

# Standards for Preservation & Guidelines for Preserving Historic Buildings

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



## Standards for Preservation

1. A property will be used as it was historically, or be given a new use that maximizes the retention of distinctive materials, features, spaces, and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken.
2. The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate, and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color, and texture.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

## Guidelines for Preserving Historic Buildings

### Introduction

In **Preservation**, the options for replacement are less extensive than in the treatment, Rehabilitation. This is because it is assumed at the outset that building materials and character-defining features are essentially intact, i.e. that more historic fabric has survived, unchanged over time. The expressed goal of the **Standards for Preservation and Guidelines for Preserving Historic Buildings** is retention of the building's existing form, features and detailing. This may be as simple as basic maintenance of existing materials and features or may involve preparing a historic structure report, undertaking laboratory testing such as paint and mortar analysis, and hiring conservators to perform sensitive work such as reconstituting interior finishes. Protection, maintenance, and repair are emphasized while replacement is minimized.

### Identify, Retain, and Preserve Historic Materials and Features

The guidance for the treatment **Preservation** begins with recommendations to identify the form and detailing of those architectural materials and features that are important in defining the building's historic character and which must be retained in order to preserve that character. Therefore, guidance on *identifying, retaining, and preserving* character-defining features is always given first. The character of a historic building may be defined by the form and detailing of exterior materials, such as masonry, wood, and metal; exterior features, such as roofs, porches, and windows; interior materials, such as plaster and paint; and interior features, such as moldings and stairways, room configuration and spatial relationships, as well as structural and mechanical systems; and the building's site and setting.

### Stabilize Deteriorated Historic Materials and Features as a Preliminary Measure

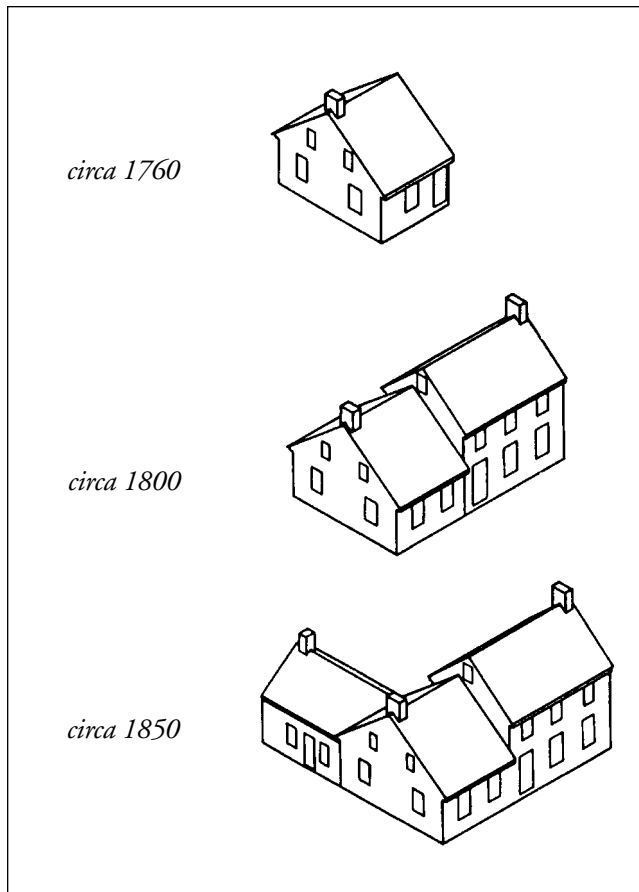
Deteriorated portions of a historic building may need to be protected through preliminary stabilization measures until additional work can be undertaken. *Stabilizing* may include structural reinforcement, weatherization, or correcting unsafe conditions. Temporary stabilization should always be carried out in such a manner that it detracts as little as possible from the historic building's appearance. Although it may not be necessary in every preservation project, stabilization is nonetheless an integral part of the treatment **Preservation**; it is equally applicable, if circumstances warrant, for the other treatments.

### Protect and Maintain Historic Materials and Features

After identifying those materials and features that are important and must be retained in the process of **Preservation** work, then *protecting and maintaining* them are addressed. Protection generally involves the least degree of intervention and is preparatory to other work. For example, protection includes the maintenance of historic materials through treatments such as rust removal, caulking, limited paint removal, and re-application of protective coatings; the cyclical cleaning of roof gutter systems; or installation of fencing, alarm systems and other temporary protective measures. Although a historic building will usually require more extensive work, an overall evaluation of its physical condition should always begin at this level.

### Repair (Stabilize, Consolidate, and Conserve) Historic Materials and Features

Next, when the physical condition of character-defining materials and features requires additional work, *repairing* by *stabilizing, consolidating, and*



*This three-part drawing shows the evolution of a farm house over time. Such change is part of the history of the place and is respected within the treatment, Preservation. Drawing: Center for Historic Architecture and Engineering, University of Delaware (adapted from Preservation Brief 35: Understanding Old Buildings).*

*conserving* is recommended. **Preservation** strives to retain existing materials and features while employing as little new material as possible. Consequently, guidance for repairing a historic material, such as masonry, again begins with the least degree of intervention possible such as strengthening fragile materials through consolidation, when appropriate, and repointing with mortar of an appropriate strength. Repairing masonry as well as wood and architectural metal features may also include patching, splicing, or otherwise reinforcing them using recognized preservation methods. Similarly, within the treatment **Preservation**, portions of a historic structural system could be reinforced using contemporary materials such as steel rods. All work should be physically and visually compatible, identifiable upon close inspection and documented for future research.

#### **Limited Replacement In Kind of Extensively Deteriorated Portions of Historic Features**

If repair by stabilization, consolidation, and conservation proves inadequate, the next level of intervention involves the *limited replacement in kind* of extensively deteriorated or missing *parts* of features when there are surviving prototypes (for example, brackets, dentils, steps, plaster, or portions of slate or tile roofing). The replacement material needs to match the old both physically and visually, i.e., wood with wood, etc. Thus, with the exception of hidden structural reinforcement and new mechanical system components, substitute materials are not appropriate in the treatment **Preservation**. Again, it is important that all new material be identified and properly documented for future research.

If prominent features are missing, such as an interior staircase, exterior cornice, or a roof dormer, then a Rehabilitation or Restoration treatment may be more appropriate.

**Energy Efficiency/Accessibility  
Considerations/Health and Safety Code  
Considerations**

These sections of the **Preservation** guidance address work done to meet accessibility requirements and health and safety code requirements; or limited retrofitting measures to improve energy efficiency. Although this work is quite often an important aspect of preservation projects, it is usually not part of the overall process of protecting, stabilizing, conserving, or repairing character-defining features; rather, such work is assessed for its potential negative impact on the building's character. For this reason, particular care must be taken not to obscure, damage, or destroy character-defining materials or features in the process of undertaking work to meet code and energy requirements.

*Preservation as a Treatment. When the property's distinctive materials, features, and spaces are essentially intact and thus convey the historic significance without extensive repair or replacement; when depiction at a particular period of time is not appropriate; and when a continuing or new use does not require additions or extensive alterations, Preservation may be considered as a treatment. Prior to undertaking work, a documentation plan for Preservation should be developed.*

## Building Exterior

Masonry: Brick, stone, terra cotta, concrete, adobe, stucco, and mortar

### *Recommended*

*Identifying, retaining, and preserving* masonry features that are important in defining the overall historic character of the building such as walls, brackets, railings, cornices, window architraves, door pediments, steps, and columns; and details such as tooling and bonding patterns, coatings, and color.

*Stabilizing* deteriorated or damaged masonry as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

*Protecting and maintaining* masonry by providing proper drainage so that water does not stand on flat, horizontal surfaces or accumulate in curved decorative features.

Cleaning masonry only when necessary to halt deterioration or remove heavy soiling.

Carrying out masonry surface cleaning tests after it has been determined that such cleaning is appropriate. Tests should be observed over a sufficient period of time so that both the immediate and the long range effects are known to enable selection of the gentlest method possible.

### *Not Recommended*

Altering masonry features which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Replacing historic masonry features instead of repairing or replacing only the deteriorated masonry.

Applying paint or other coatings such as stucco to masonry that has been historically unpainted or uncoated.

Removing paint from historically painted masonry.

Changing the type of paint or coating or its color.

Failing to stabilize deteriorated or damaged masonry until additional work is undertaken, thus allowing further damage to occur to the historic building.

Failing to evaluate and treat the various causes of mortar joint deterioration such as leaking roofs or gutters, differential settlement of the building, capillary action, or extreme weather exposure.

Cleaning masonry surfaces when they are not heavily soiled, thus needlessly introducing chemicals or moisture into historic materials.

Cleaning masonry surfaces without testing or without sufficient time for the testing results to be of value.

*Recommended*

Cleaning masonry surfaces with the gentlest method possible, such as low pressure water and detergents, using natural bristle brushes.

Inspecting painted masonry surfaces to determine whether repainting is necessary.

Removing damaged or deteriorated paint only to the next sound layer using the gentlest method possible (e.g., hand-scraping) prior to repainting.

Applying compatible paint coating systems following proper surface preparation.

Repainting with colors that are historically appropriate to the building and district.

Evaluating the existing condition of the masonry to determine whether more than protection and maintenance are required, that is, if repairs to masonry features will be necessary.

*Repairing, stabilizing, and conserving* fragile masonry by using well-tested consolidants, when appropriate. Repairs should be physically and visually compatible and identifiable upon close inspection for future research.

*Not Recommended*

Sandblasting brick or stone surfaces using dry or wet grit or other abrasives. These methods of cleaning permanently erode the surface of the material and accelerate deterioration.

Using a cleaning method that involves water or liquid chemical solutions when there is any possibility of freezing temperatures.

Cleaning with chemical products that will damage masonry, such as using acid on limestone or marble, or leaving chemicals on masonry surfaces.

Applying high pressure water cleaning methods that will damage historic masonry and the mortar joints.

Removing paint that is firmly adhering to, and thus protecting, masonry surfaces.

Using methods of removing paint which are destructive to masonry, such as sandblasting, application of caustic solutions, or high pressure waterblasting.

Failing to follow manufacturers' product and application instructions when repainting masonry.

Using new paint colors that are inappropriate to the historic building and district.

Failing to undertake adequate measures to assure the protection of masonry features.

Removing masonry that could be stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile materials.



*Adequate protection and maintenance of a historic building is an ongoing commitment. Here, two workers are priming and repainting exterior stone and wood trim. If surface treatments are neglected, more extensive repair and replacement will be required. Each loss further undermines a building's historic integrity.*

### *Recommended*

Repairing masonry walls and other masonry features by repointing the mortar joints where there is evidence of deterioration such as disintegrating mortar, cracks in mortar joints, loose bricks, damp walls, or damaged plasterwork.

Removing deteriorated mortar by carefully hand-raking the joints to avoid damaging the masonry.

Duplicating old mortar in strength, composition, color, and texture.

Duplicating old mortar joints in width and in joint profile.

### *Not Recommended*

Removing nondeteriorated mortar from sound joints, then repointing the entire building to achieve a uniform appearance.

Using electric saws and hammers rather than hand tools to remove deteriorated mortar from joints prior to repointing.

Repointing with mortar of high portland cement content (unless it is the content of the historic mortar). This can often create a bond that is stronger than the historic material and can cause damage as a result of the differing coefficient of expansion and the differing porosity of the material and the mortar.

Repointing with a synthetic caulking compound.

Using a “scrub” coating technique to repoint instead of traditional repointing methods.

Changing the width or joint profile when repointing.



*Recommended*

Repairing stucco by removing the damaged material and patching with new stucco that duplicates the old in strength, composition, color, and texture.

Using mud plaster as a surface coating over unfired, unstabilized adobe because the mud plaster will bond to the adobe.

Cutting damaged concrete back to remove the source of deterioration (often corrosion on metal reinforcement bars). The new patch must be applied carefully so it will bond satisfactorily with, and match, the historic concrete.

Repairing masonry features by patching, piecing-in, or otherwise reinforcing the masonry using recognized preservation methods. The new work should be unobtrusively dated to guide future research and treatment.

Applying new or non-historic surface treatments such as water-repellent coatings to masonry only after repointing and only if masonry repairs have failed to arrest water penetration problems.

*The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment **Preservation**, and should only be considered after protection, stabilization, and repair concerns have been addressed.*

*Recommended*

**Limited Replacement in Kind**

Replacing in kind extensively deteriorated or missing parts of masonry features when there are surviving prototypes such as terra-cotta brackets or stone balusters. The new work should match the old in material, design, color, and texture; and be unobtrusively dated to guide future research and treatment.

*Not Recommended*

Removing sound stucco; or repairing with new stucco that is stronger than the historic material or does not convey the same visual appearance.

Applying cement stucco to unfired, unstabilized adobe. Because the cement stucco will not bond properly, moisture can become entrapped between materials, resulting in accelerated deterioration of the adobe.

Patching concrete without removing the source of deterioration.

Removing masonry that could be repaired, using improper repair techniques, or failing to document the new work.

Applying waterproof, water repellent, or non-historic coatings such as stucco to masonry as a substitute for repointing and masonry repairs. Coatings are frequently unnecessary, expensive, and may change the appearance of historic masonry as well as accelerate its deterioration.

*Not Recommended*

Replacing an entire masonry feature such as a column or stairway when limited replacement of deteriorated and missing parts is appropriate.

Using replacement material that does not match the historic masonry feature; or failing to properly document the new work.

## Building Exterior

### Wood: Clapboard, weatherboard, shingles, and other wooden siding and decorative elements

#### *Recommended*

*Identifying, retaining, and preserving* wood features that are important in defining the overall historic character of the building such as siding, cornices, brackets, window architraves, and doorway pediments; and their paints, finishes, and colors.

*Stabilizing* deteriorated or damaged wood as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

*Protecting and maintaining* wood features by providing proper drainage so that water is not allowed to stand on flat, horizontal surfaces or accumulate in decorative features.

Applying chemical preservatives to wood features such as beam ends or outriggers that are exposed to decay hazards and are traditionally unpainted.

Retaining coatings such as paint that help protect the wood from moisture and ultraviolet light. Paint removal should be considered only where there is paint surface deterioration and as part of an overall maintenance program which involves repainting or applying other appropriate protective coatings.

Inspecting painted wood surfaces to determine whether repainting is necessary or if cleaning is all that is required.

Removing damaged or deteriorated paint to the next sound layer using the gentlest method possible (handscraping and handsanding), then repainting.

#### *Not Recommended*

Altering wood features which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Replacing historic wood features instead of repairing or replacing only the deteriorated wood.

Changing the type of paint or finish and its color.

Failing to stabilize deteriorated or damaged wood until additional work is undertaken, thus allowing further damage to occur to the historic building.

Failing to identify, evaluate, and treat the causes of wood deterioration, including faulty flashing, leaking gutters, cracks and holes in siding, deteriorated caulking in joints and seams, plant material growing too close to wood surfaces, or insect or fungus infestation.

Using chemical preservatives such as creosote which, unless they were used historically, can change the appearance of wood features.

Stripping paint or other coatings to reveal bare wood, thus exposing historically coated surfaces to the effects of accelerated weathering.

Removing paint that is firmly adhering to, and thus, protecting wood surfaces.

Using destructive paint removal methods such as propane or butane torches, sandblasting or waterblasting. These methods can irreversibly damage historic woodwork.

*Recommended*

Using with care electric hot-air guns on decorative wood features and electric heat plates on flat wood surfaces when paint is so deteriorated that total removal is necessary prior to repainting.

Using chemical strippers primarily to supplement other methods such as handscraping, handsanding and the above-recommended thermal devices. Detachable wooden elements such as shutters, doors, and columns may—with the proper safeguards—be chemically dip-stripped.

Applying compatible paint coating systems following proper surface preparation.

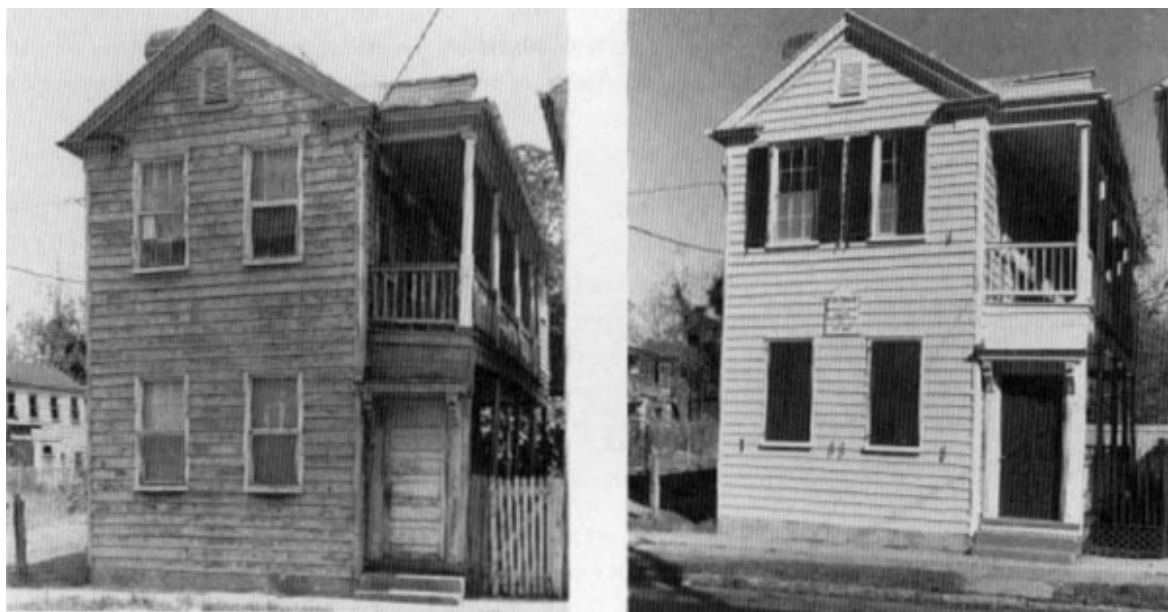
*Not Recommended*

Using thermal devices improperly so that the historic woodwork is scorched.

Failing to neutralize the wood thoroughly after using chemicals so that new paint does not adhere.

Allowing detachable wood features to soak too long in a caustic solution so that the wood grain is raised and the surface roughened.

Failing to follow manufacturers' product and application instructions when repainting exterior woodwork.



*Maximizing retention of historic materials and features is the primary goal of Preservation as demonstrated here in these “before” and “after” photographs. Aside from some minor repairs and limited replacement of deteriorated material, work on this house consisted primarily of repainting the wood exterior. Photos: Historic Charleston Foundation.*

## Preservation

### *Recommended*

Repainting with colors that are appropriate to the historic building and district.

Evaluating the existing condition of the wood to determine whether more than protection and maintenance are required, that is, if repairs to wood features will be necessary.

*Repairing, stabilizing, and conserving* fragile wood using well-tested consolidants, when appropriate. Repairs should be physically and visually compatible and identifiable upon close inspection for future research.

Repairing wood features by patching, piecing-in, or otherwise reinforcing the wood using recognized preservation methods. The new work should be unobtrusively dated to guide future research and treatment.

### *Not Recommended*

Using new colors that are inappropriate to the historic building or district.

Failing to undertake adequate measures to assure the protection of wood features.

Removing wood that could be stabilized and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile historic materials.

Removing wood that could be repaired, using improper repair techniques, or failing to document the new work.

*The following work is highlighted to indicate that it represents the greatest degree of intervention that is generally recommended within the treatment **Preservation**, and should only be considered after protection, stabilization, and repair concerns have been addressed.*

### *Recommended*

#### **Limited Replacement in Kind**

Replacing in kind extensively deteriorated or missing parts of wood features when there are surviving prototypes such as brackets, molding, or sections of siding. New work should match the old in material, design, color, and texture; and be unobtrusively dated to guide future research and treatment.

### *Not Recommended*

Replacing an entire wood feature such as a column or stairway when limited replacement of deteriorated and missing parts is appropriate.

Using replacement material that does not match the historic wood feature; or failing to properly document the new work.

## Building Exterior

### Architectural Metals: Cast iron, steel, pressed tin, copper, aluminum, and zinc

#### *Recommended*

*Identifying, retaining, and preserving* architectural metal features such as columns, capitals, window hoods, or stairways that are important in defining the overall historic character of the building; and their finishes and colors. Identification is also critical to differentiate between metals prior to work. Each metal has unique properties and thus requires different treatments.

*Stabilizing* deteriorated or damaged architectural metals as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

*Protecting and maintaining* architectural metals from corrosion by providing proper drainage so that water does not stand on flat, horizontal surfaces or accumulate in curved, decorative features.

Cleaning architectural metals, when appropriate, to remove corrosion prior to repainting or applying other appropriate protective coatings.

Identifying the particular type of metal prior to any cleaning procedure and then testing to assure that the gentlest cleaning method possible is selected or determining that cleaning is inappropriate for the particular metal.

#### *Not Recommended*

Altering architectural metal features which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Replacing historic metal features instead of repairing or replacing only the deteriorated metal.

Changing the type of finish or its historic color or accent scheme.

Failing to stabilize deteriorated or damaged architectural metals until additional work is undertaken, thus allowing further damage to occur to the historic building.

Failing to identify, evaluate, and treat the causes of corrosion, such as moisture from leaking roofs or gutters.

Placing incompatible metals together without providing a reliable separation material. Such incompatibility can result in galvanic corrosion of the less noble metal, e.g., copper will corrode cast iron, steel, tin, and aluminum.

Exposing metals which were intended to be protected from the environment.

Applying paint or other coatings to metals such as copper, bronze, or stainless steel that were meant to be exposed.

Using cleaning methods which alter or damage the historic color, texture, and finish of the metal; or cleaning when it is inappropriate for the metal.

Removing the patina of historic metal. The patina may be a protective coating on some metals, such as bronze or copper, as well as a significant historic finish.

### *Recommended*

Cleaning soft metals such as lead, tin, copper, terneplate, and zinc with appropriate chemical methods because their finishes can be easily abraded by blasting methods.

Using the gentlest cleaning methods for cast iron, wrought iron, and steel—hard metals—in order to remove paint buildup and corrosion. If handscraping and wire brushing have proven ineffective, low pressure grit blasting may be used as long as it does not abrade or damage the surface.

Applying appropriate paint or other coating systems after cleaning in order to decrease the corrosion rate of metals or alloys.

Repainting with colors that are appropriate to the historic building or district.

Applying an appropriate protective coating such as lacquer to an architectural metal feature such as a bronze door which is subject to heavy pedestrian use.

Evaluating the existing condition of the architectural metals to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary.

### *Not Recommended*

Cleaning soft metals such as lead, tin, copper, terneplate, and zinc with grit blasting which will abrade the surface of the metal.

Failing to employ gentler methods prior to abrasively cleaning cast iron, wrought iron or steel; or using high pressure grit blasting.

Failing to re-apply protective coating systems to metals or alloys that require them after cleaning so that accelerated corrosion occurs.

Using new colors that are inappropriate to the historic building or district.

Failing to assess pedestrian use or new access patterns so that architectural metal features are subject to damage by use or inappropriate maintenance such as salting adjacent sidewalks.

Failing to undertake adequate measures to assure the protection of architectural metal features.

*Recommended*

*Repairing, stabilizing, and conserving* fragile architectural metals using well-tested consolidants, when appropriate. Repairs should be physically and visually compatible and identifiable upon close inspection for future research.

Repairing architectural metal features by patching, piecing-in, or otherwise reinforcing the metal using recognized preservation methods. The new work should be unobtrusively dated to guide future research and treatment.



*Not Recommended*

Removing architectural metals that could be stabilized and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile historic materials.

Removing architectural metals that could be repaired, using improper repair techniques, or failing to document the new work.



*Two examples of “limited replacement in kind” point out an appropriate scope of work within the treatment, Preservation. (a) One metal modillion that has sustained damage from a faulty gutter will need to be replaced; and (b) targeted repairs to deteriorated wood cornice elements (fascia board and modillions) meant that most of the historic materials were retained in the work.*

## Preservation

*The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment **Preservation**, and should only be considered after protection, stabilization, and repair concerns have been addressed.*

### *Recommended*

#### **Limited Replacement in Kind**

Replacing in kind extensively deteriorated or missing parts of architectural metal features when there are surviving prototypes such as porch balusters, column capitals or bases, or porch cresting. The new work should match the old in material, design, and texture; and be unobtrusively dated to guide future research and treatment.

### *Not Recommended*

Replacing an entire architectural metal feature such as a column or balustrade when limited replacement of deteriorated and missing parts is appropriate.

Using replacement material that does not match the historic metal feature; or failing to properly document the new work.



## Building Exterior

### Roofs

#### *Recommended*

*Identifying, retaining, and preserving roofs*—and their functional and decorative features—that are important in defining the overall historic character of the building. This includes the roof's shape, such as hipped, gambrel, and mansard; decorative features such as cupolas, cresting, chimneys, and weathervanes; and roofing material such as slate, wood, clay tile, and metal, as well as its size, color, and patterning.

*Stabilizing* deteriorated or damaged roofs as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.



#### *Not Recommended*

Altering the roof and roofing materials which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Replacing historic roofing material instead of repairing or replacing only the deteriorated material.

Changing the type or color of roofing materials.

Failing to stabilize a deteriorated or damaged roof until additional work is undertaken, thus allowing further damage to occur to the historic building.

*It is particularly important to preserve materials that contribute to a building's historic character, such as this highly visible slate roof. In the event that repair and limited replacement are necessary, all new slate would need to match the old exactly. Photo: Jeffrey S. Levine.*

### *Recommended*

**Protecting and maintaining** a roof by cleaning the gutters and downspouts and replacing deteriorated flashing. Roof sheathing should also be checked for proper venting to prevent moisture condensation and water penetration; and to insure that materials are free from insect infestation.

Providing adequate anchorage for roofing material to guard against wind damage and moisture penetration.

Protecting a leaking roof with plywood and building paper until it can be properly repaired.

**Repairing** a roof by reinforcing the historic materials which comprise roof features using recognized preservation methods. The new work should be unobtrusively dated to guide future research and treatment.

### *Not Recommended*

Failing to clean and maintain gutters and downspouts properly so that water and debris collect and cause damage to roof fasteners, sheathing, and the underlying structure.

Allowing roof fasteners, such as nails and clips to corrode so that roofing material is subject to accelerated deterioration.

Permitting a leaking roof to remain unprotected so that accelerated deterioration of historic building materials—masonry, wood, plaster, paint and structural members—occurs.

Removing materials that could be repaired, using improper repair techniques, or failing to document the new work.

Failing to reuse intact slate or tile when only the roofing substrate needs replacement.

*The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment **Preservation**, and should only be considered after protection, stabilization, and repair concerns have been addressed.*

### *Recommended*

#### **Limited Replacement in Kind**

Replacing in kind extensively deteriorated or missing parts of roof features or roof coverings when there are surviving prototypes such as cupola louvers, dentils, dormer roofing; or slates, tiles, or wood shingles on a main roof. the new work should match the old in material, design, color, and texture; and be unobtrusively dated to guide future research and treatment.

### *Not Recommended*

Replacing an entire roof feature such as a cupola or dormer when limited replacement of deteriorated and missing parts is appropriate.

Using replacement material that does not match the historic roof feature; or failing to properly document the new work.

## Building Exterior

### Windows

#### *Recommended*

*Identifying, retaining, and preserving* windows—and their functional and decorative features—that are important in defining the overall historic character of the building. Such features can include frames, sash, muntins, glazing, sills, heads, hoodmolds, panelled or decorated jambs and moldings, and interior and exterior shutters and blinds.

#### *Not Recommended*

Altering windows or window features which are important in defining the historic character of the building so that, as a result, the character is diminished.

Changing the historic appearance of windows by replacing materials, finishes, or colors which noticeably change the sash, depth of reveal, and muntin configuration; the reflectivity and color of the glazing; or the appearance of the frame.

Obscuring historic window trim with metal or other material.



*Preserving a building's historic windows generally involves scraping, sanding, and re-painting. While some repair work will most likely be undertaken within the scope of work on this institutional building, replacement of the window units is usually not an appropriate Preservation treatment. Photo: Chuck Fisher.*

### *Recommended*

Conducting an indepth survey of the condition of existing windows early in preservation planning so that repair and upgrading methods and possible replacement options can be fully explored.

*Stabilizing* deteriorated or damaged windows as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

*Protecting and maintaining* the wood and architectural metals which comprise the window frame, sash, muntins, and surrounds through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and re-application of protective coating systems.

Making windows weathertight by re-caulking and replacing or installing weatherstripping. These actions also improve thermal efficiency.

Evaluating the existing condition of materials to determine whether more than protection and maintenance are required, i.e. if repairs to windows and window features will be required.

*Repairing* window frames and sash by patching, piecing-in, consolidating or otherwise reinforcing them using recognized preservation methods. The new work should be unobtrusively dated to guide future research and treatment.

### *Not Recommended*

Replacing windows solely because of peeling paint, broken glass, stuck sash, and high air infiltration. These conditions, in themselves, are no indication that windows are beyond repair.

Failing to stabilize a deteriorated or damaged window until additional work is undertaken, thus allowing further damage to occur to the historic building.

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of the window results.

Retrofitting or replacing windows rather than maintaining the sash, frame, and glazing.

Failing to undertake adequate measures to assure the protection of historic windows.

Failing to protect the historic glazing when repairing windows.

Removing material that could be repaired, using improper repair techniques, or failing to document the new work.

Failing to reuse serviceable window hardware such as brass sash lifts and sash locks.

*The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment **Preservation**, and should only be considered after protection, stabilization, and repair concerns have been addressed.*

*Recommended*

**Limited Replacement in Kind**

Replacing in kind extensively deteriorated or missing parts of windows when there are surviving prototypes such as frames, sash, sills, glazing, and hoodmolds. The new work should match the old in material, design, color, and texture; and be unobtrusively dated to guide future research and treatment.

*Not Recommended*

Replacing an entire window when limited replacement of deteriorated and missing parts is appropriate.

Using replacement material that does not match the historic window; or failing to properly document the new work.

## Building Exterior

### Entrances and Porches

#### *Recommended*

*Identifying, retaining, and preserving* entrances and porches—and their functional and decorative features—that are important in defining the overall historic character of the building such as doors, fanlights, sidelights, pilasters, entablatures, columns, balustrades, and stairs.

*Stabilizing* deteriorated or damaged entrances and porches as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

*Protecting and maintaining* the masonry, wood, and architectural metals that comprise entrances and porches through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and re-application of protective coating systems.

Evaluating the existing condition of materials to determine whether more than protection and maintenance are required, that is, repairs to entrance and porch features will be necessary.

*Repairing* entrances and porches by reinforcing the historic materials using recognized preservation methods. The new work should be unobtrusively dated to guide future research and treatment.

#### *Not Recommended*

Altering entrances and porches which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Replacing historic entrance and porch features instead of repairing or replacing only the deteriorated material.

Failing to stabilize a deteriorated or damaged entrance or porch until additional work is undertaken, thus allowing further damage to occur to the historic building.

Failing to provide adequate protection to materials on a cyclical basis so that deterioration of entrances and porches results.

Failing to undertake adequate measures to assure the protection of historic entrances and porches.

Removing material that could be repaired, using improper repair techniques, or failing to document the new work.

*The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment **Preservation**, and should only be considered after protection, stabilization, and repair concerns have been addressed.*

**Limited Replacement in Kind**

*Recommended*

Replacing in kind extensively deteriorated or missing parts of repeated entrance and porch features when there are surviving prototypes such as balustrades, cornices, entablatures, columns, sidelights, and stairs. The new work should match the old in material, design, color, and texture; and be unobtrusively dated to guide future research and treatment.

*Not Recommended*

Replacing an entire entrance or porch feature when limited replacement of deteriorated and missing parts is appropriate.

Using replacement material that does not match the historic entrance or porch feature; or failing to properly document the new work.

## Building Exterior

### Storefronts

#### *Recommended*

*Identifying, retaining, and preserving* storefronts—and their functional and decorative features—that are important in defining the overall historic character of the building such as display windows, signs, doors, transoms, kick plates, corner posts, and entablatures.

*Stabilizing* deteriorated or damaged storefronts as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

#### *Not Recommended*

Altering storefronts—and their features—which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Replacing historic storefront features instead of repairing or replacing only the deteriorated material.

Failing to stabilize a deteriorated or damaged storefront until additional work is undertaken, thus allowing further damage to occur to the historic building.



*The original form and features of this 1920s storefront have been retained through Preservation. Photo: David W. Look, AIA.*



*Recommended*

**Protecting and maintaining** masonry, wood, and architectural metals which comprise storefronts through appropriate treatments such as cleaning, rust removal, limited paint removal, and reapplication of protective coating systems.

Protecting storefronts against arson and vandalism before work begins by boarding up windows and doors and installing alarm systems that are keyed into local protection agencies.

Evaluating the existing condition of storefront materials to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary.

**Repairing** storefronts by reinforcing the historic materials using recognized preservation methods. The new work should be unobtrusively dated to guide future research and treatment.

*The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment **Preservation**, and should only be considered after protection, stabilization, and repair concerns have been addressed.*

*Recommended*

**Limited Replacement in Kind**

Replacing in kind extensively deteriorated or missing parts of storefronts where there are surviving prototypes such as transoms, kick plates, pilasters, or signs. The new work should match the old in materials, design, color, and texture; and be unobtrusively dated to guide future research and treatment.

*Not Recommended*

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of storefront features results.

Permitting entry into the building through unsecured or broken windows and doors so that interior features and finishes are damaged by exposure to weather or vandalism.

Stripping storefronts of historic material such as wood, cast iron, terra cotta, carrara glass, and brick.

Failing to undertake adequate measures to assure the preservation of the historic storefront.

Removing material that could be repaired, using improper repair techniques, or failing to document the new work.

*Not Recommended*

Replacing an entire storefront when limited replacement of deteriorated and missing parts is appropriate.

Using replacement material that does not match the historic storefront feature; or failing to properly document the new work.

## Building Interior

### Structural Systems

#### *Recommended*

*Identifying, retaining, and preserving* structural systems—and individual features of systems—that are important in defining the overall historic character of the building, such as post and beam systems, trusses, summer beams, vigas, cast iron columns, above-grade stone foundation walls, or load-bearing brick or stone walls.

*Stabilizing* deteriorated or damaged structural systems as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

*Protecting and maintaining* the structural system by cleaning the roof gutters and downspouts; replacing roof flashing; keeping masonry, wood, and architectural metals in a sound condition; and ensuring that structural members are free from insect infestation.

Examining and evaluating the existing condition of the structural system and its individual features using non-destructive techniques such as X-ray photography.

#### *Not Recommended*

Altering visible features of historic structural systems which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Overloading the existing structural system; or installing equipment or mechanical systems which could damage the structure.

Replacing a loadbearing masonry wall that could be augmented and retained.

Leaving known structural problems untreated such as deflection of beams, cracking and bowing of walls, or racking of structural members.

Utilizing treatments or products that accelerate the deterioration of structural material such as introducing urea-formaldehyde foam insulation into frame walls.

Failing to stabilize a deteriorated or damaged structural system until additional work is undertaken, thus allowing further damage to occur to the historic building.

Failing to provide proper building maintenance so that deterioration of the structural system results. Causes of deterioration include subsurface ground movement, vegetation growing too close to foundation walls, improper grading, fungal rot, and poor interior ventilation that results in condensation.

Utilizing destructive probing techniques that will damage or destroy structural material.

*Recommended*

**Repairing** the structural system by augmenting or upgrading individual parts or features using recognized preservation methods. For example, weakened structural members such as floor framing can be paired with a new member, braced, or otherwise supplemented and reinforced.

*Not Recommended*

Upgrading the building structurally in a manner that diminishes the historic character of the exterior, such as installing strapping channels or removing a decorative cornice; or damages interior features or spaces.

Replacing a structural member or other feature of the structural system when it could be augmented and retained.

*The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment **Preservation** and should be only be considered after protection, stabilization, and repair concerns have been addressed.*

*Recommended*

**Limited Replacement in Kind**

Replacing in kind those visible portions or features of the structural system that are either extensively deteriorated or missing when there are surviving prototypes such as cast iron columns and sections of loadbearing walls. The new work should match the old in materials, design, color, and texture; and be unobtrusively dated to guide future research and treatment.

Considering the use of substitute material for unexposed structural replacements, such as roof rafters or trusses. Substitute material should, at a minimum, have equal loadbearing capabilities, and be unobtrusively dated to guide future research and treatment.

*Not Recommended*

Replacing an entire visible feature of the structural system when limited replacement of deteriorated and missing portions is appropriate.

Using material for a portion of an exposed structural feature that does not match the historic feature; or failing to properly document the new work.

Using substitute material that does not equal the loadbearing capabilities of the historic material or design or is otherwise physically or chemically incompatible.

## Building Interior

### Spaces, Features, and Finishes

#### *Recommended*

#### *Interior Spaces*

*Identifying, retaining, and preserving* a floor plan or interior spaces that are important in defining the overall historic character of the building. This includes the size, configuration, proportion, and relationship of rooms and corridors; the relationship of features to spaces; and the spaces themselves such as lobbies, reception halls, entrance halls, double parlors, theaters, auditoriums, and important industrial or commercial spaces.



*Careful documentation of a building's physical condition is the critical first step in determining an appropriate level of intervention. (a) This may include relating the historical research to existing materials and features; or (b) documenting a particular problem such as this cracked ceiling. Photo (a): Jean E. Travers; Photo (b): Lee H. Nelson, FAIA.*

#### *Not Recommended*

Altering a floor plan or interior spaces—including individual rooms—which are important in defining the overall historic character of the building so that, as a result, the character is diminished.



*Recommended***Interior Features and Finishes**

*Identifying, retaining, and preserving* interior features and finishes that are important in defining the overall historic character of the building, including columns, cornices, baseboards, fireplaces and mantels, panelling, light fixtures, hardware, and flooring; and wallpaper, plaster, paint, and finishes such as stencilling, marbling, and graining; and other decorative materials that accent interior features and provide color, texture, and patterning to walls, floors, and ceilings.

*Stabilizing* deteriorated or damaged interior features and finishes as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

*Protecting and maintaining* masonry, wood, and architectural metals that comprise interior features through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and reapplication of protective coating systems.

*Not Recommended*

Altering features and finishes which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Replacing historic interior features and finishes instead of repairing or replacing only the deteriorated masonry.

Installing new decorative material that obscures or damages character-defining interior features or finishes.

Removing historic finishes, such as paint and plaster, or historic wall coverings, such as wallpaper.

Applying paint, plaster, or other finishes to surfaces that have been historically unfinished.

Stripping paint to bare wood rather than repairing or reapplying grained or marbled finishes to features such as doors and paneling.

Changing the type of finish or its color, such as painting a previously varnished wood feature.

Failing to stabilize a deteriorated or damaged interior feature or finish until additional work is undertaken, thus allowing further damage to occur to the historic building.

Failing to provide adequate protection to materials on a cyclical basis so that deterioration of interior features results.

### *Recommended*

Protecting interior features and finishes against arson and vandalism before project work begins, boarding-up windows, and installing fire alarm systems that are keyed to local protection agencies.

Protecting interior features such as a staircase, mantel, or decorative finishes and wall coverings against damage during project work by covering them with heavy canvas or plastic sheets.

Installing protective coverings in areas of heavy pedestrian traffic to protect historic features such as wall coverings, parquet flooring and panelling.

Removing damaged or deteriorated paints and finishes to the next sound layer using the gentlest method possible, then repainting or refinishing using compatible paint or other coating systems.

Repainting with colors that are appropriate to the historic building.

Limiting abrasive cleaning methods to certain industrial warehouse buildings where the interior masonry or plaster features do not have distinguishing design, detailing, tooling, or finishes; and where wood features are not finished, molded, beaded, or worked by hand. Abrasive cleaning should only be considered after other, gentler methods have been proven ineffective.

Evaluating the existing condition of materials to determine whether more than protection and maintenance are required, that is, if repairs to interior features and finishes will be necessary.

### *Not Recommended*

Permitting entry into historic buildings through unsecured or broken windows and doors so that the interior features and finishes are damaged by exposure to weather or vandalism.

Stripping interiors of features such as woodwork, doors, windows, light fixtures, copper piping, radiators; or of decorative materials.

Failing to provide proper protection of interior features and finishes during work so that they are gouged, scratched, dented, or otherwise damaged.

Failing to take new use patterns into consideration so that interior features and finishes are damaged.

Using destructive methods such as propane or butane torches or sandblasting to remove paint or other coatings. These methods can irreversibly damage the historic materials that comprise interior features.

Using new paint colors that are inappropriate to the historic building.

Changing the texture and patina of character-defining features through sandblasting or use of abrasive methods to remove paint, discoloration or plaster. This includes both exposed wood (including structural members) and masonry.

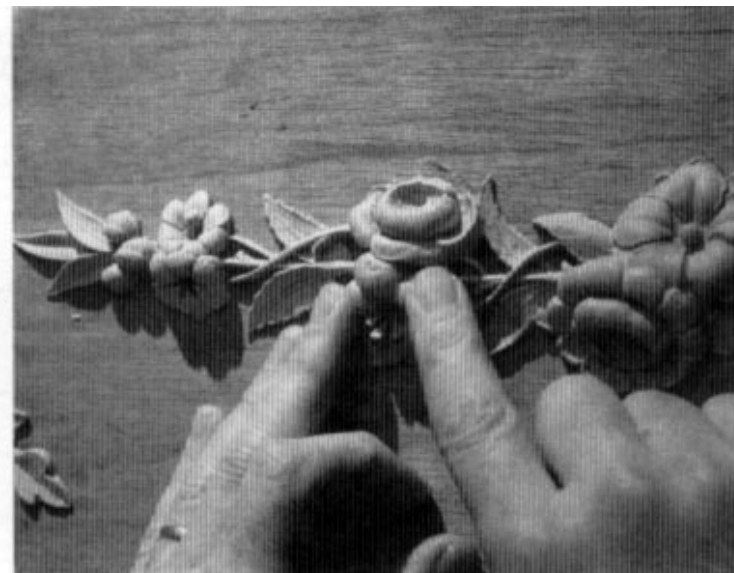
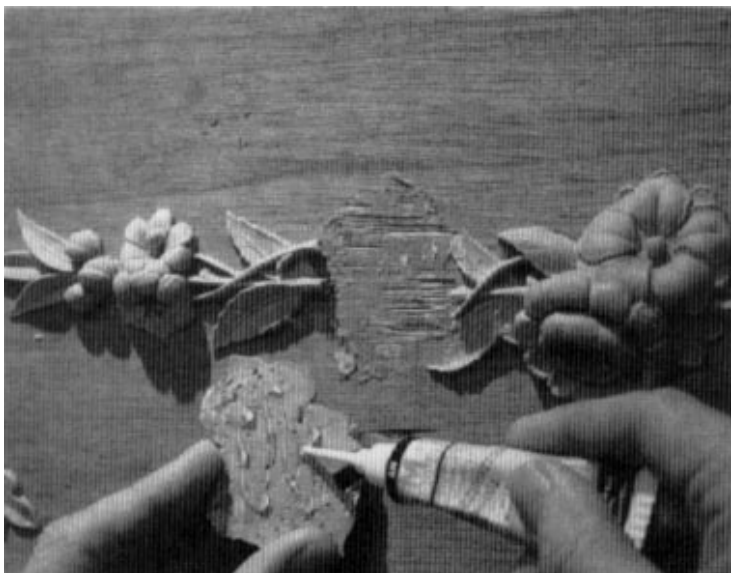
Failing to undertake adequate measures to assure the protection of interior features and finishes.

*Recommended*

*Repairing* historic interior features and finishes by reinforcing the materials using recognized preservation methods. The new work should match the old in material, design, color, and texture; and be unobtrusively dated to guide future research and treatment.

*Not Recommended*

Removing materials that could be repaired, using improper techniques, or failing to document the new work.



*In Preservation, an appropriate level of intervention is established prior to work in order to maximize retention of historic materials.*

*(a) A conservator is applying adhesive to 19th century composition ornament that has delaminated from its wood substrate.*

*(b) The compo fragment is carefully held in place until the quick-setting adhesive takes hold. Photos: Jonathan Thornton.*

## Preservation

*The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment **Preservation**, and should only be considered after protection, stabilization, and repair concerns have been addressed.*

### *Recommended*

#### **Limited Replacement in Kind**

Replacing in kind extensively deteriorated or missing parts of repeated interior features when there are surviving prototypes such as stairs, balustrades, wood panelling, columns; or decorative wall coverings or ornamental tin or plaster ceilings. New work should match the old in material, design, color, and texture; and be unobtrusively dated to guide future research and treatment.

### *Not Recommended*

Replacing an entire interior feature when limited replacement of deteriorated and missing parts is appropriate.

Using replacement material that does not match the interior feature; or failing to properly document the new work.



## Building Interior

### Mechanical Systems: Heating, Air Conditioning, Electrical, and Plumbing

#### *Recommended*

*Identifying, retaining, and preserving* 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, switchplates, and lights.

*Stabilizing* deteriorated or damaged mechanical systems as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

*Protecting and maintaining* mechanical, plumbing, and electrical systems and their features through cyclical cleaning and other appropriate measures.

Preventing accelerated deterioration of mechanical systems by providing adequate ventilation of attics, crawlspaces, and cellars so that moisture problems are avoided.

Improving the energy efficiency of existing mechanical systems to help reduce the need for elaborate new equipment.

*Repairing* mechanical systems by augmenting or upgrading system parts, such as installing new pipes and ducts; rewiring; or adding new compressors or boilers.

*Replacing* in kind those visible features of mechanical systems that are either extensively deteriorated or are prototypes such as ceiling fans, switchplates, radiators, grilles, or plumbing fixtures.

#### *Not Recommended*

Removing or altering visible features of mechanical systems that are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Failing to stabilize a deteriorated or damaged mechanical system until additional work is undertaken, thus allowing further damage to occur to the historic building.

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of mechanical systems and their visible features results.

Enclosing mechanical systems in areas that are not adequately ventilated so that deterioration of the systems results.

Installing unnecessary climate control systems which can add excessive moisture to the building. This additional moisture can either condense inside, damaging interior surfaces, or pass through interior walls to the exterior, potentially damaging adjacent materials as it migrates.

Replacing a mechanical system or its functional parts when it could be upgraded and retained.

Installing a visible replacement feature that does not convey the same visual appearance.

## Preservation

*The following should be considered in a **Preservation** project when the installation of new mechanical equipment or system is required to make the building functional.*

### *Recommended*

Installing a new mechanical system if required, so that it causes the least alteration possible to the building.

Providing adequate structural support for new mechanical equipment.

Installing the vertical runs of ducts, pipes, and cables in closets, service rooms, and wall cavities.

Installing air conditioning in such a manner that historic features are not damaged or obscured and excessive moisture is not generated that will accelerate deterioration of historic materials.

### *Not Recommended*

Installing a new mechanical system so that character-defining structural or interior features are radically changed, damaged, or destroyed.

Failing to consider the weight and design of new mechanical equipment so that, as a result, historic structural members or finished surfaces are weakened or cracked.

Installing vertical runs of ducts, pipes, and cables in places where they will obscure character-defining features.

Concealing mechanical equipment in walls or ceilings in a manner that requires excessive removal of historic building material.

Cutting through features such as masonry walls in order to install air conditioning units.

## Building Site

### *Recommended*

*Identifying, retaining, and preserving* buildings and their features as well as features of the site that are important in defining its overall historic character. Site features may include circulation systems such as walks, paths, roads, or parking; vegetation such as trees, shrubs, fields, or herbaceous plant material; landforms such as terracing, berms or grading; furnishings such as lights, fences, or benches; decorative elements such as sculpture, statuary or monuments; water features including fountains, streams, pools, or lakes; and subsurface archeological features which are important in defining the history of the site.

Retaining the historic relationship between buildings and the landscape.

*Stabilizing* deteriorated or damaged building and site features as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.



### *Not Recommended*

Altering buildings and their features or site features which are important in defining the overall historic character of the property so that, as a result, the character is diminished.

Removing or relocating buildings or landscape features, thus destroying the historic relationship between buildings and the landscape.

Failing to stabilize a deteriorated or damaged building or site feature until additional work is undertaken, thus allowing further damage to occur to the building site.

*Drayton Hall, near Charleston, South Carolina, is an excellent example of an evolved 18th century plantation. Of particular note in this photograph are the landscape features added in the late 19th century—a reflecting pond and rose mound. With an overall Preservation treatment plan, these later features have been retained and protected. If a Restoration treatment had been selected, later features of the landscape as well as changes to the house would have been removed. Photo: Courtesy, National Trust for Historic Preservation.*

### *Recommended*

**Protecting and maintaining** buildings and sites by providing proper drainage to assure that water does not erode foundation walls; drain toward the building; or damage or erode the landscape.

Minimizing disturbance of terrain around buildings or elsewhere on the site, thus reducing the possibility of destroying or damaging important landscape features or archeological resources.

Surveying and documenting areas where the terrain will be altered to determine the potential impact to important landscape features or archeological resources.

Protecting, e.g., preserving in place, important archeological resources.

Planning and carrying out any necessary investigation using professional archeologists and modern archeological methods when preservation in place is not feasible.

Preserving important landscape features, including ongoing maintenance of historic plant material.

Protecting building and landscape features against arson and vandalism before preservation work begins, i.e., erecting protective fencing and installing alarm systems that are keyed into local protection agencies.

Providing continued protection of historic building materials and plant features through appropriate cleaning, rust removal, limited paint removal, and re-application of protective coating systems; and pruning and vegetation management.

### *Not Recommended*

Failing to maintain adequate site drainage so that buildings and site features are damaged or destroyed; or alternatively, changing the site grading so that water no longer drains properly.

Introducing heavy machinery into areas where it may disturb or damage important landscape features or archeological resources.

Failing to survey the building site prior to beginning work which results in damage to, or destruction of, important landscape features or archeological resources.

Leaving known archeological material unprotected so that it is damaged during preservation work.

Permitting unqualified personnel to perform data recovery on archeological resources so that improper methodology results in the loss of important archeological material.

Allowing important landscape features to be lost or damaged due to a lack of maintenance.

Permitting the property to remain unprotected so that the building and landscape features or archeological resources are damaged or destroyed.

Removing or destroying features from the buildings or site such as wood siding, iron fencing, masonry balustrades, or plant material.

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of building and site feature results.

*Recommended*

Evaluating the existing condition of materials and features to determine whether more than protection and maintenance are required, that is, if repairs to building and site features will be necessary.

*Repairing* features of the building and site by reinforcing historic materials using recognized preservation methods. The new work should be unobtrusively dated to guide future research and treatment.

*Not Recommended*

Failing to undertake adequate measures to assure the protection of building and site features.

Removing materials that could be repaired, using improper repair techniques, or failing to document the new work.

*The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment **Preservation**, and should only be considered after protection, stabilization, and repair concerns have been addressed.*

*Recommended*

**Limited Replacement in Kind**

Replacing in kind extensively deteriorated or missing parts of the building or site where there are surviving prototypes such as part of a fountain, or portions of a walkway. New work should match the old in materials, design, color, and texture; and be unobtrusively dated to guide future research and treatment.

*Not Recommended*

Replacing an entire feature of the building or site when limited replacement of deteriorated and missing parts is appropriate.

Using replacement material that does not match the building site feature; or failing to properly document the new work.

## Setting (District/Neighborhood)

### *Recommended*

*Identifying retaining, and preserving* building and landscape features which are important in defining the historic character of the setting. Such features can include roads and streets, furnishings such as lights or benches, vegetation, gardens and yards, adjacent open space such as fields, parks, commons or woodlands, and important views or visual relationships.

Retaining the historic relationship between buildings and landscape features of the setting. For example, preserving the relationship between a town common and its adjacent historic houses, municipal buildings, historic roads, and landscape features.

*Stabilizing* deteriorated or damaged building and landscape features of the setting as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

*Protecting and maintaining* historic building materials and plant features through appropriate cleaning, rust removal, limited paint removal, and reapplication of protective coating systems; and pruning and vegetation management.

Protecting building and landscape features against arson and vandalism before preservation work begins by erecting protective fencing and installing alarm systems that are keyed into local preservation agencies.

Evaluating the existing condition of the building and landscape features to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary.

### *Not Recommended*

Altering those features of the setting which are important in defining the historic character.

Altering the relationship between the buildings and landscape features within the setting by widening existing streets, changing landscape materials, or constructing inappropriately located new streets or parking.

Removing or relocating historic buildings or landscape features, thus destroying their historic relationship within the setting.

Failing to stabilize a deteriorated or damaged building or landscape feature of the setting until additional work is undertaken, thus allowing further damage to the setting to occur.

Failing to provide adequate protection of materials on a cyclical basis which results in the deterioration of building and landscape features.

Permitting the building and setting to remain unprotected so that interior or exterior features are damaged.

Stripping or removing features from buildings or the setting such as wood siding, iron fencing, terra cotta balusters, or plant material.

Failing to undertake adequate measures to assure the protection of building and landscape features.

*Recommended*

**Repairing** features of the building and landscape using recognized preservation methods. The new work should be unobtrusively dated to guide future research and treatment.

*The following work is highlighted because it represents the greatest degree of intervention generally recommended within the treatment **Preservation**, and should only be considered after protection, stabilization, and repair concerns have been addressed.*

*Not Recommended*

Removing material that could be repaired, using improper repair techniques, or failing to document the new work.

*Recommended*

**Limited Replacement in Kind**

Replacing in kind extensively deteriorated or missing parts of building and landscape features where there are surviving prototypes such as porch balustrades or paving materials.

*Not Recommended*

Replacing an entire feature of the building or landscape when limited replacement of deteriorated and missing parts is appropriate.

Using replacement material that does not match the building or landscape feature; or failing to properly document the new work.



*The goal of Preservation is to retain the historic form, materials, and features of the building and its site as they have changed—or evolved—over time. This bank barn was built in the 1820s, then enlarged in 1898 and again in 1914. Today, it continues its role as a working farm structure as a result of sensitive preservation work. This included foundation re-grading; a new gutter system; structural strengthening; and replacement of a severely deteriorated metal roof. Photo: Jack E. Boucher, HABS.*

*Although the work in the following sections is quite often an important aspect of preservation projects, it is usually not part of the overall process of preserving character-defining features (maintenance, repair, and limited replacement); rather, such work is assessed for its potential negative impact on the building's historic character. For this reason, particular care must be taken not to obscure, alter, or damage character-defining features in the process of preservation work.*

### Energy Efficiency

#### *Recommended*

#### *Masonry/Wood/Architectural Metals*

Installing thermal insulation in attics and in unheated cellars and crawlspaces to increase the efficiency of the existing mechanical systems.

Installing insulating material on the inside of masonry walls to increase energy efficiency where there is no character-defining interior molding around the windows or other interior architectural detailing.

#### *Windows*

Utilizing the inherent energy conserving features of a building by maintaining windows and louvered blinds in good operable condition for natural ventilation.

Improving thermal efficiency with weatherstripping, storm windows, caulking, interior shades, and if historically appropriate, blinds and awnings.

Installing interior storm windows with air-tight gaskets, ventilating holes, and/or removable clips to insure proper maintenance and to avoid condensation damage to historic windows.

Installing exterior storm windows which do not damage or obscure the windows and frames.

#### *Not Recommended*

Applying thermal insulation with a high moisture content in wall cavities which may damage historic fabric.

Installing wall insulation without considering its effect on interior molding or other architectural detailing.

Removing historic shading devices rather than keeping them in an operable condition.

Replacing historic multi-paned sash with new thermal sash utilizing false muntins.

Installing interior storm windows that allow moisture to accumulate and damage the window.

Installing new exterior storm windows which are inappropriate in size or color.

Replacing windows or transoms with fixed thermal glazing or permitting windows and transoms to remain inoperable rather than utilizing them for their energy conserving potential.



*Recommended*

*Entrances and Porches*

Maintaining porches and double vestibule entrances so that they can retain heat or block the sun and provide natural ventilation.

*Interior Features*

Retaining historic interior shutters and transoms for their inherent energy conserving features.

*Mechanical Systems*

Improving energy efficiency of existing mechanical systems by installing insulation in attics and basements.

*Building Site*

Retaining plant materials, trees, and landscape features which perform passive solar energy functions such as sun shading and wind breaks.

*Setting*

*(District/Neighborhood)*

Maintaining those existing landscape features which moderate the effects of the climate on the setting such as deciduous trees, evergreen wind-blocks, and lakes or ponds.

*Not Recommended*

Changing the historic appearance of the building by enclosing porches.

Removing historic interior features which play an energy conserving role.

Replacing existing mechanical systems that could be repaired for continued use.

Removing plant materials, trees, and landscape features that perform passive solar energy functions.

Stripping the setting of landscape features and landforms so that the effects of wind, rain, and sun result in accelerated deterioration of the historic building.

### Accessibility Considerations

#### *Recommended*

Identifying the historic building's character-defining spaces, features, and finishes so that accessibility code-required work will not result in their damage or loss.

Complying with barrier-free access requirements, in such a manner that character-defining spaces, features, and finishes are preserved.

Working with local disability groups, access specialists, and historic preservation specialists to determine the most appropriate solution to access problems.

Providing barrier-free access that promotes independence for the disabled person to the highest degree practicable, while preserving significant historic features.

Finding solutions to meet accessibility requirements that minimize the impact on the historic building and its site, such as compatible ramps, paths, and lifts.

#### *Not Recommended*

Undertaking code-required alterations before identifying those spaces, features, or finishes which are character-defining and must therefore be preserved.

Altering, damaging, or destroying character-defining features in attempting to comply with accessibility requirements.

Making changes to buildings without first seeking expert advice from access specialists and historic preservationists to determine solutions.

Making access modifications that do not provide a reasonable balance between independent, safe access and preservation of historic features.

Making modifications for accessibility without considering the impact on the historic building and its site.

## Health and Safety Considerations

### *Recommended*

Identifying the historic building's character-defining spaces, features, and finishes so that code-required work will not result in their damage or loss.

Complying with health and safety codes, including seismic code requirements, in such a manner that character-defining spaces, features, and finishes are preserved.

Removing toxic building materials only after thorough testing has been conducted and only after less invasive abatement methods have been shown to be inadequate.

Providing workers with appropriate personal protective equipment for hazards found in the worksite.

Working with local code officials to investigate systems, methods, or devices of equivalent or superior effectiveness and safety to those prescribed by code so that unnecessary alterations can be avoided.

Upgrading historic stairways and elevators to meet health and safety codes in a manner that assures their preservation, i.e., so that they are not damaged or obscured.

Installing sensitively designed fire suppression systems, such as sprinkler systems that result in retention of historic features and finishes.

Applying fire-retardant coatings, such as intumescent paints, which expand during fire to add thermal protection to steel.

Adding a new stairway or elevator to meet health and safety codes in a manner that preserves adjacent character-defining features and spaces.

### *Not Recommended*

Undertaking code-required alterations to a building or site before identifying those spaces, features, or finishes which are character-defining and must therefore be preserved.

Altering, damaging, or destroying character-defining spaces, features, and finishes while making modifications to a building or site to comply with safety codes.

Destroying historic interior features and finishes without careful testing and without considering less invasive abatement methods.

Removing unhealthful building materials without regard to personal and environmental safety.

Making changes to historic buildings without first exploring equivalent health and safety systems, methods, or devices that may be less damaging to historic spaces, features, and finishes.

Damaging or obscuring historic stairways and elevators or altering adjacent spaces in the process of doing work to meet code requirements.

Covering character-defining wood features with fire-resistant sheathing which results in altering their visual appearance.

Using fire-retardant coatings if they damage or obscure character-defining features.

Radically changing, damaging, or destroying character-defining spaces, features, or finishes when adding a new code-required stairway or elevator.