

# Standards for Restoration and Guidelines for Restoring Historic Buildings

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

**Standards for Restoration**

1. A property will be used as it was historically or be given a new use which reflects the property's restoration period.
2. Materials and features from the restoration period will be retained and preserved. The removal of materials or alteration of features, spaces, and spatial relationships that characterize the period will not be undertaken.
3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate and conserve materials and features from the restoration period will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.
4. Materials, features, spaces, and finishes that characterize other historical periods will be documented prior to their alteration or removal.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize the restoration period will be preserved.
6. Deteriorated features from the restoration period will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials.
7. Replacement of missing features from the restoration period will be substantiated by documentary and physical evidence. A false sense of history will not be created by adding conjectural features, features from other properties, or by combining features that never existed together historically.

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**Standards for Restoration**

8. 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.
9. Archeological resources affected by a project will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
10. Designs that were never executed historically will not be constructed.

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## Guidelines for Restoring Historic Buildings

### Introduction

**Restoration** is the treatment that should be followed when the expressed goal of the project is to make the building appear as it did at a particular—and most significant—time in its history. The guidance provided by the **Standards for Restoration and Guidelines for Restoring Historic Buildings** is to first *identify* the materials and features from the *restoration period*. After these materials and features have been identified, they should be *maintained, protected, repaired, and replaced* when necessary. Unlike the other treatments in which most, if not all, of the historic elements are retained, restoration will likely include the *removal* of features from other periods. Missing features from the restoration period should be *replaced* with either traditional or compatible substitute materials. The final guidance emphasizes that only those designs that can be documented as having been built should be recreated in a restoration project.

### Identify, Retain, and Preserve Materials and Features from the Restoration Period

The guidance for the treatment **Restoration** begins with recommendations to identify the form and detailing of those existing architectural materials and features that are significant to the *restoration period* as established by historic research and documentation. Thus, guidance on *identifying, retaining, and preserving* features from the *restoration period* is always given first.

### Protect and Maintain Materials and Features from the Restoration Period

After identifying those existing materials and features from the restoration period that must be retained in the process of **Restoration** work, then *protecting and maintaining* them is addressed. Protection generally involves the least degree of intervention and is preparatory to other work. Protection includes the maintenance of materials and features from the *restoration period*; or the installation of fencing, alarm systems, and other temporary protective measures. An overall evaluation of the physical condition of the features from the *restoration period* should always begin at this level.

### Repair (Stabilize, Consolidate, and Conserve) Materials and Features from the Restoration Period

Next, when the physical condition of *restoration period* features requires additional work, *repairing* by *stabilizing, consolidating, and conserving* is recommended. **Restoration** guidance focuses upon the preservation of those materials and features that are significant to the period. In Restoration, repair may also include the limited replacement in kind—or with compatible substitute material—of extensively deteriorated or missing parts of existing *restoration-period* features when there are surviving prototypes to use as a model.

### Replace Extensively Deteriorated Features from the Restoration Period

In **Restoration**, *replacing* an entire feature from the *restoration period*, such as a porch, that is too deteriorated to repair may be appropriate. Together with documentary evidence, the form and detailing of the historic feature should be used as a model for the replacement.

Using the same kind of material is preferred; however, compatible substitute material may be considered. New work may be unobtrusively dated to guide future research and treatment.

If documentary and physical evidence are not available to provide an accurate recreation of missing features, the treatment Rehabilitation might be a better overall approach to project work.

### **Remove Existing Features from Other Historic Periods**

Most buildings change over time, but in **Restoration** the goal is to depict the building as it appeared at the most significant time in its history. Thus, it may involve *removing* or altering existing historic features that do not represent the *restoration period*. Prior to altering or removing materials, features, spaces, and finishes that characterize other historical periods, they should be documented to guide future research and treatment.

### **Recreate Missing Features from the Restoration Period**

Most **Restoration** projects involve *recreating* features that were significant to the building during the *restoration period*, such as a porch, but are now missing. Missing features to be replaced should be substantiated by documentary and physical evidence to ensure the restoration is accurate. Using traditional materials to depict lost features is always the preferred approach; however, using compatible substitute material is an acceptable alternative in Restoration because the goal of this treatment is to replicate the *appearance* of the historic building at a particular time.

If documentary and physical evidence are not available to provide an accurate recreation of missing features, the treatment Rehabilitation might be a better overall approach to project work.

### **Code-Required Work**

#### **Accessibility and Health and Safety**

Sensitive solutions to meeting code requirements in a **Reconstruction** project are an important part of protecting the historic character of the building. Thus, work that must be done to meet accessibility and life-safety requirements must also be assessed for its potential impact on the historic building as it is restored.

***Restoration as a Treatment.*** *When the property's design, architectural, or historical significance during a particular period of time outweighs the potential loss of extant materials, features, spaces, and finishes that characterize other historical periods; when there is substantial physical and documentary evidence for the work; and when contemporary alterations and additions are not planned, Restoration may be considered as a treatment. Prior to undertaking work, a particular period of time, i.e., the restoration period, should be selected and justified, and a documentation plan for Restoration developed.*

## Masonry

### *Recommended*

**Identifying, retaining and preserving** masonry features from the restoration period such as walls, brackets, railings, cornices, window and door surrounds, steps, and columns; and decorative ornament and other details such as tooling and bonding patterns, coatings, and color.

**Protecting and maintaining** masonry by ensuring that historic features from the restoration period, such as roof overhangs, gutters and downspouts, that divert rainwater from masonry surfaces are intact and functioning properly.

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

### *Not Recommended*

Altering masonry features from the restoration period.

Failing to properly document masonry features from the restoration period which may result in their loss.

Applying paint or other coatings, such as stucco to masonry or removing paint or stucco from masonry, if such treatments cannot be documented to the restoration period.

Changing the type of paint or coating or its color unless the work can be substantiated by historical documentation.

Failing to evaluate and treat the various causes of mortar joint deterioration such as leaking roofs or gutters, or action rising damp.

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

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Carrying out masonry cleaning tests when it has been determined that cleaning is appropriate. Test areas should be examined to ensure that no damage has resulted and, ideally, monitored over a sufficient period of time to allow long-range effects to be predicted.

Cleaning soiled masonry surfaces with the gentlest method possible, such as low-pressure water and detergent, using natural bristle or other soft brushes.

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

Cleaning or removing paint from brick or stone surfaces from the restoration period using most abrasive methods, including high-pressure water which can damage the surface of the masonry.

Using a cleaning or paint-removal 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 failing to neutralize or rinse off chemical cleaners from masonry surfaces.

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Using biodegradable or environmentally-safe cleaning products.

Using paint-removal methods that employ a poultice to which paint adheres, when possible, to neatly and safely remove old lead paint.

Using coatings that encapsulate lead paint, when possible, so that it does not have to be removed to meet life-safety code requirements.

Allowing only trained conservators to use abrasive or laser cleaning methods when necessary to clean hard-to-reach, highly-carved, or detailed decorative stone features.

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

Removing paint that is firmly adhering to masonry surfaces.

Applying compatible paint coating systems to historically-painted masonry features from the restoration period following proper surface preparation.

Repainting with colors that are documented to the restoration period of the building.

Using paint colors that are not documented to the restoration period.

Protecting adjacent restoration-period materials when cleaning or removing paint from masonry.

Failing to protect adjacent materials from the restoration period when cleaning or removing paint from masonry.

Evaluating the existing condition of masonry from the restoration period to determine whether more than protection and maintenance are required, such as repairs to masonry features, will be necessary.

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

Removing masonry from the restoration period that could be stabilized, repaired, and conserved; or using untested consolidants and unskilled personnel, thus risking further damage to fragile materials.

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

Removing deteriorated lime mortar from the restoration period carefully by hand raking the joints to avoid damaging the masonry.

Using power tools in conjunction with hand chiseling to remove hard mortar from the restoration period that is deteriorated or is a non-historic material that is causing damage to the masonry units. Power cutting tools should generally not be used on short, vertical joints in brick masonry.

Duplicating restoration-period mortar in strength, composition, color, and texture when repointing is necessary.

Duplicating restoration-period mortar joints in width and joint profile when repointing is necessary.

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

Removing non-deteriorated mortar from sound joints from the restoration period.

Allowing unskilled workers to use masonry saws to remove deteriorated mortar from joints prior to repointing.

Repointing with mortar of high Portland cement content (unless it is the content of the mortar from the restoration period).

Repointing masonry from the restoration period with a synthetic caulking compound (unless caulking was used in the restoration period).

Using “surface grouting” or a “scrub” coating technique, such as a “sack rub,” or “mortar washing,” to repoint exterior masonry units from the restoration period instead of traditional repointing methods.

Changing the width or joint profile when repointing masonry from the restoration period.

Removing sound stucco from the restoration period; or repairing with new stucco that is different in composition from the historic stucco.

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Using mud plaster as a surface coating to repair, unfired, unstabilized adobe from the restoration period.

Sealing joints in concrete from the restoration period with appropriate flexible sealants and backer rods, when necessary.

Cutting damaged concrete from the restoration period back to remove the source of deterioration, such as corrosion on metal reinforcement bars. The new patch must be applied carefully so that it will bond satisfactorily with, and match, the historic concrete.

Using a non-corrosive, stainless-steel anchoring system when replacing damaged terra-cotta units from the restoration period that have failed.

Repairing masonry features from the restoration period by patching, splicing or otherwise reinforcing the masonry using recognized preservation methods. Repair may also include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing components of masonry features from the restoration period when there are surviving prototypes such as terra-cotta brackets or stone balusters; or when the replacement can be based on physical or historic documentation. The new work should match the old in material, design, color, and texture. The new work may be unobtrusively dated to guide future research and treatment.

Applying cement stucco to unfired, unstabilized adobe from the restoration period.

Patching concrete without removing the source of deterioration.

Replacing an entire masonry feature from the restoration period, such as a cornice or balustrade, when repair of the masonry and limited replacement of deteriorated or missing components are appropriate.

Using a substitute material for the replacement that does not convey the same appearance of the surviving components of the masonry feature from the restoration period or that is physically incompatible.

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Applying non-historic surface treatments, such as water-repellent coatings, to masonry from the restoration period only after repointing and only if masonry repairs have failed to arrest water penetration problems.

**Replacing** in kind an entire masonry feature from the restoration period that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence as a model to reproduce the feature; or when the replacement can be based on historic documentation. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered. The new work may be unobtrusively dated to guide future research and treatment.

Applying waterproof, water-repellent, or other historic coatings that are not from the restoration period, such as stucco, to masonry as a substitute for repointing and masonry repairs.

Removing a masonry feature from the restoration period that is unrepairable and not replacing it to match.

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*The following **Restoration** work is highlighted to indicate that it involves the removal or alteration of existing historic masonry features that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing masonry features from the restoration period using all new materials.*

*Recommended*

*Not Recommended*

### **Removing Existing Features from Other Historic Periods**

Removing masonry features from other historic periods such as a doorway, porch, or steps.

Failing to remove a masonry feature from another period, thus confusing the depiction of the building's significance.

Documenting masonry features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored for future research.

Failing to document masonry features from other historic periods that are removed from the building so that a valuable portion of the historic record is lost.

### **Recreating Missing Features from the Restoration Period**

Recreating a missing masonry feature that existed during the restoration period based on physical or documentary evidence; for example, duplicating a terra-cotta bracket or stone balustrade.

Constructing a masonry feature that was part of the original design for the building but was never actually built; or constructing a feature which was thought to have existed during the restoration period, but which cannot be documented.

**Wood***Recommended*

**Identifying, retaining, and preserving** wood features from the restoration period such as siding, cornices, brackets, window and door surrounds, and steps; and their paints, finishes, and colors.

**Protecting and maintaining** wood features from the restoration period by ensuring that historic features, such as roof overhangs, gutters and downspouts, which divert rainwater from wood surfaces are intact and functioning properly.

Applying chemical preservatives to wood features from the restoration period, such as beam ends, outriggers or rafter tails, that are subject to decay and were historically unpainted.

*Not Recommended*

Altering wood features from the restoration period.

Failing to properly document wood features from the restoration period which may result in their loss.

Applying paint or other coatings to wood or removing paint from wood if such treatments cannot be documented to the restoration period.

Changing the type of paint or coating or its color from the restoration period.

Failing to 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 fungal infestation.

Using chemical preservatives that can change the appearance of wood features from the restoration period.

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Undertaking preventive measures to guard against insect damage, such as installing termite guards, fumigating, and treating with chemicals.

Retaining coatings from the restoration period such as paint. Paint removal should be considered only when the paint is deteriorated and as part of an overall maintenance program which involves repainting or applying other appropriate coatings.

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

Using thermal devices, such as infrared heaters, carefully to remove paint, when paint is so deteriorated that total removal is necessary prior to repainting.

Using paint-removal methods that employ a poultice to which paint adheres, when possible, to neatly and safely remove old lead paint.

Stripping paint or other coatings from the restoration period from wood features without recoating.

Removing paint that is firmly adhering to wood surfaces.

Using any thermal method to remove paint from wood features that may have flammable debris behind them without first inspecting them and removing any debris.

Using potentially damaging paint-removal methods such as open-flame torches, abrasive methods, or caustic paint removers. These methods can irreversibly damage historic wood features.

Using thermal devices without limiting the amount of time the wood is exposed to heat.

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Using coatings that encapsulate lead paint when possible so that it does not have to be removed to meet life-safety code requirements.

Using biodegradable or environmentally-safe paint removers.

Using chemical strippers primarily to supplement other methods such as hand scraping, hand sanding, and thermal devices.

Applying compatible paint coating systems following proper surface preparation.

Repainting with colors that are documented to the restoration period.

Protecting wood features from the restoration period when working on other building materials from the restoration period.

Evaluating the existing condition of wood features from the restoration period to determine whether more than protection and maintenance are required, such as repairs to wood features, will be necessary.

**Repairing, stabilizing, and conserving** wood features from the restoration period using well-tested consolidation treatments, or otherwise reinforcing the wood, when necessary. Repairs should be physically and visually compatible and identifiable upon close inspection for future research.

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

Using paint colors that are not documented to the restoration period.

Failing to protect wood features from the restoration period when working on other building materials.

Removing wood features from the restoration period that could be stabilized and conserved; or using untested consolidants or unskilled personnel, thus risking further damage to fragile historic materials.

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Repairing wood features from the restoration period by patching, splicing, or otherwise reinforcing the wood using recognized preservation methods. Repair may also include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing components of features from the restoration period when there are surviving prototypes such as brackets, molding, or sections of siding. The new work may be unobtrusively dated to guide future research and treatment.

**Replacing** in kind an entire wood feature from the restoration period that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence as a model to reproduce the feature; or when the replacement can be based on historic documentation. Examples of such wood features include a cornice, entablature, or a balustrade. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered. The new work may be unobtrusively dated to guide future research and treatment.

Replacing an entire wood feature from the restoration period, such as a cornice or porch railing, when repair of the wood and limited replacement of deteriorated or missing parts are appropriate.

Using substitute material for the replacement component that does not convey the same appearance of the surviving elements of the wood feature from the restoration period or that is physically incompatible.

Removing a wood feature from the restoration period that is unrepairable and not replacing it to match.

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*The following **Restoration** work is highlighted to indicate that it involves the removal or alteration of existing historic wood features that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing wood features from the restoration period using all new materials.*

*Recommended*

*Not Recommended*

### **Removing Existing Features from Other Historic Periods**

Removing or altering wood features from other historic periods such as a doorway, porch, or steps.

Failing to remove a wood feature from another period, thus confusing the depiction of the building's significance.

Documenting wood features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored for future research.

Failing to document wood features from other historic periods that are removed from the building so that a valuable portion of the historic record is lost.

### **Recreating Missing Features from the Restoration Period**

Recreating a missing wood feature that existed during the restoration period based on physical or historic evidence; for example, duplicating a wood dormer or porch.

Constructing a wood feature that was part of the original design for the building but was never actually built; or constructing a feature which was thought to have existed during the restoration period, but cannot be documented.

**Metals***Recommended*

**Identifying, retaining, and preserving** metal features from the restoration period, such as columns, capitals, pilasters, spandrel panels, 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.

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

Cleaning metals from the restoration period, when necessary, to remove corrosion prior to repainting or applying other appropriate protective coatings.

*Not Recommended*

Altering metal features from the restoration period.

Failing to properly document metal features from the restoration period which may result in their loss.

Changing the type of finish, historic color, or accent scheme of metal features unless the work can be substantiated by historical documentation.

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

Leaving metals, which require protection from the environment, uncoated after cleaning.

Applying paint or other coatings to metals such as copper, bronze, or stainless steel if they were not coated historically, unless a coating is necessary for maintenance.

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

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.

Using non-corrosive chemical methods to clean soft metals from the restoration period, such as lead, tinplate, copper, terneplate, and zinc, which can be easily damaged by abrasive methods.

Removing the patina from historic metal. The patina may be a protective layer on some metals, such as bronze or copper, as well as a distinctive finish.

Using the least abrasive cleaning method on hard metals from the restoration period, such as cast iron, wrought iron, and steel in order to remove paint buildup and corrosion. If hand scraping and wire brushing have proven ineffective, low-pressure abrasive methods may be used as long as they do not damage the surface.

Cleaning soft metals, such as lead, tin, copper, terneplate, and zinc with abrasive methods which will damage the surface of the metal.

Using high-pressure abrasive techniques without first trying gentler cleaning methods prior to cleaning cast iron, wrought iron, or steel.

Applying appropriate paint or other coating systems after cleaning metals from the restoration period to protect them from corrosion.

Failing to reapply coating systems after cleaning metals or alloys that require protection from corrosion.

Repainting with colors that are documented to the restoration period of the building.

Using paint colors that are not documented to the restoration period of the building.

Applying an appropriate protective coating, such as lacquer or wax, to an architectural metal feature, such as a bronze door, that is subject to heavy use.

Protecting metal features from the restoration period when working on other building materials.

Evaluating the existing condition of metals from the restoration period to determine whether more than protection and maintenance are required, such as repairs to metal features, will be necessary.

**Repairing stabilizing and conserving** metal features from the restoration period using recognized treatments. Repairs should be physically and visually compatible and identifiable upon close inspection for future research.

Repairing metal features from the restoration period by patching, splicing, or otherwise reinforcing the metal using recognized preservation methods. Repairs may also include the limited replacement in kind—or with a compatible substitute material—of those extensively deteriorated or missing parts of features when there are surviving prototypes such as porch balusters, column capitals or bases, storefronts, railings, or porch cresting. The new work may be unobtrusively dated to guide future research and treatment.

**Replacing** in kind an entire metal feature from the restoration period that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence as a model to reproduce the feature; or when the replacement can be based on historic documentation. Examples of such a feature could include cast-iron porch steps or steel-sash windows. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered. The new work may be unobtrusively dated to guide future research and treatment.

Failing to protect metal features from the restoration period when working on other building materials.

Removing metal features from the restoration period that could be stabilized and conserved; or using untested consolidants and unskilled personnel, thus risking further damage to fragile materials.

Replacing an entire metal feature from the restoration period, such as a column or balustrade, when repair of the metal and limited replacement of deteriorated or missing parts are feasible.

Using a substitute material for the replacement part that does not convey the same visual appearance of the surviving parts of the metal feature from the restoration period, or that is chemically incompatible.

Removing a metal feature from the restoration period that is unrepairable and not replacing it to match.

*The following **Restoration** work is highlighted to indicate that it involves the removal or alteration of existing historic architectural metal features that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing architectural metal features from the restoration period using all new materials.*

*Recommended*

*Not Recommended*

### **Removing Existing Features from Other Historic Periods**

Removing metal features from other historic periods such as a cast-iron porch railing or aluminum windows.

Failing to remove a metal feature from another period, thus confusing the depiction of the building's significance.

Documenting metal features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored for future research.

Failing to document metal features from other historic periods that are removed from the building so that a valuable portion of the historic record is lost.

### **Recreating Missing Features from the Restoration Period**

Recreating a missing metal feature that existed during the restoration period based on physical or historic documentation; for example, duplicating a cast-iron storefront or porch.

Constructing a metal feature that was part of the original design for the building but was never actually built; or constructing a feature which was thought to have existed during the restoration period, but cannot be documented.

## Roofs

### *Recommended*

**Identifying, retaining, and preserving** roofs from the restoration period—and their functional and decorative features. The shape of the roof—gable, hipped, gambrel, flat, or mansard—is significant, as are its decorative and functional features such as cupolas, cresting, parapets, monitors, chimneys, and weather vanes, dormers, ridge tiles, and snow guards; and roofing materials such as slate, wood, clay tile, or metal; and its size, color, and patterning.

**Protecting and maintaining** a roof from the restoration period by cleaning gutters and downspouts and replacing deteriorated flashing. Roof sheathing should also be checked for indications of moisture due to leaks or condensation.

Providing adequate anchorage for roofing material from the restoration period to guard against wind damage and moisture penetration.

Protecting a leaking roof from the restoration period with a temporary waterproof membrane with synthetic underlayment, roll roofing, plywood, or a tarpaulin until it can be repaired.

### *Not Recommended*

Altering roof and roof features from the restoration period.

Failing to properly document roof features from the restoration period which may result in their loss.

Changing the type or color of roofing materials from the restoration period.

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 of the roof.

Allowing flashing, caps and exposed roof fasteners to corrode which accelerates deterioration.

Leaving a leaking roof from the restoration period unprotected so that accelerated deterioration of historic building materials from the restoration period—masonry, wood, plaster, paint, and structural members—occurs.

Repainting a roofing material from the restoration period that requires a protective coating and was painted historically, such as a tinfoil or terneplate metal roof or gutters, as part of regularly-scheduled maintenance.

Protecting a restoration-period roof covering when working on other roof features from the restoration period.

Evaluating the existing condition of the roofing materials from the restoration period to determine whether more than protection and maintenance are required, such as repairs to roofs and roofing features, will be necessary.

**Repairing** a roof from the restoration period by reinforcing the historic materials which comprise roof features. Repairs will also generally include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of features where there are surviving prototypes such as cupola louvers, cresting, dormer roofing, or roof monitors; or slates or tiles on a main roof. The new work may be unobtrusively dated to guide future research and treatment.

Failing to repaint a roofing material from the restoration period that requires a protective coating and was painted historically, such as a tinfoil or terneplate metal roof, as part of regularly-scheduled maintenance.

Failing to protect restoration-period roof coverings when working on other roof features from the restoration period.

Replacing an entire roof feature from the restoration period, such as a cupola or dormer, when repair of the historic materials and limited replacement of deteriorated or missing components is feasible.

Failing to reuse intact slates or tiles from the restoration period when only the roofing substrate or fasteners need replacement.

Using a substitute material for the replacement that does not convey the same appearance of the surviving components of the roof from the restoration period or that is physically or chemically incompatible.

**Replacing** in kind an entire roof feature from the restoration period that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence as a model to reproduce the feature.; or when the replacement can be based on historic documentation. Examples of such a feature could include a large section of roofing, a dormer, or a chimney. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered. The new work may be unobtrusively dated to guide future research and treatment.

*The following **Restoration** work is highlighted to indicate that it involves the removal or alteration of existing historic roofs and roof features that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing roof features from the restoration period using all new materials.*

*Recommended*

### **Removing Existing Features from Other Historic Periods**

Removing roofs or roof features from other historic periods such as a dormer or asphalt roofing.

Documenting roof features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored for future research.

Removing a roof feature from the restoration period that is unreparable, such as a chimney or dormer, and not replacing it to match.

*Not Recommended*

Failing to remove a roof feature from another period, thus confusing the depiction of the building's significance.

Failing to document roofing materials and roof features from other historic periods that are removed from the building so that a valuable portion of the historic record is lost.

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**Recreating Missing Features from the Restoration Period**

Recreating a missing roofing material or roof feature that existed during the restoration period based on physical or documentary evidence; for example, duplicating a former dormer or cupola.

Constructing a roof feature that was part of the original design for the building but was never actually built; or constructing a feature which was thought to have existed during the restoration period, but cannot be documented.

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## Windows

### *Recommended*

**Identifying, retaining, and preserving** windows from the restoration period and their functional and decorative features. The window material—wood or metal—is important and how the window operates; as well as its components including sash, muntins, ogee lugs, glazing, pane configuration, sills, mullions, hardware, casings or brickmolds; and related features, such as shutters.

Conducting an in depth survey of the condition of existing windows from the restoration period early in the planning process so that repair and upgrading, and, if necessary, possible replacement options can be fully explored.

### *Not Recommended*

Altering windows or window features from the restoration period.

Failing to properly document window features from the restoration period which may result in their loss.

Applying paint or other coatings to window features or removing them if such treatments cannot be documented to the restoration period.

Changing the type or color of protective surface coatings to window features or removing them if such treatments can be documented to the restoration period.

Stripping windows of sound material from the restoration period, such as wood or steel.

Replacing windows from the restoration period solely because of peeling paint, broken glass, stuck sash, or high air infiltration. These conditions, in themselves, do not indicate that windows are beyond repair.

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***Protecting and maintaining*** the wood or metal from the restoration period which comprises the window jamb, sash, and trim through appropriate surface treatments such as cleaning, rust removal, paint removal, and reapplication of protective coatings.

Protecting restoration-period windows from chemical cleaners, paint, or abrasion during work on other features of the building from the restoration period.

Protecting and retaining historic glass from the restoration period when replacing putty or repairing other components of the window.

Making windows from the restoration period weathertight by recaulking gaps in fixed joints, and replacing or installing weatherstripping.

Sustaining the historic operability of windows from the restoration period by lubricating friction points and replacing broken components of the operating system such as hinges, latches, and sash chains or cords.

Evaluating the existing condition of windows from the restoration period to determine whether more than protection and maintenance are required, such as repairs, will be necessary.

Failing to protect and maintain windows from the restoration period on a cyclical basis so that deterioration of the window results.

Failing to protect historic windows from the restoration period when work is being done on other features of the building.

Failing to protect the historic glazing when repairing windows.

Replacing windows from the restoration period rather than maintaining the sash, frame, and glazing.

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**Repairing** window frames and sash from the restoration period by patching, splicing, consolidating, or otherwise reinforcing. Such repair may also include replacement in kind—or with compatible substitute material—of those components that are either extensively deteriorated or missing when there are surviving prototypes such as sash, sills, hardware, or shutters; or when the replacement can be based on physical or historic documentation. The new work may be unobtrusively dated to guide future research and treatment.

Replacing an entire window from the restoration period when repair of materials and limited replacement in kind are appropriate.

Failing to reuse serviceable window hardware from the restoration period such as brass sash lifts and locks.

Using substitute material for the replacement that does not convey the same appearance of the surviving components of the window from the restoration period or that is physically or chemically incompatible.

**Replacing** in kind an entire window from the restoration period that is too deteriorated to repair using the same sash and pane configuration and other design details. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered. The new work may be unobtrusively dated to guide future research and treatment.

Removing a window feature from the restoration period that is unrepairable and not replacing it to match.

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*The following **Restoration** work is highlighted to indicate that it involves the removal or alteration of existing historic windows that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing window features from the restoration period using all new materials.*

*Recommended*

**Removing Existing Features from Other Historic Periods**

Removing windows or window features from other historic periods such as the glazing pattern or inappropriate shutters.

Documenting window features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored for future research.

**Recreating Missing Features from the Restoration Period**

Recreating a missing window or window feature that existed during the restoration period based on physical or documentary evidence; for example, duplicating a hoodmold or shutter.

*Not Recommended*

Failing to remove a window or window feature from another period, thus confusing the depiction of the building's significance.

Failing to document window features from other historic periods that are removed from the building so that a valuable portion of the historic record is lost.

Constructing a window feature that was part of the original design for the building but was never actually built; or constructing a feature which was thought to have existed during the restoration period, but cannot be documented.

## Entrances and Porches

### *Recommended*

**Identifying, retaining, and preserving** entrances and porches from the restoration period—and their functional and decorative features—that are important in defining the overall historic character of the building. The materials themselves are important, including wood, masonry and metal, as well as features, such as doors, transoms, pilasters, columns, balustrades, stairs, roofs, and projecting canopies.

**Protecting and maintaining** the masonry, wood, and metals that comprise entrances and porches from the restoration period through appropriate surface treatments such as cleaning, rust removal, paint removal, and reapplication of protective coatings if the materials were coated historically.

### *Not Recommended*

Altering entrances and porch features from the restoration period.

Failing to document entrance and porch features from the restoration period which may result in their loss.

Applying paint or other coatings to entrance and porch features or removing them if such treatments cannot be documented to the restoration period.

Changing the type or color of protective surface coatings to entrance and porch features from the restoration period.

Stripping entrances and porches of sound material from the restoration period, such as wood, cast iron, tile, or brick.

Failing to protect and maintain materials from the restoration period on a cyclical basis so that deterioration of the window results.

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Protecting porch and entrance materials and features from the restoration period when working on other features of the building.

Evaluating the existing condition of entrances and porches from the restoration period to determine whether more than protection and maintenance are required, such as repairs, will be necessary.

**Repairing** entrances and porches from the restoration period by reinforcing the historic materials. Repair will also generally include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing components of repeated features where there are surviving prototypes such as balustrades, cornices, entablatures, columns, sidelights, and stairs; or when the replacement can be based on physical or historic documentation. The new work may be unobtrusively dated to guide future research and treatment.

**Replacing** in kind an entire entrance or porch from the restoration period that is too deteriorated to repair—if the form and detailing are still evident—using the physical evidence as a model to reproduce the feature. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered. The new work may be unobtrusively dated to guide future research and treatment.

Failing to protect entrances and porches from the restoration period when undertaking work on other features of the building.

Replacing an entire entrance or porch feature from the restoration period when repair of materials and limited replacement in kind are feasible.

Using a substitute material for the replacement component that does not convey the same appearance of the surviving features from the restoration period of the entrance and porch or that is otherwise incompatible.

Removing an entrance or porch feature from the restoration period that is unrepairable and not replacing it to match.

*The following **Restoration** work is highlighted to indicate that it involves the removal or alteration of existing historic entrance or porch features that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing entrance and porch features from the restoration period using all new materials.*

*Recommended*

**Removing Existing Features from Other Historic Periods**

Removing entrances and porches and their features from other historic periods such as a porch railing.

Documenting entrance and porch features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored for future research.

**Recreating Missing Features from the Restoration Period**

Recreating a missing entrance or porch or its features that existed during the restoration period based on physical or historic evidence; for example, duplicating a transom or porch column.

*Not Recommended*

Failing to remove an entrance or porch feature from another period, thus confusing the depiction of the building's significance.

Failing to document entrance and porch features from other historic periods that are removed from the building so that a valuable portion of the historic record is lost.

Constructing an entrance or porch feature that was part of the original design for the building but was never actually built; or constructing a feature which was thought to have existed during the restoration period, but cannot be documented.

## Storefronts

### *Recommended*

**Identifying, retaining, and preserving** storefronts from the restoration period—and their functional and decorative features—that are important in defining the overall historic character of the building. The storefront materials themselves are important, including wood, masonry, metals, and pigmented structural glass; and features such as display windows, base panels, signs, doors, transoms, kick plates, piers, and entablatures; as well as the configuration of the storefront.

**Protecting and maintaining** masonry, wood, and metals which comprise storefronts from the restoration period through appropriate surface treatments such as cleaning, rust removal, paint removal, and reapplication of protective coatings.

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.

### *Not Recommended*

Altering storefronts—and their features—from the restoration period.

Failing to properly document storefront features from the restoration period which may result in their loss.

Applying paint or other coatings to storefront features from the restoration period or removing them if such treatments cannot be documented to the restoration period.

Stripping storefronts of historic material from the restoration period, such as wood, cast iron, pigmented structural glass, or masonry.

Failing to protect and maintain storefront materials from the restoration period on a cyclical basis so that deterioration of the storefront results.

Replacing storefront windows from the restoration period rather than maintaining all the components of the window system.

Leaving the building unsecured with broken windows and doors so that features and finishes can be damaged by exposure to weather or vandalism.

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Protecting restoration-period storefront features when working on other building materials from the restoration period.

Evaluating the existing condition of storefronts from the restoration period to determine whether more than protection and maintenance are required, such as repairs, will be necessary.

**Repairing** storefronts from the restoration period by consolidating or patching the historic materials. Repairs will also generally include the limited replacement in kind—or with compatible substitute materials—of those extensively deteriorated or missing components of storefronts where there are surviving prototypes such as transoms, pilasters, or signs; or when the replacement can be based on physical or historic documentation. The new work may be unobtrusively dated to guide future research and treatment.

**Replacing** in kind an entire storefront from the restoration period that is too deteriorated to repair—if the overall form and detailing are still evident—using physical evidence as a model. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered. The new work may be unobtrusively dated to guide future research and treatment.

Failing to protect the storefront from the restoration period when work is being done on other features of the building.

Replacing an entire storefront from the restoration period when repair of materials and limited replacement in kind are feasible.

Using a substitute material for the replacement that does not convey the same appearance of the surviving components of the storefront or that is physically or chemically incompatible.

Removing a storefront feature from the restoration period that is unrepairable and not replacing it to match.

*The following **Restoration** work is highlighted to indicate that it involves the removal or alteration of existing historic storefronts that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing storefront features from the restoration period using all new materials.*

*Recommended*

*Not Recommended*

### **Removing Existing Features from Other Historic Periods**

Removing or altering storefronts and their features from other historic periods such as inappropriate cladding or signage.

Failing to remove a storefront feature from another period, thus confusing the depiction of the building's significance.

Documenting storefront features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored for future research.

Failing to document storefront features from other historic periods that are removed from the building so that a valuable portion of the historic record is lost.

### **Recreating Missing Features from the Restoration Period**

Recreating a missing storefront or storefront feature that existed during the restoration period based on physical or historic documentation; for example, duplicating a display window or transom.

Constructing a storefront feature that was part of the original design for the building but was never actually built; or constructing a feature which was thought to have existed during the restoration period, but which cannot be documented.

## Structural Systems

### *Recommended*

**Identifying, retaining, and preserving** structural systems from the restoration period—and individual features of systems. This includes the materials that comprise the structural system, including wood, metal, and masonry, and the type of structural system; and its features, such as posts and beams, trusses, summer beams, vigas, cast-iron or masonry columns, above-grade stone foundation walls, or load-bearing masonry walls.

**Protecting and maintaining** the structural system from the restoration period by ensuring that historic features from the restoration period, such as roof overhangs, gutters and downspouts, that divert rainwater from masonry surfaces are intact and functioning properly.

### *Not Recommended*

Altering visible features of structural systems from the restoration period.

Failing to document structural systems from the restoration period which may result in their loss.

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

Replacing a load-bearing masonry wall that could be augmented and retained.

Leaving known structural problems untreated such as deflected beams, cracked and bowed walls, or racked structural members.

Failing to protect and maintain materials from the restoration period on a cyclical basis so that deterioration of the structural system results.

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Evaluating the physical condition of the structural system from the restoration period and its individual features using non-destructive techniques.

**Repairing** the structural system by augmenting individual components or features in a manner that is consistent with the restoration period. For example, weakened structural members, such as floor framing, can be paired with a new member, braced, or otherwise supplemented and reinforced. The new work may be unobtrusively dated to guide future research and treatment.

**Replacing** in kind—or with substitute material—those portions or features of the structural system from the restoration period that are either extensively deteriorated or are missing when there are surviving prototypes such as cast-iron columns, roof rafters or trusses, or sections of load-bearing walls; or when the replacement can be based on physical or historic documentation. Substitute material should convey the same form, design, and overall appearance as the historic feature; and, at a minimum, be equal to its load-bearing capabilities. The new work may be unobtrusively dated to guide future research and treatment.

Using destructive probing techniques that will damage or destroy structural material from the restoration period.

Upgrading the building structurally in a manner that diminishes the restoration-period character of the exterior, such as installing strapping channels or removing, rather than reinforcing, a decorative masonry cornice; or damages interior features or spaces.

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

Installing a visible replacement that does not convey the same appearance of the feature from the restoration period, e.g., replacing an exposed wood summer beam with a steel beam.

Using substitute material that does not equal the load-bearing capabilities of the historic material from the restoration period and its design or is physically incompatible.

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*The following **Restoration** work is highlighted to indicate that it involves the removal or alteration of existing historic structural systems that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing structural system features from the restoration period using all new materials.*

*Recommended*

*Not Recommended*

### **Removing Existing Features from Other Historic Periods**

Removing visually-intrusive structural features from other historic periods such as a non-matching column.

Failing to remove or alter a visually-intrusive structural feature from another period, thus confusing the depiction of the building's significance.

Documenting structural features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.

Failing to document structural features from other historic periods that are removed from the building so that a valuable portion of the historic record is lost.

### **Recreating Missing Features from the Restoration Period**

Recreating a missing, visible structural feature that existed during the restoration period based on physical or historic documentation; for example, duplicating a viga or cast-iron column.

Constructing a visible structural feature that was part of the original design for the building but was never actually built; or constructing a feature which was thought to have existed during the restoration period, but cannot be documented.

## Interior Spaces, Features, and Finishes

### *Recommended*

**Identifying, retaining, and preserving** a floor plan and interior spaces, features, and finishes from the restoration period. Significant spatial characteristics include the size, configuration, proportion, and relationship of rooms and corridors; the relationship of features to spaces; and the spaces themselves such as lobbies, lodge halls, entrance halls, parlors, theaters, auditoriums, gymnasiums; and industrial, and commercial spaces. Color, texture, and pattern are important characteristics of features and finishes, which can include such elements as columns, plaster walls and ceilings, flooring, trim, fireplaces and mantels, paneling, light fixtures, hardware, decorative radiators, ornamental grilles and registers, and windows, doors, and transoms; wallpaper, plaster, paint, and special finishes such as graining; and utilitarian, painted or unpainted, features, including concrete, metal, or wood exposed columns, beams, and trusses, and load-bearing brick, concrete, and wood walls.

**Protecting and maintaining** spaces from the restoration period to ensure their retention; and materials and finishes from the restoration period, including plaster, masonry, wood and metals, that comprise interior features from the restoration period through appropriate surface treatments such as cleaning, rust removal, paint removal, and reapplication of protective coating systems.

### *Not Recommended*

Altering a floor plan or interior spaces, including individual rooms, features, or finishes from the restoration period.

Failing to document spaces, features, and finishes from the restoration period which may result in their loss.

Applying paint, plaster, or other finishes to surfaces unless the work can be substantiated by historical documentation.

Stripping paint to bare wood rather than repainting or not reapplying grained or marbled finishes from the restoration period to features such as doors and paneling

Changing the type of finish or its color, such as painting a historically-varnished wood feature from the restoration period, or removing paint from a historically-painted feature from the restoration period and staining and varnishing it unless the work can be substantiated by physical or historic documentation.

Failing to protect and maintain materials, features, and finishes from the restoration period on a cyclical basis so that their deterioration results.

Protecting interior spaces, features and finishes from the restoration period against arson and vandalism before project work begins, by covering broken windows and boarding up open doorways, and installing fire alarm systems that are keyed into local protection agencies.

Protecting interior features and finishes from the restoration period, such as a staircase, mantel, flooring, or decorative finishes and wall coverings, against damage during project work by covering them with plywood, heavy canvas, or plastic sheeting.

Removing damaged or deteriorated paint and finishes from the restoration period to the next sound layer using the gentlest method possible, then repainting or refinishing using compatible paint or other coating systems based on historical documentation.

Repainting with colors that are documented to the building's restoration period.

Limiting abrasive cleaning methods to industrial or warehouse buildings with utilitarian, unplastered masonry walls from the restoration period; and where wood features are not finished, molded, beaded, or worked by hand. Low-pressure abrasive cleaning should only be considered if test patches show no surface damage, and after other, gentler methods have proven ineffective.

Leaving historic buildings unsecured with broken windows and open doorways so that the interior features and finishes from the restoration period can be damaged by exposure to weather or vandalism.

Stripping interiors of restoration-period features such as mantels, woodwork, doors, windows, light fixtures or radiators; or of other decorative materials from the restoration period.

Failing to protect interior features and finishes from the restoration period during work so that they can be damaged.

Using potentially destructive methods such as open-flame torches or abrasive techniques to remove paint or other coatings.

Using paint colors that are inappropriate to the building's restoration period.

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Evaluating the existing condition of materials, features, and finishes from the restoration period to determine whether more than protection and maintenance are required, such as repairs, will be necessary.

**Repairing** interior features and finishes from the restoration period by consolidating the materials using recognized preservation methods. Repair will also generally include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing components of features where there are surviving prototypes such as stairs, balustrades, wood paneling, or columns; or decorative wall finishes, or pressed-metal or plaster ceilings. The new work may be unobtrusively dated to guide future research and treatment.

**Replacing** in kind an entire interior feature from the restoration period that is too deteriorated to repair—if the overall form and detailing are still evident—using physical evidence as a model to reproduce the feature; or if it can be based on physical or historic documentation. Examples could include wainscoting, window and door surrounds, a pressed-metal ceiling, or interior stairs. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered. The new work may be unobtrusively dated to guide future research and treatment.

Replacing an interior feature from the restoration period such as a staircase, paneled wall, door surround, mantel, or wood trim; or a finish, such as a decorative painted treatment or a plaster ceiling, when repair of materials and limited replacement of missing components are feasible.

Using a substitute material for the replacement that does not convey the same appearance of the surviving components of the feature or finish or that is physically incompatible.

Removing a feature or finish from the restoration period that is not repairable and not replacing it to match.

*The following **Restoration** work is highlighted to indicate that it involves the removal or alteration of existing historic interior spaces, features, and finishes that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing interior spaces, features, and finishes from the restoration period using all new materials.*

*Recommended*

**Removing Existing Features from Other Historic Periods**

Removing or altering interior spaces, features, and finishes from other historic periods such as a dropped ceiling or wood paneling.

Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored for future research.

*Not Recommended*

Failing to remove or alter an interior space, feature, or finish from another historic period, thus confusing the depiction of the building's significance.

Failing to document interior spaces, features, and finishes from other periods that are removed from the building so that a valuable portion of the historic record is lost.

**Recreating Missing Features from the Restoration Period**

Recreating an interior space, or a missing feature or finish from the restoration period based on physical or historic documentation; for example, duplicating a mantel or a staircase.

Creating an interior space, adding a feature, or applying a finish that was part of the original design for the building but was never actually built; or adding a feature which was thought to have existed during the restoration period, but cannot be documented.

**Building Site***Recommended*

**Identifying, retaining, and preserving** features of the building site from the restoration period. Site features may include walls or fences; circulation systems such as walks, paths, or roads; vegetation such as trees, shrubs, grass, or other plant materials; landforms such as hills, terracing, or berms; furnishings and fixtures such as light posts or benches; decorative elements such as sculpture, statuary, or monuments; water features such as fountains, streams, pools, or lakes; and subsurface archeological features which are also important to the restoration period of the site.

Reestablishing the relationship between buildings and the landscape that existed during the restoration period.

**Protecting and maintaining** buildings and site features from the restoration period by providing proper drainage to ensure that water does not erode foundation walls, drain toward a building; or damage or erode the landscape.

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

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

*Not Recommended*

Altering buildings and their features or site features from the restoration period.

Failing to properly document building and site features from the restoration period which may result in their loss.

Retaining non-restoration period buildings or landscape features.

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

Using heavy machinery in areas where it may disturb or damage important landscape features or archeological resources.

Failing to survey the building site prior to beginning restoration work which can result in damaging or destroying landscape features from the restoration period or archeological resources.

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

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

Preserving important landscape features from the restoration period, through regularly-scheduled maintenance of historic plant material.

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

Providing continued protection of site and landscape features from the restoration period through pruning and vegetation management.

Protecting the materials and features from the restoration period when working on the site.

Evaluating the overall condition of materials and features from the restoration period to determine whether more than protection and maintenance are required, such as repairs to site features, will be necessary.

Leaving known archeological material unprotected so that it is damaged or lost during restoration work.

Allowing unqualified personnel to perform data recovery on archeological resources which can result in damage or loss of important archeological material.

Allowing landscape features from the restoration period to be lost or damaged due to lack of maintenance.

Leaving the property unprotected before work begins so that the building and landscape features or archeological resources from the restoration period can be damaged or destroyed.

Removing site features from the restoration period such as siding, fencing, balustrades; paths or walkways; or plant material.

Failing to protect and maintain materials and features from the restoration period on a cyclical basis so that deterioration of the site results.

Failing to protect materials and features from the restoration period when working on the site

**Repairing** site features from the restoration period by reinforcing historic materials. The new work may be unobtrusively dated to guide future research and treatment.

Replacing an entire site feature from the restoration period, such as a fence, walkway, or drive, when repair of materials and limited compatible replacement of deteriorated or missing components are appropriate.

Using a substitute material for the replacement component that does not convey the same appearance as the surviving site feature.

**Replacing** in kind an entire feature of the site from the restoration period that is too deteriorated or damaged to repair if the overall form and detailing are still evident. Physical evidence should be used as a model for the new work. This could include a walkway or fountain; or a land form or plant materials. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be used. The new work may be unobtrusively dated to guide future research and treatment.

Removing a site feature from the restoration period that cannot be repaired and not replacing it to match.

Adding conjectural landscape features to the site, such as period reproduction light fixtures, fences, fountains, or vegetation, that cannot be documented, thus creating an inaccurate depiction of the restoration period.

The following **Restoration** work is highlighted to indicate that it involves the removal or alteration of existing historic building site features that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing building site features from the restoration period using all new materials.

*Recommended*

*Not Recommended*

### Removing Existing Features from Other Historic Periods

Removing or altering features of the site from other historic periods such as an outbuilding, paved road, or overgrown trees that are not appropriate for the restoration period of the site.

Failing to remove a site feature from another historic period, thus creating an inaccurate historic appearance.

Documenting features of the building site dating from other periods prior to their removal.

Failing to document site features from other periods that are removed during restoration so that a valuable portion of the historic record is lost.

### Recreating Missing Features from the Restoration Period

Recreating a missing feature of the site that existed during the restoration period based on physical or historic documentation; for example, duplicating a terrace, gazebo, or fencing.

Constructing a feature of the building or site that was part of the original design for the building but was never actually built; or constructing a feature which was thought to have existed during the restoration period, but cannot be documented.

**Setting (District/Neighborhood)***Recommended*

**Identifying, retaining, and preserving** building and landscape features from the restoration period in the setting. Such features can include roads and streets, furnishings and fixtures, such as light posts or benches; vegetation, gardens, and yards, adjacent open space such as fields, parks, commons, or woodlands; and important views or visual relationships.

Retaining or reestablishing the relationship between buildings and landscape features in the setting that existed during the restoration period.

**Protecting and maintaining** features from the restoration period in the setting through pruning and vegetation management.

Protecting building and landscape features from the restoration period when working in the setting.

*Not Recommended*

Altering building and landscape features in the setting that can be documented to the restoration period.

Failing to properly document restoration-period building and landscape features in the setting which may result in their loss.

Retaining non-restoration period buildings or landscape features in the setting that are not from the restoration period.

Failing to protect and maintain materials in the setting on a cyclical basis which results in the deterioration of building and landscape features.

Stripping or removing building or landscape features from the restoration period in the setting such as porches, fencing, walkways, or trees.

Failing to protect building and landscape features from the restoration period when working in the setting.

Evaluating the overall condition of materials and features in the setting from the restoration period to determine whether more than protection and maintenance are required, that is, if repairs to features, will be necessary.

**Repairing** restoration-period features of the building and landscape in the setting by reinforcing the historic materials. Repair will generally include the replacement in kind—or with a compatible substitute material—of those extensively deteriorated or missing parts of features from the restoration period when there are surviving prototypes, such as porch balustrades or paving materials. The new work may be unobtrusively dated to guide future research and treatment.

**Replacing** in kind an entire restoration-period feature of the building or landscape in the setting that is too deteriorated to repair—when the overall form and detailing are still evident—using the physical evidence as a model to guide the new work; or when the replacement can be based on physical or historic documentation. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered. The new work may be dated to guide future research and treatment.

Replacing an entire building or landscape feature from the restoration period in the setting when repair of materials and limited replacement of deteriorated or missing components are feasible.

Using a substitute material for the replacement component that does not convey the same appearance of the surviving restoration-period building or landscape features in the setting or that is physically or ecologically incompatible.

Removing a restoration-period feature of the building or landscape that is unrepairable and not replacing it to match.

*The following **Restoration** work is highlighted to indicate that it involves the removal or alteration of existing features in the historic setting that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing features in the setting from the restoration period using all new materials.*

*Recommended*

**Removing Existing Features from Other Historic Periods**

Removing features of the building or landscape in the setting from other historic periods such as a road, sidewalk, or fence.

Documenting features of the building or landscape in the setting dating from other periods prior to their alteration or removal.

**Recreating Missing Features from the Restoration Period**

Recreating a missing feature of the building or landscape in the setting that existed during the restoration period based on physical or historic documentation; for example, duplicating a path or park bench.

*Not Recommended*

Failing to remove a feature of the building or landscape in the setting from another period, thus creating an inaccurate historic appearance.

Failing to document features of the building or site from other historic periods that are removed from the building so that a valuable portion of the historic record is lost.

Constructing a feature of the building or landscape that was part of the original design for the setting but was never actually built; or constructing a feature which was thought to have existed during the restoration period, but cannot be documented.

## Code-Required Work

*Sensitive solutions to meeting code requirements are an important part of protecting the historic character of the building and site. Thus, work that must be done to meet accessibility and life safety requirements in the treatment **Restoration** must also be assessed for its potential impact on the historic building and site.*

**Accessibility***Recommended*

Identifying spaces, features, and finishes from the restoration period so that accessibility code-required work will not negatively impact them.

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

Working with specialists in accessibility and historic preservation to determine the most sensitive solution to comply with access requirements in a restoration project.

Providing barrier-free access that promotes independence for the user, while preserving significant features from the restoration period.

*Not Recommended*

Undertaking code-required alterations before identifying those exterior features and interior spaces, features, and finishes from the restoration period which must be preserved.

Altering, damaging, or destroying character-defining features from the restoration period in order to comply with accessibility requirements.

Making changes to historic buildings without first consulting with specialists in accessibility and historic preservation to determine the most appropriate solutions to comply with access requirements that preserve the character of the restoration period.

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

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Finding solutions to meet accessibility requirements that minimize the impact of any necessary alterations on the restoration period of the building, its site, and setting, such as compatible ramps, paths, and lifts.

Making modifications for accessibility without considering the impact on the restoration period of the building, its site, and setting.

Installing accessible facilities inside or on the exterior of the historic building that are incompatible with the restoration period or would damage or destroy character-defining spaces, features, or finishes from the restoration period.

Minimizing the visual impact of accessibility ramps by installing them on secondary elevations, when it does not compromise accessibility, or screening them with ramps.

Adding a gradual slope to the sidewalk, if appropriate, to access the entrance of a commercial or retail structure, rather than installing a ramp that would be more intrusive to the historic character of the restoration period of the building and the district.

Installing a lift as inconspicuously as possible when necessary to locate it on a primary elevation of the historic building.

Considering placing accessible facilities needed for visitors to the restored property, restrooms for instance, in a separate building, such as a visitor center that is located away from the historic structure, rather than in the historic building if their installation would negatively impact character-defining spaces, features, or finishes from the restoration period.

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Devising non-permanent or temporary adaptive treatments that will meet accessibility requirements in order to preserve the restoration-period character of the building, its site, and setting.

Developing and providing virtual tours to help interpret the restored property when it is not feasible or it is physically impossible to make the building or its site accessible without damaging or obscuring character-defining building and landscape features in the setting from the restoration period.

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**Life Safety***Recommended*

Identifying the building's character-defining exterior features and interior spaces, features, and finishes from the restoration period which may be affected by life-safety code-required work.

Complying with safety codes, in such a manner that exterior features and interior spaces, features, and finishes from the restoration period are preserved.

Removing building materials from the restoration period only after testing has been conducted to identify hazardous materials and using only the least damaging abatement methods.

Providing workers with appropriate personal equipment for protection from hazards on the worksite.

Working with code officials and historic preservation specialists to investigate systems, methods, or devices to make the building compliant with life-safety codes to ensure that alterations will be compatible with the character of the restoration period of the building.

*Not Recommended*

Undertaking code-required alterations to a building or site before identifying those exterior features and interior spaces, features, and finishes from the restoration period which must be preserved.

Altering, damaging, or destroying character-defining exterior features and interior spaces, features, and finishes from the restoration period while making modifications to a building, its site, or setting to comply with code requirements.

Altering the appearance of spaces, features, or finishes from the restoration period by adding a new code-required stairway or elevator.

Removing interior features and finishes from the restoration period without careful testing for toxic substances and without considering less invasive abatement methods.

Removing hazardous or toxic materials without regard for workers' health and safety or environmentally-sensitive disposal.

Making life-safety, code-required changes to the building without consulting code officials and historic preservation specialists with the result that alterations negatively impact the character of the restoration period of the building.

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Upgrading historic stairways and elevators from the restoration period to meet life-safety codes in a manner that ensures their preservation, i.e., so that they are not damaged or their historic character is not negatively impacted.

Installing sensitively-designed fire-suppression systems, such as sprinklers that preserve historic features and finishes from the restoration period.

Applying fire-retardant coatings, such as intumescent paint, when appropriate, which expand when exposed to heat, to add thermal protection to interior features.

Damaging or making inappropriate alterations to historic stairways and elevators or adjacent features, spaces, or finishes from the restoration period in the process of doing work to meet code requirements.

Covering wood features from the restoration period with fire-resistant sheathing which results in altering their appearance.

Using fire-retardant coatings if they will damage or obscure features from the restoration period.

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### Climate Change and Natural Hazards

Climate change and natural disasters should be addressed as part of a **Restoration** project. Existing features of the historic building from the restoration period that were designed with the potential impact of natural disasters in mind should always be taken into consideration early in the planning stages of a rehabilitation project before proposing any additional treatments. When additional preventive treatments are needed they should be carried out so as to have the least impact on the historic character of the building.

#### *Recommended*

Evaluating potential impacts of climate change and natural hazards on character-defining features from the restoration period and undertaking work to avoid or minimize their loss, damage, or destruction in a manner consistent with the building's historic character.

Retaining and preserving character-defining features from the restoration period the building when undertaking any work to necessary to address the impacts of climate change and natural hazards.

Maintaining character-defining features from the restoration period in good repair, regularly monitoring the condition of those features, and documenting the features as a record and guide for future work.

#### *Not Recommended*

Allowing loss, damage, or destruction to occur to the restoration-period character of the historic building by failing to take advantage of existing features designed to minimize impacts of climate change and natural hazards, or failing to plan and implement additional, new preventive measures, if necessary.

Carrying out new preventive treatments that will adversely impact the restoration-period character of the historic building.

Failing to maintain character-defining features from the restoration period in good repair or not undertaking regular monitoring of the condition of the building.

### Sustainability

Sustainability should be addressed as part of a **Restoration** project. Existing energy-efficient features from the restoration period should be retained and restored, and those that are no longer extant, but which were important in defining the restoration-period character of the building, should be recreated. New sustainability treatments should only be undertaken if they will not impact the restoration period of the building.

(The topic of sustainability is addressed in detail in **The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings**. Although specifically developed for the treatment Rehabilitation, the Sustainability Guidelines can be used to help guide the other treatments.)

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