - (b) Flashing and Trim - 10'-0" maximum spacing, and located 2'-0" from corners and intersections.
  - 3. All exposed sheet metal surfaces shall be cleaned as each section of the work is completed. Excess flux shall be neutralized by washing metal with a solution of washing soda. After cleaning, the surfaces shall be washed clean with clean water. Staining or discoloring adjacent brick or other work shall be avoided.
  - 4. Secure downspouts with leader straps set into masonry joints and firmly mortared thereto.

## Architect's Specifications

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- E. Caulking shall be one part acrylic sealant meeting FS TT-S-00230, Class B, Type II, recommended by the manufacturer for use with sheet metal work.

END OF SECTION

7B-10

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SECTION 9K

PAINTING

PART I - GENERAL

9K.1 WORK TO BE PERFORMED

- A. Furnish and install the following items required to complete the work of this SECTION 9K as shown on the Drawings and specified herein:
  - 1. Prepare, prime, paint and finish exterior woodwork related to built-in gutters, eaves, fascias to be replaced under this Contract.

9K.2 SAMPLES

- A. Submit the following samples in accordance with the provisions:
  - 1. Paint samples at such locations in the building as the Architect shall direct.
  - 2. No sample will be accepted until it conforms in every respect to the finished sample or to the existing surface to be matched in color and texture.

9K.3 STORAGE AND PROTECTION

- A. Deliver and store on the job site all materials in original, new and unopened packages and containers bearing the manufacturer's name and label.
- B. Furnish and lay suitable drop cloths and coverings to adequately protect adjacent work.

9K.4 CLEANING

- A. Remove all rubbish, debris and waste material resulting from painting operations daily during the performance of the work.
- B. Remove all stains and spots on all painting work and adjacent surfaces as work progresses.

9K.5 USE OF MATERIALS

- A. Before application, Painter's materials in containers shall be of the paint used, to insure uniformity of color and mass, and all paint skins or other materials which would cause lumps

## OLMSTED PARK SYSTEM: JAMAICA POND BOATHOUSE

or roughness shall be strained out. Materials shall be applied without the addition of any ingredients and without reducing or thinning except in conformance with the regulations of the Environmental Protection Agency (EPA), subject to the approval of the Architect.

### PART II - MATERIALS

#### 9K.6 MANUFACTURERS

- A. Where manufacturer makes more than one (1) grade of any material specified, this Painting Sub-Contractor shall use the highest grade of each type, whether or not the material is mentioned by any trade name in these Specifications.
- B. All paints and finishes used for the project shall be manufactured by one (1) of the following manufacturers or equal:
  - 1. California Products Company.
  - 2. M. A. Bruder and Sons.
  - 3. Fuller-O'Brien.
  - 4. Pratt & Lambert.
  - 5. Benjamin Moore & Company.
  - 6. PPG Industries, Inc.

### PART III - INSTALLATION

#### 9K.7 SURFACE PREPARATION

- A. Before doing any work, the Painting Sub-Contractor shall inspect all surfaces and determine that they are in proper condition to receive the work to be performed under this SECTION 9K.
- B. If the surfaces are not clean, smooth or thoroughly dry or if they cannot be put into proper condition to receive paint by customary, normal standards, including sanding and spackling, the Painting Sub-Contractor shall so notify the General Contractor in writing.
- C. The starting of work under this SECTION 9K will be construed as acceptance of such surfaces as being satisfactory and any defects in work resulting from such accepted surfaces shall be corrected by the Painting Sub-Contractor at his own expense.

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- D. All surfaces shall be dry before painting is started. All dust, dirt, plaster, grease, and other extraneous matter affecting the finish work shall be removed.
- E. No enamel finish shall be applied where exterior temperature is below the standard F. in degrees of ambient temperature as recommended by the paint manufacturers.
- F. All nail holes or cracks shall be carefully putty-stopped or plugged as required. Puttying shall be done after prime coat or sealer has been applied.
- G. Remove blisters or other imperfections in previous coats caused by foreign substances or paint skins from all painted surfaces before the subsequent coat is applied. All wood and metal surfaces shall be rubbed down before finishing and between coats with No. 00 and finer sandpaper or steel wool, leaving a perfectly clean surface. Smooth-finished surfaces shall be sanded before finishing and between coats as required to smooth out rough areas and to assure smooth, even finish. All surfaces to receive paint shall be smooth and free of all sandpaper scratches, mill-marks, and other imperfections, and except for coats applied in shop, shall be inspected and approved by the Architect before application of prime and finish coats.
- H. All knots, pitch streaks and sappy spots shall be touched up with knot sealer before applying first coat. Use orange shellac for dark and white shellac for light painted surfaces.
- I. No painter's finish shall be applied until the preceding coat is thoroughly dry, and in no case less than seven (7) days for exterior work, except for surfaces coated with latex base materials which may be recoated the next day.
- J. All existing surfaces to be repainted shall be prepared in the following manner:
  - 1. Wash all existing surfaces and rinse with clean water before painting.
  - 2. Remove all loose paint and/or finishes by scraping, sanding or other approved means.
  - 3. Lightly sand all existing painted surfaces before application of any paint or finish material.

9K.8 GENERAL PAINTING SCHEDULE

- A. Surfaces not to be painted:

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1. Timber framing members, including beams, purlins, rafters and decking.
2. All metal flashing.
3. All masonry and cut stone.
4. All furred spaces and concealed areas.

9K.9 EXTERIOR PAINTING SCHEDULE

- A. Exterior woodwork related to built-in gutters, eaves and fascias, repaired and replaced.
  1. New woodwork:
    - One coat - Exterior Primer
    - Two coats - Flat Finish Exterior Oil Base
  2. Color - To match Munsell 5-YR 2/1, or Moor-o-matic 18-122.

9K.10 COMPLETION

- A. Cleaning. At the completion of the work, the Painting Sub-Contractor shall remove all paint spots and oil or grease stains caused by his work from floors, fixtures, hardware and equipment, leaving their finishes in a satisfactory condition. He shall remove all his staging equipment, all debris and materials and leave the site of the work in a clean condition so far as his work is concerned.

9K.11 GUARANTEE

All work, materials and labor performed under this SECTION 9K shall be guaranteed in writing to the Owner by the Painting Sub-Contractor and manufacturer for a period of one (1) year; all in accordance with the requirements of PART A.

END OF SECTION





# 3

## Summary of Project Work

Masonry pointing, including the chimney and carpentry, were undertaken prior to the start of roofing work. No pointing was begun until after a historically correct mortar mix had been determined through analysis of samples of the existing mortar. Several batches of new mortar were prepared and then tested for accurate color and consistency.

The carpentry work involved the reconstruction of a missing portion of the built-in gutter (including eaves, fascia boards, and all related trim pieces) on the north elevation with pressure-treated redwood.

All of the existing roof tiles were removed and stored. Although it must generally be assumed that as much as 50 percent of the tile will be broken during the removal process, through extra precaution we were successful in salvaging a higher percentage.

An interesting note regarding the replacement tile is that this particular Chicago-based manufacturer always includes an additional 5 percent in every tile order to make up for any possible breakage that might occur during shipment: The contractor related, however, that there had been very little tile breakage in shipping to the site.

The existing roofing felt was removed from several of the roof surfaces, revealing that both the existing roofing felt and the



Fig. 17. Plug cut through existing roofing felt for moisture inspection.



Fig. 18. New felt installed over entire roof sheathing.

wood deck were dry and in good, sound condition. Further inspections of the other roof surfaces by cutting plugs through the existing roofing felt also con-

firmed sound, dry conditions (Fig. 17). In order to assure a uniform tight membrane, however, all surfaces were covered with a new base felt (Fig. 18) and the

tile was then reinstalled over this new felt (Fig. 19). The replacement tile was slightly lighter in shade than the existing tile when closely inspected. For this reason, intermingling of existing and replacement tiles on the same roof surface was avoided (Figs. 20, 21). In this way, the difference in shade was minimized so as not to be readily apparent. Natural weathering should further minimize the difference.

New twenty-ounce copper profiles were installed to replace all flashing, gutters, and downspouts. The existing downspouts were of a rectangular corrugated metal section. Round sections, being historically correct, were substituted in the new installation (Fig. 22). After the existing shoes were flushed and cleaned, the new downspouts were reconnected (Fig. 23).



*Fig. 19. Existing and replacement roof tiles re-installed over new base felt.*



*Fig. 20. Existing and replacement tiles not combined on the same roof surface.*



Fig. 21. Existing and replacement tiles not combined on the same roof surface.



Fig. 22. Installation of historically appropriate downspout.



Fig. 23. Downspout reconnected to existing shoe.

All exposed copper was finished with a coat of boiled linseed oil, thus taking away the shininess of the copper and causing it to mellow into a cherry brown "statuary finish." This is a technique that does not etch the copper and is detailed in the publication, *Copper Roofings: Information for Architects and Roofing Contractors*, by the Copper and Brass Research Association, New York City (1925).

The preservation work on the boathouse roof dates from July 8, 1977, to June 28, 1978, when the project was completed (Figs. 24, 25). The general contractor for the project was T. K. Cavanaugh, Inc., Scituate, Massachusetts; the roofing subcontractor was Gilbert and Becker Company, Inc., Dorchester, Massachusetts.



Fig. 24. Jamaica Pond Boathouse, east elevation, 1978. Building after completion of preservation project work.



Fig. 25. Detail of boathouse roof after completion of project work.

## Ongoing Maintenance of Roof Work

The Secretary of the Interior's Standards for Historic Preservation Projects (Standards for Preservation) state:

*Preservation shall include techniques of arresting or retarding the deterioration of a property through a program of ongoing maintenance.*

So that the work for the Jamaica Pond Boathouse accomplished to date will not have to be repeated on a regular basis, the establishment of a program of ongoing maintenance is of critical importance. Ideally, such a program should address the entire structure, but specifically related to the work of this project, must at least include the cleaning of the gutters and downspouts, overall monitoring of the roof surface, and detailed inspections of the cornice, flashing, and drainage shoes.

Of these items, the need for a program of ongoing maintenance for the gutters and downspouts cannot be overemphasized. The slow buildup of debris in gutters and downspouts ultimately obstructs the flow of water to the point of rendering them useless. When clogged gutters are not cleaned periodically, water can back up and eventually seep into the eave and roof construction, providing the necessary dampness for destructive fungal growth and rot. Further, when this dammed-up water is subjected to freeze-thaw cycles, it accelerates deterioration of the gutters and downspouts themselves, causing splitting and cracking of seams. Once the drainage system is inoperative, the entire building may be jeopardized. Regular cleaning of gutters and downspouts is a simple, preventive measure that in the long run proves to be an extremely cost-effective one.



# A

Appendix

## The Secretary of the Interior's Standards for Historic Preservation Projects

The Secretary of the Interior's Standards for Historic Preservation Projects are the required basis for State Historic Preservation Officers and the Heritage Conservation and Recreation Service to evaluate Historic Preservation Fund grant-assisted acquisition and development project work proposals for properties listed in the National Register of Historic Places. The types of treatments that may be undertaken on registered properties are defined; and both the general standards that apply to *all* treatments and the specific standards that apply to *each* treatment are listed.

The Heritage Conservation and Recreation Service, Technical Preservation Services, is pleased to include the standards as an appendix to this case study not only because they constitute the main program management requirement but because the case studies illustrate the successful use of the standards by project personnel in the States for planning and executing grant-assisted work. We have highlighted those portions of the standards that apply to this and to all projects involving the "preservation" of registered properties.

Copies of *The Secretary of the Interior's Standards for Historic Preservation Projects with Guidelines for Applying the Standards*, may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 (stock number: 024-016-00105-2; price: \$2.30). Please do not send cash or stamps.

## Definitions for Historic Preservation Project Treatments

*The following definitions are provided for treatments that may be undertaken on historic properties listed in the National Register of Historic Places:*

### Acquisition

Is defined as the act or process of acquiring fee title or interest other than fee title of real property (including the acquisition of development rights or remainder interest).

### Protection

Is defined as the act or process of applying measures designed to affect the physical condition of a property by defending or guarding it from deterioration, loss or attack, or to cover or shield the property from danger or injury. In the case of buildings and structures, such treatment is generally of a temporary nature and anticipates future historic preservation treatment; in the case of archeological sites, the protective measure may be temporary or permanent.

### Stabilization

Is defined as the act or process of applying measures designed to reestablish a weather resistant enclosure and the structural stability of an unsafe or deteriorated property while maintaining the essential form as it exists at present.

### Preservation

Is defined as the act or process of applying measures to sustain the existing form, integrity, and material of a building or structure, and the existing form and vegetative cover of a site. It may include initial stabilization work, where necessary, as well as ongoing maintenance of the historic building materials.

### Rehabilitation

Is defined as the act or process of returning a property to a state of utility through repair or alteration which makes possible an efficient contemporary use while preserving those portions or features of the property which are significant to its historical, architectural, and cultural values.

### Restoration

Is defined as the act or process of accurately recovering the form and details of a property and its setting as it appeared at a particular period of time by means of the removal of later work or by the replacement of missing earlier work.

### Reconstruction

Is defined as the act or process of reproducing by new construction the exact form and detail of a vanished building, structure, or object, or a part thereof, as it appeared at a specific period of time.

## General Standards for Historic Preservation Projects

*The following general standards apply to all treatments undertaken on historic properties listed in the National Register:*

1. Every reasonable effort shall be made to provide a compatible use for a property that requires minimal alteration of the building structure, or site and its environment, or to use a property for its originally intended purpose.
2. The distinguishing original qualities or character of a building, structure, or site and its environment shall not be destroyed. The removal or alteration of any historic material or distinctive architectural features should be avoided when possible.
3. All buildings, structures, and sites shall be recognized as products of their own time. Alterations which have no historical basis and which seek to create an earlier appearance shall be discouraged.
4. Changes, which may have taken place in the course of time, are evidence of the history and development of a building, structure, or site and its environment. These changes may have acquired significance in their own right, and this significance shall be recognized and respected.
5. Distinctive stylistic features or examples of skilled craftsmanship, which characterize a building, structure, or site, shall be treated with sensitivity.
6. Deteriorated architectural features shall be repaired rather than replaced, wherever possible. In the event replacement is necessary, the new material should match the material being replaced in composition, design, color, texture, and other visual qualities. Repair or replacement of missing architectural features should be based on accurate duplications of features, substantiated by historical, physical, or pictorial evidence rather than on conjectural designs or the availability of different architectural elements from other buildings or structures.
7. The surface cleaning of structures shall be undertaken with the gentlest means possible. Sandblasting and other cleaning methods that will damage the historic building materials shall not be undertaken.
8. Every reasonable effort shall be made to protect and preserve archeological resources affected by, or adjacent to any acquisition, protection, stabilization, preservation, rehabilitation, restoration, or reconstruction project.

## Specific Standards for Historic Preservation Projects

*The following specific standards for each treatment are to be used in conjunction with the eight general standards and, in each case, begin with #9. For example, in evaluating acquisition projects, include the eight general standards plus the four specific standards listed under Standards for Acquisition.*

### Standards for Acquisition

9. Careful consideration shall be given to the type and extent of property rights which are required to assure the preservation of the historic resource. The preservation objectives shall determine the exact property rights to be acquired.
10. Properties shall be acquired in fee simple when absolute ownership is required to insure their preservation.
11. The purchase of less-than-fee-simple interests, such as open or facade easements, shall be undertaken when a limited interest achieves the preservation objective.
12. Every reasonable effort shall be made to acquire sufficient property with the historic resource to protect its historical, archeological, architectural, or cultural significance.

### Standards for Protection

9. Before applying protective measures, which are generally of a temporary nature and imply future historic preservation work, an analysis of the actual or anticipated threats to the property shall be made.
10. Protection shall safeguard the physical condition or environment of a property or archeological site from further deterioration or damage caused by weather or other natural, animal, or human intrusions.
11. If any historic material or architectural features are removed, they shall be properly recorded, and, if possible, stored for future study or reuse.

### Standards for Stabilization

9. Stabilization shall reestablish the structural stability of a property through the reinforcement of loadbearing members or by arresting material deterioration leading to structural failure. Stabilization shall also reestablish weather resistant conditions for a property.
10. Stabilization shall be accomplished in such a manner that it detracts as little as possible from the property's appearance. When reinforcement is required to reestablish structural stability, such work shall be concealed wherever possible so as not to intrude upon or detract from the aesthetic and historical quality of the property, except where concealment would result in the alteration or destruction of historically significant material or spaces.

### Standards for Preservation

9. Preservation shall maintain the existing form, integrity, and materials of a building, structure, or site. Substantial reconstruction or restoration of lost features generally are not included in a preservation undertaking.
10. Preservation shall include techniques of arresting or retarding the deterioration of a property through a program of ongoing maintenance.

### Standards for Rehabilitation

9. Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant historic, architectural, or cultural material and such design is compatible with the size, scale, color, material, and character of the property, neighborhood, or environment.
10. Wherever possible, new additions or alterations to structures shall be done in such a manner that if such additions or alterations were to be removed in the future, the essential form and integrity of the structure would be unimpaired.

### Standards for Restoration

9. Every reasonable effort shall be made to use a property for its originally intended purpose or to provide a compatible use that will require minimum alteration to the property and its environment.
10. Reinforcement required for structural stability or the installation of protective or code required mechanical systems shall be concealed whenever possible so as not to intrude or detract from the property's aesthetic and historical qualities, except where concealment would result in the alteration or destruction of historically significant materials or spaces.
11. When archeological resources must be disturbed by restoration work, recovery of archeological material shall be undertaken in conformance with current professional practices.

### Standards for Reconstruction

9. Reconstruction of a part or all of a property shall be undertaken only when such work is essential to reproduce a significant missing feature in a historic district or scene, and when a contemporary design solution is not acceptable.
10. Reconstruction of all or a part of a historic property shall be appropriate when the reconstruction is essential for understanding and interpreting the value of a historic district, or when no other building, structure, object, or landscape feature with the same associative value has survived and sufficient historical documentation exists to insure an accurate reproduction of the original.
11. The reproduction of missing elements accomplished with new materials shall duplicate the composition, design, color, texture, and other visual qualities of the missing element. Reconstruction of missing architectural features shall be based upon accurate duplication of original features, substantiated by historical, physical, or pictorial evidence rather than upon conjectural designs or the availability of different architectural features from other buildings.
12. Reconstruction of a building or structure on an original site shall be preceded by a thorough archeological investigation to locate and identify all subsurface features and artifacts.
13. Reconstruction shall include measures to preserve any remaining original fabric, including foundations, subsurface, and ancillary elements. The reconstruction of missing elements and features shall be done in such a manner that the essential form and integrity of the original surviving features are unimpaired.





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Washington, D.C. 20243

