PART II: TREATMENT AND WORK RECOMMENDATIONS

The following section presents the historic preservation objectives and selected treatments for each structure, requirements for work, and recommended work that corresponds with the defined treatment goal.

HISTORIC PRESERVATION OBJECTIVES

The following provides a description and rationale for the recommended treatment and how it meets the project goals for use of the building.

Gulf of the Farallones National Marine Sanctuary, Fort Point Coast Guard Station Rehabilitation of the Main Boathouse/Life Saving Station (PE1903)

Introduction

The purpose of this document is to offer a programmatic vision for cultural interpretation of the Main Boathouse (PE1903) after rehabilitation/restoration. The life-saving station campus is a historic setting where the interrelationship of the buildings creates a whole that is greater than the sum of its parts. Therefore, cultural interpretation of the site should include the entire campus.

The interiors of the Officer in Charge Quarters (PE1901), 1890 Boathouse (PE1902), Shop & Garage (PE1907), Buoy Shack (PE1905) and Tide Gauge House (PE1906) have been altered little since their original construction, but the interior of the Main Boathouse/Life Saving Station (PE1903) has been substantially reconfigured. Since the ground floor of the Main Boathouse is envisioned as the primary interior space that is accessible to the public, the Sanctuary Visitor Center space on the first floor plays an important role in interpreting the cultural significance of the site as well as the interpretation of the Gulf of the Farallones National Marine Sanctuary.

Non-Structural Cultural Interpretation

Cultural interpretation at the site should be a multi-pronged approach that capitalizes on the extensive foot traffic along the promenade as well as the accessibility of the exterior features of the site. Elements of cultural interpretation that do not affect the historic fabric of the building could include exterior signage on each of the buildings, self-guided audio tours of the site (beginning and ending in the Sanctuary Visitor Center), and formal interpretive walking tours of the site.

Structural Cultural Interpretation

As noted in the historic report, many of the historically significant features on the first floor of the Main Boathouse (such as horizontal wood V-channel tongue-and-groove wall cladding and exposed wood frame ceiling) are obscured behind drywall, asbestos, and acoustical tiles. Similarly, partitioning of the original boat storage area has eliminated the historic openness and obscured the contextual significance of the structural wooden posts - significant features of the building's historic fabric. Removal of non-contributing drywall, asbestos, and acoustical tiles and removal of non-contributing partition walls that subdivide the boat storage are important steps in reclaiming the historic space for cultural interpretation.

Restoring Bays to the North Elevation and Exhibiting a Life Saving Boat

The plan for the Sanctuary Visitor Center is to occupy the same space as the original boat storage area, which creates an opportunity to highlight the historic use of that space. The end of the established period of historical significance is 1964 - the year that the Main Boathouse ceased to function as a boathouse. Respecting the guiding conservation principle of irreversibility - i.e., any changes should be reversible without damaging the structure - restoring bays/windows on the north elevation of the Main Boathouse

and exhibiting a full size life saving boat in front of the building could be a core element of cultural interpretation (see figures 37 & 38).

REQUIREMENTS FOR WORK

The following outlines the laws, regulations, and functional requirements that are applicable to the recommended work areas.

Sustainable Building Strategies

Buildings in the United States consume more than 30% of energy produced and over 60% of electricity produced annually. The U.S. Green Building Council (USGBC) was formed in 1993 to promote environmentally responsible building. Shortly after the council formed, its members saw the need for a way to measure and define "Green Buildings," and developed LEED, Leadership in Energy and Environmental Design. The LEED Green Building Rating System is the nationally accepted standard for the design, construction, and operation of green buildings. The primary reference for sustainable building in the Presidio is *Green Building Guidelines for the Rehabilitation of Historic and Non-historic Buildings* issued by the Presidio Trust in 2002. This document adheres to the basic tenets of the LEED system, and would be used for the proposed rehabilitation project at the GFNMS.

There are currently five environmental categories under which a project can earn points toward LEED certification: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, and Indoor Environmental Quality. An additional category, Innovation and Design Process, awards points for environmental benefits achieved beyond those listed in the five other categories. If a building earns 26-32 points within these categories, it is awarded LEED Certification; LEED Silver is awarded to a building earning 33-38 points, Gold to a building earning 39-51 points, and Platinum to a building earning 52-69 points.

While preservation is inherently sustainable it is currently difficult to achieve high LEED ratings for historic buildings. As the SGBC refines its ratings, historic preservation will become more integrated into the process. With reference to the GFNMS rehabilitation project, LEED Silver would likely be the

Fig. 37 : North elevation, the original window configuration of the Life Safety Station, 1919.

Fig. 38 :North elevation, the current window configuration of the Life Safety Station.

maximum achievable goal. Any project undertaken for the GFNMS that seeks to achieve a LEED rating must be re-evaluated based on the most current LEED requirements.

All LEED improvements should protect the historic integrity of the building and meet the Secretary of the Interior's Standards for the Treatment of Historic Properties. In addition, sustainable project elements should be carefully considered, not only relative to individual structures, but to broader cultural landscape. The GFNMS campus is particularly sensitive in the regard, because the strong spatial relationships between the buildings are character defining, and the ensemble is sited on open terrain with no other adjacent structure. Additive elements such as wind powered generators or solar panel arrays have the potential to compromise the historic character of the site.

Possible ways for the GFNMS proposed rehabilitation project to earn credits by category include:

Sustainable Sites

- Locate near public transportation
- Provide ample bicycle storage and changing rooms
- Designate preferred parking for carpools, and add no new parking
- Shielding all outdoor light fixtures

The Water Efficiency

- Use captured rainwater or treated wastewater for irrigation
- Install low-flow or high efficiency fixtures
- Install automatic sensors on restroom fixtures

Under Energy and Atmosphere

- Install improved glazing where historically appropriate
- Install heating and ventilating, refrigeration, and fire suppression systems that contain neither CFCs, HCFCs, or Halon, and that have increased equipment life (note that air conditioning is not necessary at this site)
- Install metering equipment to monitor energy use over time

The Materials and Resources

- Maintain the existing building structure and envelope
- Use existing interior non-structural elements such as walls, doors, etc.
- Recycle and salvage construction debris and redirect reusable materials to appropriate sites
- Reincorporate salvaged materials, including furniture, decorative components, cabinetry, and doors and frames into the design
- Use materials that have been extracted, harvested, or manufactured within 500 miles of the project site
- Use certified wood

The Indoor Environmental Quality

- Install permanent monitoring systems to provide information on ventilation system

performance
- Protect heating and ventilating systems and absorptive materials during construction
- Use low VOC sealants, adhesives, paints, coatings, carpet and composite wood
- Install entryway grilles, grates or mats
- Install improved ventilation system if required
- Install high-level filtration systems in air handling systems
- Provide individual lighting controls in multiple-occupant spaces, and providing task light at individual desks

The GFNMS can possibly earn points in the Innovation and Design Process category using strategies beyond those listed. The possibilities for points listed here represent only a preliminary evaluation, and the project should be evaluated further to ensure a comprehensive environmental approach.

Seismic Improvements

All seismic improvements must meet the Secretary of the Interior's Standards for the Treatment of Historic Properties. Fortunately the structure comprising the GFNMS campus are wood frame and are good candidates for successful seismic retrofitting. Generally, in historic buildings, the first task is to determine the seismic value of the structure itself and design for seismic resistance based on an augmentation of the existing conditions. This approach inherently supports the retention of historic fabric.

The work should generally be additive and, at a minimum include the insertion of tie downs, straps, plates, or fixtures at wood to wood or wood to concrete/masonry intersections - often at locations that are accessible without demolition. A more invasive treatment includes opening walls to add shear strength by mounting plywood panels at engineered locations. In this instance, historic finishes such as wood trim, baseboards, casing, or wainscot should be carefully removed, catalogued, and stored for reinstallation. Shear paneling, if done correctly adds resistance to lateral forces without apparent change to historic material. Similarly, if wood roof shingles are to be replaced, depending on the type of existing roof sheathing, this could be an opportunity to create a shear diaphragm with plywood at the roof plane. Again, when the replacement shingles are installed, there would be no apparent compromise to the historic character.

At the Main Boathouse/Life Saving Station (PE1903), in particular, the proposed rehabilitation project will open the northern wall at the first floor to its original three bay configuration. While reversing changes that diminished the Main Boathouse's relationship to the waters edge, it creates a weak or "soft" story condition for lack of shear bracing. The interior space of the boat storage bays is also part of the building's historic character and should be preserved. This may be accomplished by adding steel plates to existing wooden posts, and the new opening could have a steel shear framed mounted on the interior, which could be cased to be less obtrusive.

We feel that the GFNMS building presents good opportunities for successful seismic modifications while rigorously adhering to the Secretary of the Interior's Standards.

Secretary of the Interior's Standards for Rehabilitation

The restoration/rehabilitation of the Main Boathouse and associated Officer in Charge Quarters, 1890 Boathouse, Shop & Garage, Buoy Shack and Tide Gauge House should have a minimal impact on the building's historic fabric. Deficiencies that threaten life and safety, or that are causing deterioration must be corrected. The value of any other improvements should be weighed against the value of the building's integrity. The historic fabric and character-defining features of the buildings have been described in the evaluation sections of this report. Since the Main Boathouse is to accommodate exhibit spaces on its ground floor, work on these spaces, and on the building exterior if

feasible, should follow the Secretary of the Interior's Standards for Restoration, included in the appendix. All work on the remaining structures must comply with the Secretary of the Interior's Standards for Rehabilitation, below.

- A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
- The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
- Each property shall be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
- Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
- Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.
- Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
- Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
- Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
- New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
- New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

As with any historic building, the State Historical Building Code (SHBC) and Uniform Code for Building Conservation (UCBC) should be used as the prevailing codes. This allows a sensitive, performance-based means for achieving a safe, improved structure.

All work shall also comply with accessibility requirements within the SHBC, and with the standard of Section 1134B - Accessibility for Existing Buildings, in the California Building Code. This section covers historic as well as non-historic structures. The Americans with Disabilities Act (ADA) also mandates, under Title II, that the State's programs and services will be accessible.

WORK RECOMMENDATIONS & ALTERNATIVES

The following is a presentation of tasks recommended to realize the proposed treatment approach; evaluation of proposed solutions; and description of specific recommendations for work, including alternated solutions.

Porches

Rating: Significant
Condition: Poor to Fair
Description: The Residence features an open porch and the Main Boathouse features originally open porches that have been enclosed, at both the south and east sides of the buildings. The Officer in Charge Quarters porch has a balustrade roof supported by Tuscan-inspired columns. The wood steps leading up to the porch are severely deteriorated. The south porch of the Main Boathouse was reconfigured on the interior when it was enclosed. It now contains four rooms: an entry vestibule, a conference room, a mechanical unit on the westernmost side, and a toilet room at the easternmost side. A concrete wheelchair ramp has been added to the front of the enclosed porch. The original windows from this porch have been removed and were replaced with newer windows in the 1930s. The eastern porch was enclosed in 1946 and now serves as exhibit space (see figure 42). The original windows and exterior cladding are still intact. Hopper windows were installed on the exterior wall. A door replaced the northernmost window of this area to provide access into the adjacent room.

Condition: At the Main Boathouse, the enclosed area of the south porch has been completely reconfigured. The enclosed area of the eastern porch is in fair condition; however, the exterior windows are in relatively poor condition. Water has infiltrated the interiors, around the window sash and on the floors. The open front porch of the Officer in Charge Quarters is in poor condition, the platforms and stairs are deteriorated and unsafe, mud swallows are nesting in the eaves, and the painted finishes are severely deteriorated.

Recommendations: Reopen the eastern porch at the Main Boathouse. Repair wooden elements at the Officer in Charge Quarters porch. Refinish all porches with historically appropriate colors.

Additions

Rating: Non-contributing & Contributing
Condition: Fair
Description: The Officer in Charge Quarters is the only structure that features additions. In 1902, a large kitchen was added to the rear of the building. The kitchen addition stood one story tall and twice as deep as the rear porch. It had a flat roof and simple balustrade, which allowed the roof to function as a balcony as well. In the 1930s, the structure was converted into an office building. At that time, bathrooms, tile walls and art deco features were added and a shed addition was completed. Also, the rear central dormer was extended. The kitchen underwent another remodel in the 1970s.

Condition: The additions are in fair condition overall. The exterior conditions are typical of the buildings as a whole, displaying peeling paint, rust and biological growth. On the interiors, water infiltration was noted at windows.

Recommendations: Since all additions fall within the period of significance, a restoration would not necessarily warrant their removal or restoration to their pre-renovation condition. While it would be possible to restore the structures at the site to the pre-addition condition, these 60-80 year old additions

have acquired significance over time, and may help to tell the full story of the buildings. Finally, their removal may constitute intrusions to the historic fabric that would actually result in a net loss of historic fabric from the building. Therefore, careful consideration of all of these factors is recommended prior to a decisions regarding the dispensation of these features.

Exterior Conditions and Recommendations

The exteriors of the Fort Point Coast Guard Station Main Boathouse, Officer in Charge Quarters, 1890 Boathouse, Shop & Garage, Buoy Shack, and Tide Gauge House retain a high degree of integrity. The impact of any exterior alterations must be carefully analyzed and weighed in terms of cumulative effect on the historic resource. Long-term preservation depends upon a sound building envelope. Exterior recommendations are provided to guide long-term maintenance efforts.

Survey all exterior materials at close range to identify and locate all deterioration and deficiencies. Stabilize and repair existing historically significant materials. Replace missing components in kind where required. Minimize the impact of visible modifications to the exterior facades.

Roof Cladding

Rating: Contributing
Condition: Good to Fair
Description: The existing roof cladding on four of the six structures consists of painted wood shingles. The roof cladding on the other two structures, Buoy Shack and Tide Gauge House, has been replaced with asphalt shingles. Historic photographs verify that wood shingles are the appropriate cladding for the buildings.

Condition: The roofs appear to be in good to fair condition. Evidence of water intrusion was observed within the Buoy Shack, which suggests that prior to the application of asphalt shingles, there was extensive shingle deterioration. The wood shingles on the Shop & Garage roof appear to have been recently replaced. The paint is moderately deteriorated but, in general, the existing shingles appear intact. Prolonged exposure

Fig. 39 : Rust stains are evident in the shingled areas.

Fig. 40 : Corroded ferrous metal hardware is embedded in the shingles

to moisture, most noticeably on the north and west elevations, has allowed the growth of moss and fungus (see figure 28). This growth further holds moisture and can promote the growth of rot. Dry rot was noted on the Officer in Charge Quarters porch and wheelchair ramp and interiors of the garages.

Recommendations: The roof is a highly vulnerable element of a structure and also the first line of defense against water intrusion. Wood shingles have a finite life span, approximately 15-30 years, and will inevitably fail, because of normal organic decay and wear. According to Preservation Brief 19: The Repair and Replacement of Historic Wooden Shingle Roofs, "contributing factors to deterioration include the thinness of the shingle, the durability of the wood species used, the exposure to the sun, the slope of the roof, the presence of lichens or moss growing on the shingle, poor ventilation levels under the shingle or in the roof, the presence of overhanging tree limbs, pollutants in the air, the original installation method, and the history of the roof maintenance."[2] Preservation Brief 19: The Repair and Replacement of Historic Wooden Shingle Roofs and Preservation Brief 4: Roofing for Historic Buildings, published by the National Park Service, describe how to evaluate and replace a roofing system in detail.[3] The following are general recommendations:

- Perform a complete internal and external inspection of the roof, roofing system and related features twice a year, identifying changes and areas of failure. Flashing–a major cause of deterioration–should be carefully inspected for poor workmanship, thermal stress and metal deterioration. If the roof structure appears sound, the substrate should be closely examined, particularly around the roof plates, under any exterior patches, at intersections of roof planes, and at vertical surfaces such as dormers. Water penetration should be readily apparent, usually as a damp spot or stain.
- If 20% or more of shingles on any one surface appear eroded, cracked, cupped or split, replacement should be considered. Replacement should also be considered if evidence of pervasive moisture damage is found in the attic.
- Replace damaged shingles with fire-retardant shingles to match size and exposure of original.
- Should shingles require replacement, careful research, design, specifications and selection of a skilled roofer are necessary.
- Avoid sparse shingle coverage and heavy building papers.
- Avoid staples and inferior flashing. Use stainless steel nails instead. Stainless steel and copper

Fig. 41 : South elevation, enclosed porch of the Main Boathouse

Fig. 42 : East elevation, enclosed porch of the Main Boathouse

flashing is recommended.
- Avoid patching deteriorated roof lath or sheathing with plywood or composite materials.
- Avoid spray painting raw shingles after installation. Shingles should be coated prior to installation to prevent warping.
- Clean and maintain gutters and leaders on a regular basis. Clogs in these systems will cause water to back up and seep into roofing units.
- Implement a regular maintenance plan to extend the life of the roof. Maintenance would include regular visual inspections and re-coating when needed.

For the Main Boathouse, Officer in Charge Quarters, Shop & Garage, and 1890 Boathouse, given the good condition of many of the shingles we recommend that the roof be repaired where necessary, particularly to remove lichen and moss growth. For the Buoy Shack and Tide Gauge House, given the poor condition of the roof and inappropriate replacement of the shingles, we recommend replacement. This would also permit a plywood diaphragm to be installed beneath the shingles, should that be recommended by the structural engineer, and the thorough examination, and replacement if necessary, of the flashing. While the original shingles were redwood and replacement in kind is the preferred treatment, red cedar would be an appropriate, ecological, and less expensive replacement material. In addition, consult with the Fire Marshal to verify the required level of fire retardance; most likely, a minimum rating of Class C will be required. This rating may not be available in redwood.

The original finish treatment should be replicated using currently available materials. Pre-treat with a high-quality wood preservative. The shingles should then be finished with an appropriate paint system - such as an industrial latex - that matches the color and gloss of the early 20th century red paint used. An appropriate primer will most likely be necessary to both adequately protect the wood, and to provide good adhesion of the finish coats.

Drainage

Rating: Original components - contributing
Replacement components - non-contributing

Fig. 43: Corrosion staining from embedded hardware at the Buoy Shack

Fig. 44: Inappropriate patching on clapboard wall at the Buoy Shack..

Condition: Poor
Description: A wood and metal gutter system runs around the perimeter of the roofs, connecting in places to modern plastic and metal downspouts.

Condition: The existing gutter system is deteriorating and contributing to moisture problems on the exterior of the buildings (see figure 27). The gutters are filled with debris in some areas (see figure 29). The downspouts are detached, falling off or missing in some areas, contributing to the staining and biological growth on the wood siding and eaves. Drainage on the site is poor, and standing water is a problem.

Recommendations: The gutters appear to be in repairable condition. They should be repaired as follows:

- Survey the gutters for deterioration.
- Repair deteriorated wood gutter sections with wood Dutchman or epoxy consolidant and fill. Consider lining the entire system with a brush-on epoxy consolidant prior to painting to create a watertight membrane.
- Replace badly deteriorated or missing gutter sections to match original.
- Replace damaged rainwater leaders with new galvanized metal units.
- Survey entire gutter system annually, noting leaks and poor conditions, and repair as needed.
- Clean gutters at least twice annually, as part of the building's regular maintenance.

Site drainage problems must be corrected so that water flows away from the structures. This may be done by reviving the original French drain system. French drains would be embedded in gravel, around the building perimeter. The water would then be diverted away from the buildings, possibly into a sanitary sewer system. Regrading may also be utilized to divert water from the structures. As with any proposed ground disturbance, conduct archeological testing prior to any excavation.

Biological Growth
Description/Condition: Biological growth includes algae, lichen and fungi. The beginnings of these problems are evident in the staining visible at the damp, shaded areas of the exteriors, particularly the

Fig. 45: Mechanical deterioration of doors of the Shop & Garage associated with cross-grain dragging.

Fig. 46: Paint failure on the doors of the Shop & Garage.

north and west elevations of all five structures. Various types of fungi are present, evident as orange, red and black staining, as well as lichen or moss growing on all four wood shingled roofs. Biological organisms are not only unsightly but can, especially in the case of dry rot, cause serious damage.

Recommendations: Survey all exterior siding and woodwork, both to locate active infestations and to identify and locate sources of moisture ingress. Treat active infestations as follows:

- Identify and locate areas of biological growth, as well as the source of the growth.
- Growths other than dry rot may be treated with a fungicide prior to painting or other finish treatment. Fungicide may be included in the paint to discourage future infestations.
- Active dry rot infestations may be treated as follows:
  1. Replace severely deteriorated members in kind. Pretreat new wood with wood preservative, and back-prime prior to installation.
  2. Treat minor deterioration with repeated applications of liquid wood preservative. Then apply epoxy consolidant and epoxy paste filler prior to painting.
- Prevent future infestations by correcting drainage problems and keeping all wood well-painted.

Wood Clapboards
Rating: Contributing
Condition: Fair
Description: The Buoy Shack and the Tide Gauge House are clad with wood clapboard siding. All wood is painted.

Condition: The cladding is in fair condition. Deterioration includes delamination and general deterioration of the paint, water damage, dirt build-up, and biological growth. Rust staining occurs at metal attachments (see figure 43).

Recommendations: Perform a detailed cladding survey to identify conditions such as breaks, cracks, loose boards, insect damage and biological growth. If structural repairs require removal of this material, it should

Fig. 47: Sliding wooden door at the Buoy Shack

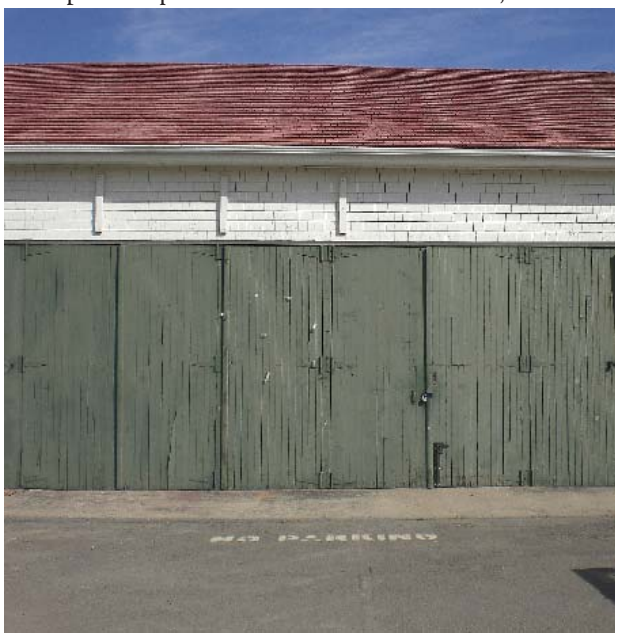

Fig. 48: Vertical tongue-and-groove wood doors at the Shop & Garage.

be carefully salvaged, catalogued, and returned to its original location. General recommendations are as follows:

- Remove dirt, debris and miscellaneous nonfunctional attachments.
- Replace any broken or badly deteriorated boards in kind. Pretreat with wood preservative, and back-prime all surfaces prior to installation.
- Reattach any loose elements with stainless steel fasteners.
- Patch holes with wood Dutchman plugs.
- Treat with a fungicide if required, then prime and paint. Include fungicide in the paint to discourage future biological growth.
- Repaint using historically appropriate paint colors. If clapboards are removed, prime backs and edges prior to reinstallation.

Shingles

Rating: Contributing
Condition: Good to Fair
Description: The Main Boathouse, Officer in Charge Quarters, 1890 Boathouse, and Shop & Garage exterior walls are clad in painted shingles.

Condition: The wall shingles are in good to fair condition. Deterioration includes delamination and general deterioration of the paint, water damage, warping and splitting, dirt build-up, and biological growth. Some missing shingles were noted. Rust staining is visible at the intersection of metal elements (see figure 31).

Recommendation: The existing wall shingles are not severely deteriorated; however, there some are missing and should be replaced. These appear to be holding up well, however shingles have a finite life span, and will someday need to be replaced.

Fig. 49: Loss of shingles at the sloped corner of the Main Boathouse

Fig. 50: Shingle soiling and deterioration at the Main Boathouse.

Paint
Rating: Contributing
Condition: Fair to Poor
Description: Cladding, windows, doors and all woodwork is painted. The paint is white, green, and red.

Condition: The paint has deteriorated, and is alligatored, peeling, or missing over the majority of all five structures primarily on the window elements (see figure 52).

Recommendations: Paint the structures. In its current state, the deteriorating paint finish is only beginning to cause substrate breakdown. Paint is designed to be a sacrificial protective coating, and is necessary to prolong the life of the wood cladding. Should this work be deferred for long, substrate deterioration will accelerate, and the repairs will be correspondingly more extensive.

Following thorough preparation, including the removal of loose, flaking or chalking paint, prime the building using a high-quality primer. Follow with two coats of quality acrylic paint. Perform paint analysis to determine historic paint colors and lead content. If lead is found, follow appropriate, legal procedures for removal or encapsulation, and for disposing of debris.

Doors
Rating: Significant
Condition: Fair to Poor
Description: There are various types of doors at each structure at Fort Point US Coast Guard Station.
Main Boathouse: Doors have all been replaced. The majority of the doors at the Main Boathouse are now metal with central glazed lites.
Officer in Charge Quarters: There are two types of historic doors: solid, five panel; and glazed-upper-over solid lower two panel doors.
1890 Boathouse: There are vertical tongue-and-groove wood garage doors with ferrous metal strap hinges, and a vertical board wood door with ferrous metal strap hinges.

Fig. 51: Four-over-four lite windows at the Main Boathouse.

Fig. 52: Four-lite awning window at the Shop & Garage.

Buoy Shack: Has a sliding wood door with a wood rope-wrapped handle that covers a modern sliding glass door. There is also a solid five panel wood door.
Tide Gauge House: Has one solid wood door that may have been a recent replacement.
Shop & Garage: Has vertical tongue-and-groove wood garage doors with ferrous metal strap hinges and metal doors with central upper vents. The ancillary buildings feature original as well as replacement, non-contributing doors. Many of the original doors feature diagonal bracing and tongue-and-groove wood, are glazed-upper-over solid lower two panels, or are wood with five panels. Non-contributing doors include metal doors and wood solid doors.

Condition: The doors are in fair condition. The wood doors have been altered slightly by the removal of the original locks and addition of modern dead bolts. Several do not close properly. Many of the thresholds are worn as well. The garage doors are in poor condition due to improper clearance between the doors and the concrete driveways. The vertical boards drag across coarse aggregate concrete driveways, resulting in mechanical damage. In addition they are regularly exposed to standing water.

Recommendations: Replace non-contributing doors with replicas of the originals. Repair existing doors as follows:

- Perform a detailed survey/inspection of all doors to identify specific repair locations.
- Remove all dirt, debris and miscellaneous attachments.
- Remove finish if necessary to perform repairs.
- Repair splits and separations with waterproof glue as required.
- Consolidate deteriorated with wood epoxy or perform Dutchman repairs. Replace extensively deteriorated components in kind.
- Install weather stripping.
- Recondition extant original hardware. Install new hardware, where missing, to match original.
- Ensure the smooth operation of the doors.
- Finish doors to appropriate interpretive period.
- Inspect doors regularly for deficiencies of finish and operation.

Fig. 53: Aluminum sliding window at the Main Boathouse

Fig. 54: Double-hung window at the Main Boathouse

Windows

Rating: Original wood windows: Significant
Replacement wood double hung windows: Non-contributing/compatible
Aluminum windows: Non-contributing/incompatible
Condition: Fair

Description: A wide variety of windows have been installed in the six structures. Original windows include: eight-over-eight wood double hung, six-over-six wood double hung; one-over-one wood double hung; four-over-four wood double hung; eight-lite fixed wood side lites; single lite wood awning, and four-lite wood awning. Replacement windows include: two-over-two wood hopper, two-lite aluminum sliding; two-lite aluminum fixed; and one-over-one wood double hung. Many of the windows, particularly those at the second levels, have had protective aluminum storm windows installed.

Condition: The windows are in fair condition. Many have been altered over time, or have been replaced altogether with either inappropriate wood sash or with aluminum sash (see figures 22 & 33). Water intrusion was noted at south elevations, particularly where the windows have been altered or replaced. Several windows have been fixed in place, or are stuck. The exterior paint is deteriorating on many of the windows, and joint separation is occurring in some wood windows. Much of the glazing compound is dried, cracked or missing. Most hardware is intact.

Recommendations: Replace non-contributing windows, particular aluminum sliders, with replica wood windows to match those shown in early drawings and photographs. A number of replacement windows fall within the period of significance, therefore restoration would not necessarily warrant their removal or restoration to their pre-renovation condition. While it would be possible to restore the windows to the pre-renovation/replacement condition, it may be argued that these 60 year old replacements have acquired significance over time, and that they may help to tell the full story of the buildings. Finally, their removal may constitute intrusions to the historic fabric that would result in a net loss of historic fabric. Therefore, careful consideration of all of these factors is recommended prior to a decisions regarding the dispensation

Fig. 55: Vegetation at the south wall of the Main Boathouse.

Fig. 56: Overhanging tree limb at the 1890 Boathouse.

of these features.

Repair existing wood windows as follows:

- Survey and examine in detail the existing condition of all wood windows.
- Remove all dirt, debris and miscellaneous attachments.
- Remove paint to obtain clean surface where repairs are required.
- Remove existing glazing putty. If the existing putty contains asbestos, follow legal means for handling, removal, and disposal of contaminated material.
- Consolidate, repair or replace deteriorated wood elements in kind, where necessary.
- Restore window to proper operation.
- Install new hardware, where missing, to match original.
- Install new glazing, where cracked or missing.
- Prepare wood surfaces, prime and paint. Match historic finishes.
- Replace non-contributing wood and aluminum windows with new replica windows to match historic window types.

It is essential that all wood elements be painted, and that painted areas be rigorously maintained. Paint is designed as a sacrificial coating to protect the wood underneath from insects, fungi and ultraviolet light, and will be instrumental in avoiding future problems.

Vegetation

Description: Little landscaped vegetation exists on the site. Small planting beds partially surround the residences, and several trees are in proximity to the buildings.

Condition: Generally, the vegetation is well-kept. The trees could potentially cause damage in the event of strong winds. The trees to the west of the 1890 Boathouse and south of the Officer in Charge Quarters are close enough to hold moisture against the buildings and support biological growth (see figure 56).

Fig. 57: Mud Swallow nests at the front porch of the Officer in Charge Quarters.

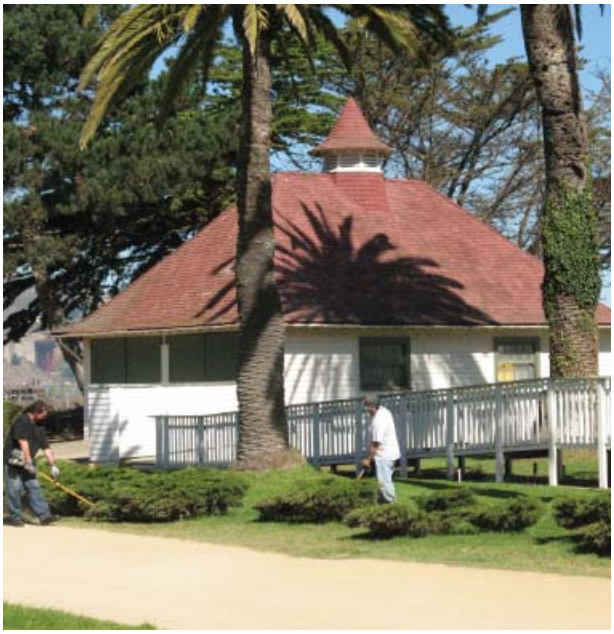

Fig. 58: Surrounding vegetation at the 1890 Boathouse.

Recommendations: Cut back trees and bushes in contact with the buildings. Swinging tree branches could cause impact damage. Roots can damage building foundations, underground building services and drainage systems. Additionally, vegetation can hold moisture against the buildings, providing an ideal climate for biological growth. Proposed landscape plans should use historic landscaping as a guide.

It is not necessary to completely clear the site of plantings to avoid damage. Through judicious maintenance, a balance may be struck between building preservation and historic landscape interpretation. Minimize damage as follows:

- Do not pile or store wood or other materials against the walls.
- Keep trees and perimeter plantings well pruned to minimize the risk of impact damage from wayward branches, of root damage to foundations, and of moisture retention at the base of the buildings.
- Do not allow leaves and other debris to pile up on roofs or in gutters; this can impede drainage.

To assist in site master planning, a Cultural Landscape Report was prepared in 2006 by the National Park Service. That document analyzes the cultural landscape in terms of spatial organization, topography, circulation, buildings/structures/objects, water-related features, and vegetation. The document includes treatment recommendations based upon rehabilitation standards included in *The Secretary of the Interior's Standards for the Treatment of Historic Properties With Guidelines for the Treatment of Cultural Landscapes (NPS* 1996). Therefore, all work related to vegetation, landscape, and site features should follow recommendations included in the Cultural Landscape Report.

Pest Control

Description: Other than a few mud swallow nests on the Residence porch, the buildings do not appear to be home to either general or wood destroying pests; however, they should be monitored regularly to avoid future problems. General pests include mice and mud swallows. Wood destroying pests include powder post beetles and fungi.

Fig. 59 :Flat plaster wall and corner bead at the interior of the Officer in Charge Quarters.

Fig. 60 :Flat plaster wall and corner bead at the interior of the Officer in Charge Quarters.

Recommendations: For general pests, determine how the pests are accessing the structures and then, once they are removed, block the access points in an architecturally acceptable manner. Follow legal and ethical procedures for the removal of these pests.

Once infestations are de-activated, determine whether damaged wood retains sufficient structural integrity. While we do not recommend wholesale removal of all cladding, it may be advisable to remove cladding from representative areas to assess conditions within the walls. These sample areas may be places where cladding is sufficiently deteriorated to require replacement anyway, or where it needs to be removed to add structural plywood. Based upon conclusions from these sample removals, determine whether all cladding should be removed.

General Interior Recommendations

The following elements and features are of historic significance and are described in the Interior Evaluation section. The following recommended approaches for rehabilitating historic interiors is excerpted from Preservation Brief 18: Rehabilitating Interiors in Historic Buildings–Identifying and Preserving Character-Defining Elements:

- Retain and preserve floor plans and interior spaces that are important in defining the overall historic character of the building.
- Avoid making new cuts in floors and ceilings where such cuts would change character-defining spaces and the historic configuration of such spaces.
- Retain and preserve interior features and finishes that are important in defining the overall historic character of the building.
- Retain and preserve visible features of early mechanical systems that are important in defining the overall historic character of the building, such as radiators, vents, fans, grilles, plumbing fixtures, switch plates and lights. If new heating, air conditioning, lighting and plumbing systems are installed, they should be done in a way that does not destroy character-defining spaces, features and finishes. Ducts, pipes and wiring should be installed as inconspicuously as possible: in secondary

Fig. 61 : Beadboard wall cladding in the Buoy Shack.

Fig. 62 : Diagonal board walls at the Shop & Garage.

spaces, in the attic or basement if possible, or in closets.

- Avoid "furring out" perimeter walls for insulation purposes. This requires unnecessary removal of window trim and can change a room's proportions. Consider alternative means of improving thermal performance, such as installing insulation in attics and basements.
- Avoid removing paint and plaster from traditionally finished surfaces, to expose masonry and wood. Conversely, avoid painting previously unpainted mill work. Repairing deteriorated plaster work is encouraged. The use of paint colors appropriate to the period of the building's construction is encouraged.
- Avoid using destructive methods–propane and butane torches or sandblasting–to remove paint or other coatings from historic features. Avoid harsh cleaning agents that can change the appearance of wood.

The interiors of the Officer in Charge Quarters, 1890 Boathouse, Shop & Garage, Buoy Shack, and Tide Gauge House have been altered little since their original construction. The interior of the Main Boathouse has been substantially reconfigured; however, significant historic fabric remains intact behind drop ceilings, under carpet and behind gypsum board walls. Every effort should be made to preserve remaining historic fabric. Where modifications must occur, relegate them to non-contributing areas wherever possible. Stabilize and repair existing historically significant finishes and components. Replace missing components in kind when replacement is required. Stabilize and repair existing original materials, components, finishes and spaces.

Interior Conditions and Recommendations

Plaster

Rating: Contributing
Condition: Good to fair.
Description: All of the first floor walls and most second floor perimeter walls of the Officer in Charge Quarters are flat plaster over wood lath. The lower areas of walls in some spaces, such as hallways and kitchens, have wood wainscots. All plaster is painted.

Fig. 63 :Painted wood fireplace, mantle, and wooden elements at the Officer in Charge Quarters.

Fig. 64 :Painted wood stair, balustrade, and door at the Officer in Charge Quarters.

Condition: The conditions of the plaster walls is generally good. Some areas have been damaged by water infiltration.

Recommendation: Replace missing or debonded flat plaster. Refer to Preservation Brief 21: Repairing Historic Flat Plaster.[10] Where plaster is damaged due to natural, structural or any other occurrence, repair as follows:

- Repair hairline cracks with no debonded material with commercial patching material.
- Cut plaster back in larger cracks and around debonded areas to sound material.
- Install new three-coat plaster over expanded galvanized metal lath.
- Finish plaster to match existing adjacent surfaces.
- Prepare and paint to match adjacent surfaces or historic condition. See Paint Analysis report in the appendix for color recommendations.

Beadboard/Board Walls

Rating: Significant

Condition: Good to Fair

Description: The walls of the Buoy Shack, the Tide Gauge House, and the Main Boathouse are vertical beadboard (see figure 61). The walls of the Shop & Garage, and the 1890 Boathouse are board (see figure 62). All of the walls are painted.

Condition: The conditions of the wood walls are generally good. Some are marked by ghosts of earlier building configurations, and/or have miscellaneous inappropriate attachments.

Recommendations: Repair wood wall cladding as follows:

- Conduct a detailed, wall survey to document condition of each elevation and determine, on an individual basis, required repairs.

Fig. 65 : Wood baseboard, bead molding, and carpet at the Officer in Charge Quarters.

Fig. 66 : Original wood flooring at the Shop & Garage.

- Remove paint and refinish to match original where necessary. Carefully remove, salvage, label and appropriately store any boards, hardware and trim that must be removed.
- Restore missing boards which have been removed during alterations. Match original with respect to profile, wood type and finish.

Interior Paint/Finishes
Rating: Contributing
Condition: Fair
Description: All interior plaster and woodwork is currently painted (see figures 63 & 64).

Condition: The interior finishes are in fair condition, showing signs of normal wear and tear such as chipping and scratching.

Recommendations: Following thorough preparation, including the removal of loose, flaking or chalking paint, prime the walls using a high-quality primer. Follow with two coats of quality acrylic paint. If the existing paint contains lead, follow all regulations for worker protection and material disposal. In most cases, well-adhered lead paint may be left in place and encapsulated, rather than completed abated.

Strip paint from originally clear-finished woodwork. Refinish with varnish to match color and gloss of historic material. This will involve preparing samples of available stains and varnishes on substrates similar to the woodwork, and comparing them to historic varnishes prior to stripping.

Floors
Rating: Modern finish flooring (carpeting and vinyl) - non-contributing
Wood flooring beneath modern finish flooring - contributing
Condition of wood flooring - Good-unknown
Description: Extant finish flooring of the Main Boathouse and Officer in Charge Quarters currently includes wall-to-wall carpet over an unknown substrate (see figure 65). The flooring in the 1890 Boathouse, Shop


Fig. 67 : Most of the doors appear to be in good condition, with only minor repairs needed.


Fig. 68 : The doors at the Shop & Garage appear to be in fair condition.

& Garage, Buoy Shack, and Tide Gauge House are clear finished wood. The clear finished wood floors are in generally good condition; however, the floors in the 1890 Boathouse, Shop & Garage, and Tide Gauge House are in need of refinishing. Presumably, original wood flooring survives beneath the later carpeted finishes of the Officer in Charge Quarters and Main Boathouse. Wall-to-wall carpeting protects the floors; however, it makes it very difficult to verify the original flooring material and assess its condition.

Condition: The non-contributing finish flooring is in fair condition. The historic wood floors beneath the carpet are in unknown condition. The historic wood clear finished floors are in good to fair condition. It is likely that the wood flooring beneath the carpeting, reasonably protected from wear, is in good condition.

Recommendation: Remove non-contributing carpet and vinyl floor finishes. Repair wood flooring as follows:

- Survey floors in detail for damage. Conduct finish analysis on wood floors to determine historic finishes.
- Use the gentlest means possible to remove adhesives from areas beneath finishes. Use all legal means in handling and disposal of asbestos-containing materials.
- Repair wood floors. Patch damaged areas in kind. Clean existing finish if possible, or refinish to match historic treatment. Refinishing should be limited to severely worn areas, since excessive refinishing shortens the lifespan of the flooring.
- If wood floors must be removed for the structural upgrade, carefully salvage boards for reuse in the same locations.

Wood Doors

Rating: Significant
Condition: Good
Description: In general, nearly all doors appear to be original, and hardware also is, for the most part, intact and original. The historic doors are five-panel wood (see figure 67) and tongue-and-groove with diagonal battens and iron hinges (see figure 68). All of the doors have been painted.

Fig. 69 : Original hardware at the Officer in Charge Quarters.

Fig. 70 :Original hardware at the Officer in Charge Quarters.

Condition: Most interior doors appear to be in good condition, with normal wear and tear such as finish abrasion in evidence, and only minor repairs needed. Hardware is also in good condition, although in most cases in need of reconditioning (see below).

Recommendation: Preserve, repair and re-use existing wood doors.

- Reuse existing doors in situ wherever possible. Avoid relocating doors and openings.
- Conduct a detailed, door-by-door survey to document condition of each door and determine, on an individual basis, required repairs and hardware upgrades.
- Remove paint and refinish to match original where necessary. Carefully remove, salvage, label and appropriately store any doors, hardware and trim that must be removed.
- Fully utilize alternative door width standards available under the Americans with Disabilities Act and the State Historical Building Code.

Wood Trim
Rating: Significant
Condition: Good
Description: Original interior wood baseboards, picture rails, door and window surrounds are important, character-defining features of the Officer in Charge Quarters, Main Boathouse, 1890 Boathouse, Buoy Shack, and Tide Gauge House. Original trim is mostly profiled, with some flat baseboards. All of the woodwork has been painted.

Condition: Interior wood elements appear to be in good condition with only minor repairs needed.

Recommendation: Investigate beneath gypsum board at the Main Boathouse to determine the disposition of the panelling beneath. Retain, repair and re-use original wood trim and paneling components. Restore deteriorated or disturbed wood elements as follows:

- Remove paint and refinish woodwork to match original.

Fig. 71 : Historic pendant light fixture at the Shop & Garage.

Fig. 72 :Electrical box at the Buoy Shack.

- Carefully remove, salvage, label and store any components that must be removed for other work. Return these elements to their original locations when work is finished.
- Restore missing trim which has been removed during alterations. Match original with respect to profile, wood type and finish.

Hardware
Rating: Contributing
Condition: Good to Fair
Description: The majority of the hardware is original and intact. It consists of bronze doorknobs, bronze faceplates and hinges, and bronze window catches (see figures 69 & 70). Several locks on the exterior doors have been replaced with modern dead bolt locks.

Condition: The hardware is in good to fair condition. Most of the windows and doors retain all of their hardware. All of it is in need of reconditioning.

Recommendation: Preserve and recondition extant historic hardware.

- Preserve, repair and re-use these components in situ.
- Carefully remove, salvage, label and store any components that must be removed.
- Use alternative standards available under the Americans with Disabilities Act to preserve historic hardware which does not meet current disabled-access requirements. This may include modifications such as installing lever adapters.

Light Fixtures
Rating: Historic fixtures - contributing
Replacement fixtures - non-contributing
Condition: Fair
Description: Interior light quality directly affects the perception of both space and material finishes. Existing light fixtures include historic exposed single-bulb hanging pendant fixtures in the Shop & Garage;

Fig. 73 :Heater vents at the Officer in Charge Quarters.

Fig. 74 : Flue and flue cover at the Officer in Charge Quarters, remnant of earlier stove heating system.

and later, non-historic exposed single-bulb hanging pendant fixtures and ceiling-mounted fluorescent light fixtures, in the other buildings (see figure 71).

Condition: The light fixtures are in fair condition.

Recommendation: Preserve, repair and re-use original light fixtures. Replace inappropriate fixtures with well-researched replica fixtures where possible.

- Retain and repair all extant historic fixtures. Provide appropriate new globes and shades as required.
- Remove non-contributing fluorescent fixtures.
- Select new fixtures based upon surviving, extant historic fixtures and upon research, including historic photographs and other documentation. Custom fixtures may be required in areas to be restored. In areas to rehabilitated, compatible fixtures are acceptable.
- Balance energy conservation with building conservation and the sympathetic treatment of interior spaces. Utilize the State Historical Building Code exemption from Title 24 energy requirements.

Electrical
Rating: Non-contributing
Condition: Fair
Description: It appears that in 1915, when the Main Boathouse was built, it included electricity. At that time, the Officer in Charge Quarters was moved and it is documented that during this move plumbing was installed. It is likely that electricity was also installed at this point; however, it is unknown. It is also unknown at which point, the Buoy Shack, Tide Gauge House, 1890 Boathouse and Shop & Garage got electricity. Existing wiring runs within walls in the Main Boathouse and the Officer in Charge Quarters. It is surface mounted in conduit in the 1890 Boathouse, the Shop & Garage, Buoy Shack, and Tide Gauge House. Generally, switchplates have been installed to avoid trim. Outlets are placed in baseboards (see figure 58).

Condition: The existing electrical service is most likely inadequate for the anticipated uses.

Recommendation: Have existing electrical system inspected by an electrical engineer experienced with historic buildings. Upgrade service and wiring as required. Use provisions in the State Historical Building Code. Where possible, bury currently exposed wiring within walls. Avoid excessive impact to intact historic walls where possible by installing wiring in non-historic walls, previously disturbed walls, or walls that will require disturbance for repair or other systems upgrades.

Plumbing
Rating: Non-contributing
Condition: Fair
Description: The Main Boathouse was built with indoor plumbing. At the same time that the Main Boathouse received indoor plumbing, so did the Officer in Charge Quarters. The 1890 Boathouse, Tide Gauge House and Shop & Garage do not have plumbing. It is unknown when the Buoy Shack received plumbing. The second floor bathrooms of the Officer in Charge Quarters were heavily modified to accommodate modern fixtures in the 1930s as was the kitchen during later renovations. The bathrooms on the first floor are less altered, but contain new fixtures. Kitchen sinks are non-original, and in non-historic locations.

Condition: The plumbing is in fair condition. A detailed plumbing evaluation was outside of the scope of this study.

Recommendation: The fixtures present in the Officer in Charge Quarters, Main Boathouse, and Buoy Shack post-date the period of significance. Functional, new fixtures are appropriate, unless a restored original restroom treatment is desired for interpretation.

Mechanical Equipment

Description: The Officer in Charge Quarters was originally heated by stoves. Flue holes, covered over by plates, survive in many rooms, as do fireplaces in the parlors and dining rooms (see figure 74). A propane-fueled forced air system has been installed in the house, and grates are visible in the majority of the rooms. It is unknown whether or not any of the other structures were heated. The Officer in Charge Quarters appears to be heated by a propane-fueled forced air system.

Condition: No stoves survive. The forced-air system is functional. However, there are safety concerns with the existing propane furnaces.

Recommendation: While the forced-air system falls outside the period of significance, it is fairly unobtrusive. A detailed mechanical evaluation was outside of the scope of this study.

Endnotes

[2]Sharon C. Park, AIA, "The Repair and Replacement of Historic Wooden Shingle Roofs, Preservation Brief 19, U.S. Department of the Interior, National Park Service, 1989.

[3] Sarah M. Sweetser, "Roofing for Historic Buildings," Preservation Brief 4, U.S. Department of the Interior, National Park Service, 1978.

[10] Marylee MacDonald, "Repairing Historic Flat Plaster–Walls and Ceilings," Preservation Brief 21, U.S. Department of the Interior, National Park Service, 1989.

ULTIMATE TREATMENTS

Definitions

The National Park Service will assign each structure a proposed ultimate treatment. These include Preservation, Restoration, Rehabilitation, and Stabilization. The National Park Service has defined these treatments as follows. Also see the Appendix for the *Secretary of the Interior's Standards for Preservation, Rehabilitation, and Restoration*.

Reconstruction: Depicting, by means of new construction, the form, features, and detailing of a non-surviving structure to replicate its appearance at a specific period of time and in its historic location. Features within the period of significance are preserved and deteriorated features are repaired, or replicated.

Restoration accurately presents the form, features, and character of a historic structure as it appeared at a specific period. It may involve the replication of missing historic features and removal of later features, some having cultural value in themselves.

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

Preservation
Applying measures necessary to sustain the existing form, integrity, and material of a historic property. Deterioration caused by natural forces and normal use are arrested and retarded. Maintenance and stabilization of the material are meant to preserve the structure.

Stabilization
Acting to render an unsafe, damaged or deteriorated property stable while retaining its present form.

Building Recommendations

The following recommended treatments are included to help park staff accomplish the ultimate treatment for each structure at the Fort Point US Coast Guard Station. In addition to the specific recommendations that follow for each structure, all projects must be documented before, during, and after work takes place. Minimally, such documentation should include clearly labeled before, during, and after photography: a project description including date, scope and cost; and any drawings or other construction documentation used to guide the project. This information should all be stored in one central archive location.

Cyclical maintenance is also recommended for all structures. This includes: periodic inspections; removal of debris, invasive vegetation and ground infill; and verification that structures closed to the public remain securely locked to prevent vandalism. The seaside location demands especially that routine maintenance include monitoring of metals and concrete, and routine repainting of wood, all materials especially prone to deterioration in a marine environment.

Painting with approved historic colors is recommended for many of the structures. Paint schemes for each structure are to be based upon building-specific paint analysis and research. As described in the preceding Conditions and Recommendations section, paint analysis should be conducted prior to paint removal to avoid destroying historical evidence. Final color selection should be approved by an historical architect or conservator.