

Connecticut Historical Commission

The Secretary of the Interior's

Standards for
Rehabilitation
and Guidelines for Rehabilitating
Historic Buildings



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INTRODUCTION

The Secretary of the Interior is responsible for establishing standards for all programs under Departmental authority and for advising Federal agencies on the preservation of historic properties listed or eligible for listing in the National Register of Historic Places. In partial fulfillment of this responsibility, the Secretary of the Interior's Standards for Historic Preservation Projects have been developed to guide work undertaken on historic buildings--there are separate standards for acquisition, protection, stabilization, preservation, rehabilitation, restoration, and reconstruction. **The Standards for Rehabilitation** (codified in 36 CFR 67) comprise that section of the overall preservation project standards and addresses the most prevalent treatment. "Rehabilitation" is defined as "the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values."

Initially developed by the Secretary of the Interior to determine the appropriateness of proposed project work on registered properties within the Historic Preservation Fund grant-in-aid program, the **Standards for Rehabilitation** have been widely used over the years--particularly to determine if a rehabilitation qualifies as a Certified Rehabilitation for Federal tax purposes. In addition, the Standards have guided Federal agencies in carrying out their historic preservation responsibilities for properties in Federal ownership or control; and State and local officials in reviewing both Federal and nonfederal rehabilitation proposals. They have also been adopted by historic district and planning commissions across the country.

The intent of the Standards is to assist the long-term preservation of a property's significance through the preservation of historic materials and features. The Standards pertain to historic buildings of all materials, construction types, sizes, and occupancy and encompass the exterior and interior of the buildings. They also encompass related landscape features and the building's site and environment, as well as attached, adjacent, or related new construction. To be certified for Federal tax purposes, a rehabilitation project must be determined by the Secretary to be consistent with the historic character of the structure(s), and where applicable, the district in which it is located.

The Secretary of the Interior's Standards for Historic Preservation Projects with Guidelines for Applying the Standards were initially written in 1976 by W. Brown Morton III and Gary L. Hume. The Guidelines for Rehabilitating Historic Buildings were revised and expanded in 1983 by Gary L. Hume and Kay D. Weeks. The Standards for Rehabilitation were revised in 1990 following a public commenting period. It should be noted that the minor revisions to the Standards for Rehabilitation will not affect their application so that a project which was previously acceptable would continue to be acceptable.

As stated in the definition, the treatment "rehabilitation" assumes that at least some repair or alteration of the historic building will be needed in order to provide for an efficient contemporary use; however, these repairs and alteration must not damage or destroy materials, features or finishes that are important in defining the building's historic character. For example, certain treatments--if improperly applied--may cause or accelerate physical deterioration of historic building. This can include using improper repointing or exterior masonry cleaning techniques, or introducing insulation that damages historic fabric. In almost all of these situations, use of these materials and treatments will result in a project that does not meet the Standards. Similarly, exterior additions that duplicate the form, material, and detailing of the structure to the extent that they compromise the historic character of the structure will fail to meet the Standards.

Technical Guidance Publications

The National Park Service, U.S. Department of the Interior, conducts a variety of activities to guide Federal agencies, States, and the general public in historic preservation project work. In addition to establishing standards and guidelines, the Service develops, publishes, and distributes technical information on appropriate preservation treatments, including Preservation Briefs, case studies, and Preservation Tech Notes.

Comments on the usefulness of these publications, ordering information, and requests for materials in alternative communication formats in accordance with the Americans with Disabilities Act may be directed to: Preservation Assistance Division, National Park Service, P.O. Box 37127, Washington, D.C. 20013-7127.

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THE SECRETARY OF THE INTERIOR'S STANDARDS FOR REHABILITATION

The following Standards are to be applied to specific rehabilitation projects in a reasonable manner, taking into consideration economic and technical feasibility.

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

GUIDELINES FOR REHABILITATING HISTORIC BUILDINGS

The Guidelines were initially developed in 1977 to help property owners, developers, and Federal managers apply the Secretary of the Interior's "Standards for Rehabilitation" during the project planning stage by providing general design and technical recommendations. Unlike the Standards, the Guidelines are *not* codified as program requirements. Together with the "Standards for Rehabilitation" they provide a model process for owners, developers, and Federal agency managers to follow.

It should be noted at the outset that the Guidelines are intended to assist in applying the Standards to projects generally; consequently, they are not meant to give case-specific advice or address exceptions or rare instances. For example, they cannot tell an owner or developer which features of their own historic building are important in defining the historic character and must be preserved--although examples are provided in each section--or which features could be altered, if necessary, for the new use. This kind of careful case-by-case decisionmaking is best accomplished by seeking assistance from qualified historic preservation professionals in the planning stage of the project. Such professionals include architects, architectural historians, historians, archaeologists, and others who are skilled in the preservation, rehabilitation, and restoration of historic properties.

The Guidelines pertain to historic buildings of all sizes, materials, occupancy, and construction types; and apply to interior and exterior work as well as new exterior additions. Those approaches, treatments, and techniques that are consistent with the Secretary of the Interior's "Standards for Rehabilitation" are listed in the "Recommended" column on the left; those approaches, treatments, and techniques which could adversely affect a building's historic character are listed in the "Not Recommended" column on the right.

To provide clear and consistent guidance for owners, developers, and federal agency managers to follow, the "Recommended" courses of action in each section are listed in order of historic preservation concerns so that a rehabilitation project may be successfully planned and completed--one that, first, assures the preservation of a building's important or "character-defining" architectural materials and features and, second, makes possible an efficient contemporary use. Rehabilitation guidance in each section begins with protection and maintenance, that work which should be maximized in every project to enhance overall preservation goals. Next, where some deterioration is present, repair of the building's historic materials and features is recommended. Finally, when deterioration is so extensive that repair is not possible, the most problematic area of work is considered: replacement of historic materials and features with new materials.

To further guide the owner and developer in planning a successful rehabilitation project, those complex design issues dealing with new use requirements such as alterations and additions are highlighted at the end of each section to underscore the need for particular sensitivity in these areas.

Identify, Retain, and Preserve

The guidance that is basic to the treatment of all historic buildings--**identifying, retaining, and preserving** the form and detailing of those architectural materials and features that are important in *defining the historic character*--is always listed first in the "Recommended" column. The parallel "Not Recommended" column lists the types of actions that are most apt to cause the diminution or even loss of the building's historic character. It should be remembered, however, that such loss of character is just as often caused by the cumulative effect of a series of actions that would seem to be minor interventions.

Thus, the guidance in all of the "Not Recommended" columns must be viewed in that larger context, e.g., for the total impact on a historic building.

Protect and Maintain

After identifying those materials and features that are important and must be retained in the process of rehabilitation 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 material 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, protective plywood, 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

Next, when the physical condition of character-defining materials and features warrants additional work, **repairing** is recommended. Guidance for the repair of historic materials such as masonry, wood, and architectural metals again begins with the least degree of intervention possible such as patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading them according to recognized preservation methods. Repairing also includes the limited replacement in kind—or with compatible substitute material—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). Although using the same kind of material is always the preferred option, substitute material is acceptable if the form and design as well as the substitute material itself convey the visual appearance of the remaining parts of the feature and finish.

Replace

Following repair in the hierarchy, guidance is provided for **replacing** an entire character-defining feature with new material because the level of deterioration or damage of materials precludes repair (for example, an exterior cornice; an interior staircase; or a complete porch or storefront). If the essential form and detailing are still evident so that the physical evidence can be used to re-establish the feature as an integral part of the rehabilitation project, then its replacement is appropriate. Like the guidance for repair, the preferred option is always replacement of the entire feature in kind, that is, with the same material. Because this approach may not always be technically or economically feasible, provisions are made to consider the use of a compatible substitute material.

It should be noted that, while the National Park Service guidelines recommend the replacement of an entire character-defining feature under certain well-defined circumstances, they *never* recommend removal and replacement with new material of a feature that—although damaged or deteriorated—could reasonably be repaired and thus preserved.

Design for Missing Historic Features

When an entire interior or exterior feature is missing (for example, an entrance, or cast iron facade, or a principal staircase), it no longer plays a role in physically defining the historic character of the building unless it can be accurately recovered in form and detailing through the process of carefully documenting

the historical appearance. Where an important architectural feature is missing, its recovery is always recommended in the guidelines as the *first* or preferred course of action. Thus, if adequate historical, pictorial, and physical documentation exists so that the feature may be accurately reproduced, and if it is desirable to re-establish the feature as part of the building's historical appearance, then designing and constructing a new feature based on such information is appropriate. However, a *second* acceptable option for the replacement feature is a new design that is compatible with the remaining character-defining features of the historic building. The new design should always take into account the size, scale, and material of the historic building itself and, most importantly, should be clearly differentiated so that a false historical appearance is not created.

Alterations/Additions to Historic Buildings

Some exterior and interior alterations to the historic building are generally needed to assure its continued use, but it is most important that such alterations do not radically change, obscure, or destroy character-defining spaces, materials, features, or finishes. Alterations may include providing additional parking space on an existing historic building site; cutting new entrances or windows on secondary elevations; inserting an additional floor; installing an entirely new mechanical system; or creating an atrium or light well. Alteration may also include the selective removal of buildings or other features of the environment or building site that are intrusive and therefore detract from the overall historic character.

The construction of an exterior addition to a historic building may seem to be essential for the new use, but it is emphasized in the guidelines that such new additions should be avoided, if possible, and considered *only* after it is determined that those needs cannot be met by altering secondary, i.e., non character-defining interior spaces. If, after a thorough evaluation of interior solutions, an exterior addition is still judged to be the only viable alternative, it should be designed and constructed to be clearly differentiated from the historic building and so that the character-defining features are not radically changed, obscured, damaged, or destroyed.

Additions to historic buildings are referenced within specific sections of the guidelines such as Site, Roof, Structural Systems, etc., but are also considered in more detail in a separate section, NEW ADDITIONS TO HISTORIC BUILDINGS.

Health and Safety Code Requirements; Energy Retrofitting

These sections of the rehabilitation guidance address work done to meet health and safety code requirements (for example, providing barrier-free access to historic buildings); or retrofitting measures to conserve energy (for example, installing solar collectors in an unobtrusive location on the site). Although this work is quite often an important aspect of rehabilitation projects, it is usually not part of the overall process of protecting or repairing character-defining features; 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 radically change, obscure, damage, or destroy character-defining materials or features in the process of rehabilitation work to meet code and energy requirements.

Specific information on rehabilitation and preservation technology may be obtained by writing to the National Park Service, at the addresses listed below:

Preservation Assistance Division
National Park Service
P.O. Box 37127
Washington, D.C. 20013-7127

Preservation Services Division
Southeast Regional Office
National Park Service
75 Spring St., SW., Room 1140
Atlanta, GA 30303

National Historic Preservation
Programs
Western Regional Office
National Park Service
450 Golden Gate Ave.
Box 36063
San Francisco, CA 94102

Office of Cultural Programs
Mid-Atlantic Regional Office
National Park Service
Second and Chestnut Streets
Philadelphia, PA 19106

Division of Cultural Resources
Rocky Mountain Regional Office
National Park Service
655 Parfet St.
P.O. Box 25287
Denver, CO 80225

Cultural Resources Division
Alaska Regional Office
National Park Service
2525 Gambell St.
Anchorage, AK 99503

Information is also available through the State Historic Preservation Office:

Connecticut Historical Commission
59 South Prospect Street
Hartford, CT 06106
(860) 566-3005

BUILDING EXTERIOR

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

Masonry features (such as brick cornices and door pediments, stone window architraves, terra cotta brackets and railings) as well as masonry surfaces (modeling, tooling, bonding patterns, joint size, and color) may be important in defining the historic character of the building. It should be noted that while masonry is among the most durable of historic building materials, it is also the most susceptible to damage by improper maintenance or repair techniques and by harsh or abrasive cleaning methods. Most preservation guidance on masonry thus focuses on such concerns as cleaning and the process of repointing.

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 joint and unit size, tooling and bonding patterns, coatings, and color.

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.

Not Recommended

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

Replacing or rebuilding a major portion of exterior masonry walls that could be repaired so that, as a result, the building is no longer historic and is essentially new construction.

Applying paint or other coatings such as stucco to masonry that has been historically^ounpainted or uncoated to create a new appearance.

Removing paint from historically painted masonry.

Radically changing the type of paint or coating or its color.

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 to create a new appearance, thus needlessly introducing chemicals or moisture into historic materials.

Masonry (continued)

Recommended

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

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., handscraping) prior to repainting.

Applying compatible paint coating systems following proper surface preparation.

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

Not Recommended

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

Sandblasting brick or stone surfaces using dry or wet grit or other abrasives. These methods or 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.

Masonry (continued)

Recommended

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

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.

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.

Not Recommended

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

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.

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.

Masonry (continued)

Recommended

Repairing masonry features by patching, piecing-in, or consolidating 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 parts of masonry features when there are surviving prototypes such as terra-cotta brackets or stone balusters.

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.

Replacing in kind an entire masonry feature that is too deteriorated to repair - if the overall form and detailing are still evident - using the physical evidence to guide the new work. Examples can include large sections of a wall, a cornice, balustrade, column, or stairway. If using the same kind of materials is not technically or economically feasible, then a compatible substitute material may be considered.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features

Designing and installing a new masonry feature such as steps or a door pediment when the historic feature is completely missing. It may be an accurate restoration using historical, pictorial, and physical documentation, or be a new design that is compatible with the size, scale, material, and color of the historic building.

Not Recommended

Replacing an entire masonry feature such as a cornice or balustrade when repair of the masonry and limited replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the masonry feature or that is physically or chemically incompatible.

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.

Removing a masonry feature that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

Creating a false historical appearance because the replaced masonry feature is based on insufficient historical, pictorial, and physical documentation.

Introducing a new masonry feature that is incompatible in size, scale, material and color.

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

Because it can be easily shaped by sawing, planing, carving, and gouging, wood is the most commonly used material for architectural features such as clapboards, cornices, brackets, entablatures, shutters, columns and balustrades. These wooden features - both functional and decorative - may be important in defining the historic character of the building and thus their retention, protection, and repair are of particular importance in rehabilitation projects.

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.

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.

Not Recommended

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

Removing a major portion of the historic wood from a facade instead of repairing or replacing only the deteriorated wood, then reconstructing the facade with new material in order to achieve a uniform or "improved" appearance.

Radically changing the type of finish or its color or accent scheme so that the historic character of the exterior is diminished.

Stripping historically painted surfaces to bare wood, then applying clear finishes or stains in order to create a "natural look."

Stripping paint or varnish to bare wood rather than repairing or reapplying a special finish, i.e., a grained finish to an exterior wood feature such as a front door.

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.

Wood (continued)

Recommended

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.

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.

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

Not Recommended

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

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.

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.

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

Wood (continued)

Recommended

Evaluating the overall 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 wood features by patching, piecing-in, consolidating, 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 parts of features where there are surviving prototypes such as brackets, moldings, or sections of siding.

Replacing in kind an entire wood feature that is too deteriorated to repair - if the overall form and detailing are still evident - using the physical evidence to guide the new work. Examples of wood features include a cornice, entablature or balustrade. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

Not Recommended

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

Replacing an entire wood feature such as a cornice or wall when repair of the wood and limited replacement of deteriorated or missing parts are appropriate.

Using substitute materials for the replacement part that does not convey the visual appearance of the surviving parts of the wood feature or that is physically or chemically incompatible.

Removing an entire wood feature that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

The following work is highlighted because it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features

Designing and installing a new wood feature such as a cornice or doorway when the historic feature is completely missing. It may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building.

Creating a false historical appearance because the replaced wood feature is based on insufficient historical, pictorial, and physical documentation.

Introducing a new wood feature that is incompatible to size, scale, material, and color.

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

Because it can be easily shaped by sawing, planing, carving, and gouging, wood is the most commonly used material for architectural features such as clapboards, cornices, brackets, entablatures, shutters, columns and balustrades. These wooden features - both functional and decorative - may be important in defining the historic character of the building and thus their retention, protection, and repair are of particular importance in rehabilitation projects.

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.

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 necessary, to remove corrosion prior to repainting or applying other appropriate protective coatings.

Not Recommended

Removing or radically changing architectural metal features which are important in defining the "overall historic character of the building so that, as a result, the character is diminished.

Removing a major portion of the historic architectural metal from a facade instead of repairing or replacing only the deteriorated metal, then reconstructing the facade with new material in order to create a uniform, or "improved" appearance.

Radically changing the type of finish or its historical color or accent scheme.

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.

Architectural Metals (continued)

Recommended

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.

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 dry 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 overall 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

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.

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 preservation of architectural metal features.

Recommended

Repairing architectural metal features by patching, splicing, or otherwise reinforcing the metal following 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; or porch cresting.

Replacing in kind an entire architectural metal feature that is too deteriorated to repair - if the overall form and detailing are still evident - using the physical evidence to guide the new work. Examples 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.

Not Recommended

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

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the architectural metal feature or that is physically or chemically incompatible.

Removing an architectural metal feature that is unrepairable and not replacing it; or replacing it with a new architectural metal feature that does not convey the same visual appearance.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features

Designing and installing a new architectural metal feature such as a sheet metal cornice or cast iron capital when the historic feature is completely missing. It may be an accurate restoration using historical, pictorial and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building.

Creating a false historic appearance because the replaced architectural metal feature is based on insufficient historical, pictorial, and physical documentation.

Introducing a new architectural metal feature that is incompatible in size, scale, material, and color.

Roofs

The roof - with its shape; features such as cresting, dormers, cupolas, and chimneys; and the size, color, and patterning of the roofing material - can be extremely important in defining the building's overall historic character. In addition to the design role it plays, a weathertight roof is essential to the preservation of the entire structure; thus, protecting and repairing the roof as a "cover" is a critical aspect of every rehabilitation project.

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.

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.

Not Recommended

Radically changing, damaging, or destroying roofs which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Removing a major portion of the roof or roofing material that is repairable, then reconstructing it with new material in order to create a uniform, or "improved" appearance.

Changing the configuration of a roof by adding new features such as dormer windows, vents, or skylights so that the historic character is diminished.

Stripping the roof of sound historic material such as slate, clay tile, wood, and architectural metal.

Applying paint or other coatings to roofing material which has been historically uncoated.

Failing to clean and maintain gutters and down spouts 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.

Roof (continued)

Recommended

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. Repairs will also generally include the limited replacement in kind - or with compatible substitute material - of those extensively deteriorated or missing parts of features when there are surviving prototypes such as cupola louvers, dentils, dormer roofing; or slates, tiles, or wood shingles on a main roof.

Replacing in kind an entire feature of the roof that is too deteriorated to repair - if the overall form and detailing are still evidence - using the physical evidence to guide the new work. Examples can include a large section of roofing, or a dormer or chimney. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

Not Recommended

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

Replacing an entire roof feature such as a cupola or dormer when repair of the historic materials and limited replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the roof or that is physically or chemically incompatible.

Removing a feature of the roof that is unrepairable, such as a chimney or dormer, and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features

Designing and constructing a new feature when the historic feature is completely missing, such as a chimney or cupola. It may be an accurate restoration using historical, pictorial and physical documentation, or be a new design that is compatible with the size, scale, material, and color of the historic building.

Creating a false historical appearance because the replaced feature is based on insufficient historical, pictorial, and physical documentation.

Introducing a new roof feature that is incompatible in size, scale, material, and color.

Roof (continued)

Recommended

Not Recommended

Alterations/Additions for the New Use

Installing mechanical and service equipment on the roof such as air conditioning, transformers, or solar collectors when required for the new use so that they are inconspicuous from the public right-of-way and do not damage or obscure character-defining features.

Designing additions to roofs such as residential, office, or storage spaces; elevator housing; decks and terraces; or dormers or skylights when required by the new use so that they are inconspicuous from the public right-of-way and do not damage or obscure character-defining features.

Installing mechanical or service equipment so that it damages or obscures character-defining features; or is conspicuous from the public right-of-way.

Radically changing a character-defining roof shape or damaging or destroying character-defining roofing material as a result of incompatible design or improper installation techniques.

Windows

A highly decorative window with an unusual shape, or glazing pattern, or color is most likely identified immediately as a character-defining feature of the building. It is far more difficult, however, to assess the importance of repeated windows on a facade, particularly if they are individually simple in design and material, such as the large, multi-paned sash of many industrial buildings. Because rehabilitation projects frequently include proposals to replace window sash or even entire windows to improve thermal efficiency or to create a new appearance, it is essential that their contribution to the overall historic character of the building be assessed together with their physical condition before specific repair or replacement work is undertaken.

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, paneled or decorated jambs and moldings, and interior and exterior shutters and blinds.

Protecting and maintaining the wood and architectural metal 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.

Not Recommended

Removing or radically changing windows which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Changing the number, location, size or glazing pattern of windows, through cutting new openings, blocking-in windows, and installing replacement sash which does not fit the historic window opening.

Changing the historic appearance of windows through the use of inappropriate designs, materials, finishes, or colors which radically 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.

Stripping windows of historic material such as wood, iron, cast iron, and bronze.

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

Windows (continued)

Recommended

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

Evaluating the overall 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, splicing, consolidating or otherwise reinforcing. Such repair may also include replacement in kind of those parts that are either extensively deteriorated or are missing when there are surviving prototypes such as architraves, hoodmolds, sash, sills, and interior or exterior shutters and blinds.

Replacing in kind an entire window that is too deteriorated to repair - if the overall form and detailing are still evident - using the physical evidence to guide the new work. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

Not Recommended

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

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

Replacing an entire window when repair of materials and limited replacement of deteriorated or missing parts are appropriate.

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

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the window or that is physically or chemically incompatible.

Removing a character-defining window that is unrepairable and blocking it in; or replacing it with a new window that does not convey the same visual appearance.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features

Designing and installing new windows when the historic windows (frame, sash and glazing) are completely missing. The replacement windows may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the window openings and the historic character of the building.

Creating a false historical appearance because the replaced window is based on insufficient historical, pictorial, and physical documentation.

Introducing a new design that is incompatible with the historic character of the building.

Windows (continued)

Recommended

Alterations/Additions for the New Use

Designing and installing additional windows on rear or other noncharacter-defining elevations if required by the new use. New window openings may also be cut into exposed party walls. Such design should be compatible with the overall design of the building, but not duplicate the fenestration pattern and detailing of a character-defining elevation.

Providing a setback in the design of dropped ceilings when they are required for the new use to allow for the full height of the window openings.

Not Recommended

Installing new windows, including frames, sash, and muntin configuration that are incompatible with the building's historic appearance or obscure, damage, or destroy character-defining features.

Inserting new floors or furred-down ceilings which cut across the glazed areas of windows so that the exterior form and appearance of the windows are changed.

Entrances and Porches

Entrances and porches are quite often the focus of historic buildings, particularly when they occur on primary elevations. Together with their functional and decorative features such as doors, steps, balustrades, pilasters, and entablatures, they can be extremely important in defining the overall historic character of a building. Their retention, protection, and repair should always be carefully considered when planning rehabilitation work.

Recommended

Identifying, retaining, and preserving entrances - 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.

Protecting and maintaining the masonry, wood, and architectural metal 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 overall condition of materials to determine whether more than protection and maintenance are required, that is, if repairs to entrance and porch features will be necessary.

Not Recommended

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

Stripping entrances and porches of historic material such as wood, iron, cast iron, terra cotta, tile and brick.

Removing an entrance or porch because the building has been reoriented to accommodate a new use.

Cutting new entrances on a primary elevation.

Altering utilitarian or service entrances so they appear to be formal entrances by adding paneled doors, fanlights, and sidelights.

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 preservation of historic entrances and porches.

Entrances and Porches (continued)

Recommended

Repairing entrances and porches 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 parts of repeated features where there are surviving prototypes such as balustrades, cornices, entablatures, columns, sidelights, and stairs.

Replacing in kind an entire entrance or porch that is too deteriorated to repair - if the form and detailing are still evident - using the physical evidence to guide the new work. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

Not Recommended

Replacing an entire entrance or porch when the repair of materials and limited replacement of parts are appropriate.

Using a substitute material for the replacement parts that does not convey the visual appearance of the surviving parts of the entrance and porch or that is physically or chemically incompatible.

Removing an entrance or porch that is unrepairable and not replacing it; or replacing it with a new entrance or porch that does not convey the same visual appearance.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been

Design for Missing Historic Features

Designing and constructing a new entrance or porch if the historic entrance or porch is completely missing. It may be a restoration based on historical, pictorial, and physical documentation; or be a new design that is compatible with the historic character of the building.

Creating a false historical appearance because the replaced entrance or porch is based on insufficient historical, pictorial, and physical documentation.

Introducing a new entrance or porch that is incompatible in size, scale, material, and color.

Alterations/Additions for the New Use

Designing enclosures for historic porches when required by the new use in a manner that preserves the historic character of the building. This can include using large sheets of glass and recessing the enclosure wall behind existing scrollwork, posts, and balustrades.

Enclosing porches in a manner that results in a diminution or loss of historic character such as using solid materials such as wood, stucco, or masonry.

Entrances and Porches (continued)

Recommended

Designing and installing additional entrances or porches when required for the new use in a manner that preserves the historic character of the building, i.e., limiting such alteration to noncharacter-defining elevations.

Not Recommended

Installing secondary service entrances and porches that are incompatible in size and scale with the historic building or obscure, damage, or destroy character-defining features.

Storefronts

Storefronts are quite often the focus of historic commercial buildings and can thus be extremely important in defining the overall historic character. Because storefronts also play a crucial role in a store's advertising and merchandising strategy to draw customers and increase business, they are often altered to meet the needs of a new business. Particular care is required in planning and accomplishing work on storefronts so that the building's historic character is preserved in the process of rehabilitation.

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.

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.

Not Recommended

Removing or radically changing 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.

Changing the storefront so that it appears residential rather than commercial in character.

Removing historic material from the storefront to create a recessed arcade.

Introducing coach lanterns, mansard overhangings, wood shakes, nonoperable shutters, and small-paned windows if they cannot be documented historically.

Changing the location of a storefront's main entrance.

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

storefronts (continued)

Recommended

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

Evaluating the overall 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. Repairs will also generally include the limited replacement in kind - or with compatible substitute material - of those extensively deteriorated or missing parts of storefronts where there are surviving prototypes such as transoms, kick plates, pilasters, or signs.

Replacing in kind an entire storefront that is too deteriorated to repair - if the overall form and detailing are still evident - using the physical evidence to guide the new work. If using the same material is not technically or economically feasible, then compatible substitute materials may be considered.

Not Recommended

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

Replacing an entire storefront when repair of materials and limited replacement of its parts are appropriate.

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

Removing a storefront that is unrepairable and not replacing it; or replacing it with a new storefront that does not convey the same visual appearance.

Storefronts (continued)

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Recommended

Not Recommended

Design for Missing Historic Features

Designing and constructing a new storefront when the historic storefront is completely missing. It may be an accurate restoration using historical, pictorial, and physical documentation, or be a new design that is compatible with the size, scale, material, and color of the historic building. Such new design should generally be flush with the facade, and the treatment of secondary design elements, such as awnings or signs, kept as simple as possible. For example, new signs should fit flush with the existing features of the facade, such as the fascia board or cornice.

Creating a false historical appearance because the replaced storefront is based on insufficient historical, pictorial, and physical documentation.

Introducing a new design that is incompatible in size, scale, material, and color.

Using new illuminated signs; inappropriately scaled signs and logos; signs that project over the sidewalk unless they were a characteristic feature of the historic building; or other types of signs that obscure, damage, or destroy remaining character-defining features of the historic building.

BUILDING INTERIOR

Structural System

If features of the structural system are exposed such as loadbearing brick walls, cast iron columns, roof trusses, posts and beams, vigas, or stone foundation walls, they may be important in defining the building's overall historic character. Unexposed structural features that are not character-defining or an entire structural system may nonetheless be significant in the history of building technology; therefore, the structural system should always be examined and evaluated early in the project planning stage to determine both its physical condition and its importance to the building's historic character or historical significance. See also Health and Safety Code Requirements.

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 loadbearing brick or stone walls.

Not Recommended

Removing, covering, or radically changing features of structural systems which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Putting a new use into the building which could overload the existing structural system; or installing equipment or mechanical systems which could damage the structure.

Demolishing a loadbearing masonry wall that could be augmented and retained and replacing it with a new wall (i.e., brick or stone), using the historic masonry only as an exterior veneer.

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.

Structural System (continued)

Recommended

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 assuring that structural members are free from insect infestation.

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

Repairing the structural system by augmenting or upgrading individual parts or features. For example, weakened structural members such as floor framing can be spliced, braced, or otherwise supplemented and reinforced.

Replacing in kind - or with substitute material - those portions or features of the structural system 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 loadbearing walls. Substitute material should convey the same form, design, and overall visual appearance as the historic feature; and, at a minimum, be equal to its loadbearing capabilities.

Not Recommended

Failing to provide proper building maintenance on a cyclical basis so that deterioration of the structural system results.

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

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.

Installing a replacement feature that does not convey the same visual appearance, e.g., replacing an exposed wood summer beam with a steel beam.

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

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Recommended

Not Recommended

Alterations/Additions for the New Use

Limiting any new excavations adjacent to historic foundations to avoid undermining the structural stability of the building or adjacent historic buildings.

Correcting structural deficiencies in preparation for the new use in a manner that preserves the structural system and individual character-defining features.

Designing and installing new mechanical or electrical systems when required for the new use which minimize the number of cutouts or holes in structural members.

Adding a new floor when required for the new use if such an alteration does not damage or destroy the structural system or obscure, damage, or destroy character-defining spaces, features, or finishes.

Creating an atrium or a light well to provide natural light when required for the new use in a manner that assures the preservation of the structural system as well as character-defining interior spaces, features, and finishes.

Carrying out excavations or regrading adjacent to or within a historic building which could cause the historic foundation to settle, shift, or fail; or could have a similar effect on adjacent historic buildings.

Radically changing interior spaces or damaging or destroying features or finishes that are character-defining while trying to correct structural deficiencies in preparation for the new use.

Installing new mechanical and electrical systems or equipment in a manner which results in numerous cuts, splices, or alterations to the structural members.

Inserting a new floor when such a radical change damages a structural system or obscures or destroys interior spaces, features, or finishes.

Inserting new floors or furred-down ceilings which cut across the glazed areas of windows so that the exterior form and appearance of the windows are radically changed.

Damaging the structural system or individual features; or radically changing, damaging, or destroying character-defining interior spaces, features, or finishes in order to create an atrium or a light well.

**Interior: Spaces,
Features, and Finishes**

An interior floor plan, the arrangement of spaces, and built-in features and applied finishes may be individually or collectively important in defining the historic character of the building. Thus, their identification, retention, protection, and repair should be given prime consideration in every rehabilitation project and caution exercised in pursuing any plan that would radically change character-defining spaces or obscure, damage or destroy interior features or finishes.

Recommended

Not 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 use spaces.

Radically changing 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.

Altering the floor plan by demolishing principal walls and partitions to create a new appearance.

Altering or destroying interior spaces by inserting floors, cutting through floors, lowering ceilings, or adding or removing walls.

Relocating an interior feature such as a staircase so that the historic relationship between features and spaces is altered.

Interior Features and Finishes (continued)

Recommended

Not 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 mantles, paneling, light fixtures, hardware, and flooring; and wallpaper, plaster, paint, and finishes such as stenciling, marbling, and graining; and other decorative materials that accent interior features and provide color, texture, and patterning to walls, floors, and ceilings.

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

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

Removing paint, plaster, or other finishes from historically finished surfaces to create a new appearance (e.g., removing plaster to expose masonry surfaces such as brick walls or a chimney piece).

Applying paint, plaster, or other finishes to surfaces that have been historically unfinished to create a new appearance.

Stripping historically painted wood surfaces to bare wood, then applying clear finishes or stains to create a "natural look."

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

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

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

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

Interior Features and Finishes (continued)

Recommended

Protecting interior features and finishes against arson and vandalism before project work begins, erecting protective fencing, 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 paneling.

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 or 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 overall 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 interior features and finishes are damaged by exposure to weather or through 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 other 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 preservation of interior features and finishes.

Interior Features and Finishes (continued)

Recommended

Repairing interior features and finishes 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 parts of repeated features when there are surviving prototypes such as stairs, balustrades, wood paneling, columns; or decorative wall coverings or ornamental tin or plaster ceilings.

Replacing in kind an entire interior feature or finish that is too deteriorated to repair - if the overall form and detailing are still evident - using the physical evidence to guide the new work. Examples could include wainscoting, a tin 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.

Not Recommended

Replacing an entire interior feature such as a staircase, paneled wall, parquet floor, or cornice; or finish such as a decorative wall covering or ceiling when repair of materials and limited replacement of such parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts or portions of the interior feature or finish or that is physically or chemically incompatible.

Removing a character-defining feature or finish that is unrepairable and not replacing it; or replacing it with a new feature or finish that does not convey the same visual appearance.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features

Designing and installing a new interior feature or finish if the historic feature or finish is completely missing. This could include missing partitions, stairs, elevators, lighting fixtures, and wall coverings, or even entire rooms if all historic spaces, features, and finishes are missing or have been destroyed by inappropriate "renovations." The design may be a restoration based on historical, pictorial, and physical documentation, or be a new design that is compatible with the historic character of the building, district, or neighborhood.

Creating a false historical appearance because the replaced feature is based on insufficient physical, historical, and pictorial documentation or on information derived from another building.

Introducing a new interior feature or finish that is incompatible with the scale, design, materials, color, and texture of the surviving interior features and finishes.

Interior Features and Finishes (continued)

Recommended

Alterations/Additions for the New Use

Accommodating service functions such as bathrooms, mechanical equipment, and office machines required by the building's new use in secondary spaces such as first floor service areas or on upper floors.

Reusing decorative material or features that have had to be removed during the rehabilitation work including wall and baseboard trim, door moulding, paneled doors, and simple wainscoting; and relocating such material or features in areas appropriate to their historic placement.

Installing permanent partitions in secondary spaces; removable partitions that do not destroy the sense of space should be installed when the new use requires the subdivision of character-defining interior spaces.

Enclosing an interior stairway where required by code so that its character is retained. In many cases, glazed fire-rated walls may be used.

Placing new code-required stairways or elevators in secondary and service areas of the historic building.

Not Recommended

Dividing rooms, lowering ceilings, and damaging or obscuring character-defining features such as fireplaces, niches, stairways or alcoves, so that a new use can be accommodated in the building.

Discarding historic material when it can be reused within the rehabilitation project or relocating it in historically inappropriate areas.

Installing permanent partitions that damage or obscure character-defining spaces, features, or finishes.

Enclosing an interior stairway with fire-rated construction so that the stairwell space or any character-defining features are destroyed.

Radically changing, damaging, or destroying character-defining spaces, features, or finishes when adding new code-required stairways and elevators.

Interior Features and Finishes (continued)

Recommended

Creating an atrium or a light well to provide natural light when required for the new use in a manner that preserves character-defining interior spaces, features, and finishes as well as the structural system.

Adding a new floor if required for the new use in a manner that preserves character-defining structural features, and interior spaces, features, and finishes.

Not Recommended

Destroying character-defining interior spaces, features, or finishes; or damaging the structural system in order to create an atrium or light well.

Inserting a new floor within a building that alters or destroys the fenestration; radically changes a character-defining interior space; or obscures, damages, or destroys decorative detailing.

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

The visible features of historic heating, lighting, air conditioning and plumbing systems may sometimes help define the overall historic character of the building and should thus be retained and repaired, whenever possible. The systems themselves (the compressors, boilers, generators and their ductwork, wiring and pipes) will generally either need to be upgraded, augmented, or entirely replaced in order to accommodate the new use and to meet code requirements. Less frequently, individual portions of a system or an entire system are significant in the history of building technology; therefore, the identification of character-defining features or historically significant systems should take place together with an evaluation of their physical condition early in project planning.

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.

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.

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 - or with compatible substitute material - those visible features of mechanical systems that are either extensively deteriorated or are missing when there are surviving prototypes such as ceiling fans, switchplates, radiators, grilles, or plumbing fixtures.

Not Recommended

Removing or radically changing 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 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.

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

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

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Recommended

Not Recommended

Alterations/Additions for the New Use

Installing a completely new mechanical system if required for the new use so that it causes the least alteration possible to the building's floor plan, the exterior elevations, and the least damage to historic building material.

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

Installing air conditioning units if required by the new use in such a manner that the historic materials and features are not damaged or obscured.

Installing heating/air conditioning units in the window frames in such a manner that the sash and frames are protected. Window installations should be considered only when all other viable heating/cooling systems would result in significant damage to historic materials.

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

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 the removal of historic building material.

Installing "dropped" acoustical ceilings to hide mechanical equipment when this destroys the proportions of character-defining interior spaces.

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

Radically changing the appearance of the historic building or damaging or destroying windows by installing heating/air conditioning units in historic window frames.

BUILDING SITE

The relationship between a historic building or buildings and landscape features within a property's boundaries - or the building site - helps to define the historic character and should be considered an integral part of overall planning for rehabilitation project work.

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 can include driveways, walkways, lighting, fencing, signs, benches, fountains, wells, terraces, canal systems, plants and trees, berms, and drainage or irrigation ditches; and archaeological features that are important in defining the history of the site.

Retaining the historic relationship between buildings, landscape features, and open space.

Protecting and maintaining buildings and the site by providing proper drainage to assure that water does not erode foundation walls; drain toward the building; nor erode the historic landscape.

Not Recommended

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

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

Removing or relocating historic buildings on a site or in a complex of related historic structures - such as a mill complex or farm - thus diminishing the historic character of the site or complex.

Moving buildings onto the site, thus creating a false historical appearance.

Lowering the grade level adjacent to a building to permit development of a formerly below-grade area such as a basement in a manner that would drastically change the historic relationship of the building to its site.

Failing to maintain 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.

JILDING SITE (continued)

Recommended

Minimizing disturbance of terrain around buildings or elsewhere on the site, thus reducing the possibility of destroying unknown archeological materials.

Surveying areas where major terrain alteration is likely to impact important archeological sites.

Protecting, e.g. preserving in place known archeological material whenever possible.

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

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

Providing continued protection of masonry, wood, and architectural metals which comprise building and site features through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and re-application of protective coating systems; and continued protection and maintenance of landscape features, including plant material.

Not Recommended

Introducing heavy machinery or equipment into areas where their presence may disturb archeological materials.

Failing to survey the building site prior to the beginning of rehabilitation project work so that, as a result, important archeological material is destroyed.

Leaving known archeological material unprotected and subject to vandalism, looting, and destruction by natural elements such as erosion.

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

Permitting buildings and site features to remain unprotected so that plant materials, fencing, walkways, archeological features, etc. are damaged or destroyed.

Stripping features from buildings and the site such as wood siding, iron fencing, masonry balustrades; or removing or destroying landscape features, including plant material.

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

BUILDING SITE (continued)

Recommended

Evaluating the overall condition of materials 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 buildings and the site by reinforcing the historic materials. Repair will also generally include replacement in kind - with a compatible substitute material - of those extensively deteriorated or missing parts of features where there are surviving prototypes such as fencing and paving.

Replacing in kind an entire feature of the building or site that is too deteriorated to repair - if the overall form and detailing are still evident - using the physical evidence to guide the new work. This could include an entrance or porch, walkway, or fountain. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

Not Recommended

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

Replacing an entire feature of the building or site such as a fence, walkway, or driveway when repair of materials and limited replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the building or site feature or that is physically or chemically incompatible.

Removing a feature of the building or site that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

BUILDING SITE (continued)

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation project work and should only be considered after the preservation concerns listed above have been addressed.

Recommended

Not Recommended

Design for Missing Historic Features

Designing and constructing a new feature of a building or site when the historic feature is completely missing, such as an outbuilding, terrace, or driveway. It may be based on historical, pictorial, and physical documentation, or be a new design that is compatible with the historic character of the building and site.

Creating a false historical appearance because the replaced feature is based on insufficient historical, pictorial, and physical documentation.

Introducing a new building or site feature that is out of scale or otherwise inappropriate.

Introducing a new landscape feature or plant material that is visually incompatible with the site or that destroys site patterns or vistas.

Alterations/Additions for the New Use

Designing new onsite parking, loading docks, or ramps when required by the new use so that they are as unobtrusive as possible and assure the preservation of character-defining features of the site.

Designing new exterior additions to historic buildings or adjacent new construction which is compatible with the historic character of the site and which preserve the historic relationship between a building or buildings, landscape features, and open space.

Removing nonsignificant buildings, additions, or site features which detract from the historic character of the site.

Placing parking facilities directly adjacent to historic buildings where automobiles may cause damage to the buildings or landscape features or be intrusive to the building site.

Introducing new construction onto the building site which is visually incompatible in terms of size, scale, design, materials, color and texture or which destroys historic relationships on the site.

Removing a historic building in a complex, a building feature, or a site feature which is important in defining the historic character of the site.

DISTRICT/
NEIGHBORHOOD

The relationship between historic buildings, and streetscape and landscape features within a historic district or neighborhood helps to define the historic character and therefore should always be a part of the rehabilitation plans.

Recommended

Identifying, retaining, and preserving buildings, and streetscape, and landscape features which are important in defining the overall historic character of the district or neighborhood. Such features can include streets, alleys, paving, and walkways, street lights, signs, benches, parks and gardens, and trees.

Retaining the historic relationship between buildings, and streetscape and landscape features such as a town square comprised of row houses and stores surrounding a communal park or open space.

Protecting and maintaining the historic masonry, wood, and architectural metals which comprise building and streetscape features, through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and reapplication of protective coating systems; and protecting and maintaining landscape features, including plant material.

Protecting buildings, paving, iron fencing, etc. against arson and vandalism before rehabilitation work begins by erecting protective fencing and installing alarm systems that are keyed into local protection agencies.

Not Recommended

Removing or radically changing those features of the district or neighborhood which are important in defining the overall historic character so that, as a result, the character is diminished.

Destroying streetscape and landscape features by widening existing street, changing paving material, or introducing inappropriately located new streets or parking lots.

Removing or relocating historic buildings, or features of the streetscape and landscape, thus destroying the historic relationship between buildings, features and open space.

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of building, streetscape, and landscape features results.

Permitting buildings to remain unprotected so that windows are broken; and interior features are damaged.

Stripping features from buildings or the streetscape such as wood siding, iron fencing, or terra cotta balusters; or removing or destroying landscape features, including plant material.

ISTRICT/NEIGHBORHOOD (continued)

Recommended

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

Repairing features of the building, streetscape, or landscape by reinforcing the historic materials. Repair will also generally include the 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 balustrades, paving materials, or streetlight standards.

Replacing in kind an entire feature of the building, streetscape, or landscape that is too deteriorated to repair - when the overall form and detailing are still evident - using the physical evidence to guide the new work. This could include a storefront, a walkway, or a garden. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

Not Recommended

Failing to undertake adequate measures to assure the preservation of building, streetscape, and landscape features.

Replacing an entire feature of the building, streetscape, or landscape such as a porch, walkway, or streetlight, when repair of materials and limited replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the building, streetscape, or landscape feature or that is physically or chemically incompatible.

Removing a feature of the building, streetscape, or landscape that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

DISTRICT/NEIGHBORHOOD (continued)

The following work is highlighted because it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Recommended

Not Recommended

Design for Missing Historic Features

Designing and constructing a new feature of the building, streetscape, or landscape when the historic feature is completely missing, such as row house steps, a porch, streetlight, or terrace. It may be a restoration based on historical, pictorial, and physical documentation, or be a new design that is compatible with the historic character of the district or neighborhood.

Creating a false historical appearance because the replaced feature is based on insufficient historical, pictorial and physical documentation.

Introducing a new building, streetscape or landscape feature that is out of scale or otherwise inappropriate to the setting's historic character, e.g., replacing picket fencing with chain link fencing.

Alterations/Additions for the New Use

Designing required new parking so that it is as unobtrusive as possible, i.e., on side streets or at the rear of buildings. "Shared" parking should also be planned so that several businesses can utilize one parking area as opposed to introducing random, multiple lots.

Designing and constructing new additions to historic buildings when required by the new use. New work should be compatible with the historic character of the district or neighborhood in terms of size, scale, design, material, color, and texture.

Removing nonsignificant buildings, additions, or streetscape and landscape features which detract from the historic character of the district or the neighborhood.

Placing parking facilities directly adjacent to historic buildings which cause the removal of historic plantings, relocation of paths and walkways, or blocking of alleys.

Introducing new construction into historic districts that is visually incompatible or that destroys historic relationships within the district or neighborhood.

Removing a historic building, building feature, or landscape or streetscape feature that is important in defining the overall historic character of the district or the neighborhood.

Although the work in these sections is quite often an important aspect of rehabilitation projects, it is usually not part of the overall process of preserving character-defining features (maintenance, repair, 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, radically change, damage, or destroy character-defining features in the process of rehabilitation work to meet new use requirements.

HEALTH AND SAFETY CODE REQUIREMENTS

As a part of the new use, it is often necessary to make modifications to a historic building so that it can comply with current health, safety and code requirements. Such work needs to be carefully planned and undertaken so that it does not result in a loss of character-defining spaces, features, and finishes.

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 code, including seismic codes and barrier-free access requirements, in such a manner that character-defining spaces, features, and finishes are preserved.

Working with local code officials to investigate alternative life safety measures or variances available under some codes so that alterations and additions to historic buildings can be avoided.

— Providing barrier-free access through removable or portable, rather than permanent, ramps.

Providing seismic reinforcement to a historic building in a manner that avoids damaging the structural system and character-defining features.

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 a sprinkler system for wood frame mill buildings, instead of applying fire-resistant sheathing to character-defining features.

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.

Making changes to historic buildings without first seeking alternatives to code requirements.

Installing permanent ramps that damage or diminish character-defining features.

Reinforcing a historic building using measures that damage or destroy character-defining structural and other features.

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.

HEALTH AND SAFETY CODE REQUIREMENTS
(continued)

Recommended

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.

Placing a code-required stairway or elevator that cannot be accommodated within the historic building in a new exterior addition. Such an addition should be located at the rear of the building or on an inconspicuous side; and its size and scale limited in relationship to the historic building.

Not Recommended

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

Constructing a new addition to accommodate code-required stairs and elevators on character-defining elevations highly visible from the street; or where it obscures, damages or destroys character-defining features.

ENERGY RETROFITTING

Some character-defining features of a historic building or site such as cupolas, shutters, transoms, skylights, sun rooms, porches, and plantings also play a secondary energy conserving role. Therefore, prior to retrofitting historic buildings to make them more energy efficient, the first step should always be to identify and evaluate the existing historic features to assess their inherent energy conserving potential. If it is determined that retrofitting measures are necessary, then such work needs to be carried out with particular care to insure that the building's historic character is preserved in the process of rehabilitation.

Recommended

Not Recommended

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.

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

Building Site

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

Removing plant materials, trees, and landscape features, so that they no longer perform passive solar energy functions.

Installing freestanding solar collectors in a manner that preserves the historic property's character-defining features.

Installing freestanding solar collectors that obscure, damage, or destroy historic landscape or archaeological features.

Designing attached solar collectors, including solar greenhouses, so that the character-defining features of the property are preserved.

Locating solar collectors where they radically change the property's appearance; or damage or destroy character-defining features.

Masonry/Wood/Architectural Metals

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

Applying urea formaldehyde foam or any other thermal insulation with a water content into wall cavities in an attempt to reduce energy consumption.

ENERGY RETROFITTING (continued)

Recommended

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

Installing passive solar devices such as a glazed "trombe" wall on a rear or inconspicuous side of all the historic building.

Roofs

Placing solar collectors on noncharacter-defining roofs or roofs of nonhistoric adjacent buildings.

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 airtight gaskets, ventilating holes, and/or removable clips to insure proper maintenance and to avoid condensation damage to historic windows.

Not Recommended

Resurfacing historic building materials with more energy efficient but incompatible materials, such as covering historic masonry with exterior insulation.

Installing passive solar devices such as an attached glazed "trombe" wall on primary or other highly visible elevations; or where historic material must be removed or obscured.

Placing solar collectors on roofs when such collectors change the historic roofline or obscure the relationship of the roof to character-defining roof features such as dormers, skylights, and chimneys.

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.

ENERGY RETROFITTING (continued)

Recommended

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

Considering the use of lightly tinted glazing on non-character-defining elevations if other energy retrofitting alternatives are not possible.

Entrances and Porches

Utilizing the inherent energy conserving features of a building by maintaining porches, and double vestibule entrances in good condition 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.

New Additions to Historic Buildings

Placing new additions that have an energy conserving function such as a solar greenhouse on non-character-defining elevations.

Mechanical Systems

Installing thermal insulation in attics and in unheated cellars and crawlspaces to conserve energy.

Not Recommended

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

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.

Using tinted or reflective glazing on character-defining or other conspicuous elevations.

Enclosing porches located on character-defining elevations to create passive solar collectors or airlock vestibules. Such enclosures can destroy the historic appearance of the building.

Removing historic interior features which play a secondary energy conserving role.

Installing new additions such as multistory solar greenhouse additions which obscure, damage, destroy character-defining features.

Apply urea formaldehyde foam or any other thermal insulation with a water content or that may collect moisture into wall cavities.

NEW ADDITIONS TO HISTORIC BUILDINGS

An attached exterior addition to a historic building expands its "outer limits" to create a new profile. Because such expansion has the capability to radically change the historic appearance, an exterior addition should be considered only after it has been determined that the new use cannot be successfully met by altering non-character-defining *interior* spaces. If the new use cannot be met in this way, then an attached exterior addition is usually an acceptable alternative. New additions should be designed and constructed so that the character-defining features of the historic building are not radically changed, obscured, damaged, or destroyed in the process of rehabilitation. New design should always be clearly differentiated so that the addition does not appear to be part of the historic resources.

Recommended

Placing functions and services required for the new use into non-character-defining interior spaces rather than installing a new addition.

Constructing a new addition so that there is the least possible loss of historic materials and so that character-defining features are not obscured, damaged, or destroyed.

Locating the attached exterior addition at the rear or on an inconspicuous side of a historic building; and limiting its size and scale in relationship to the historic building.

Designing new additions in a manner that makes clear what is historic and what is new.

Not Recommended

Expanding the size of the historic building by constructing a new addition when the new use could be met by altering non-character-defining interior spaces.

Attaching a new addition so that the character-defining features of the historic building are obscured, damaged, or destroyed.

Designing a new addition so that its size and scale in relation to the historic building are out of proportion, thus diminishing the historic character.

Duplicating the exact form, material, style, and detailing of the historic building in the new addition so that the new work appears to be part of the historic building.

Imitating a historic style or period of architecture in new additions, especially for contemporary uses such as drive-in banks or garages.

NEW ADDITIONS TO HISTORIC BUILDINGS (continued)

Recommended

Considering the attached exterior addition both in terms of the new use and the appearance of other buildings in the historic district or neighborhood. Design for the new work may be contemporary or may reference design motifs from the historic building. In either case, it should always be clearly differentiated from the historic building and be compatible in terms of mass, materials, relationship of solids to voids, and color.

Placing new additions such as balconies and greenhouses on non-character-defining elevations and limiting the size and scale in relationship to the historic building.

Designing additional stories, when required for the new use, that are set back from the wall plane and are as inconspicuous as possible when viewed from the street.

Not Recommended

Designing and constructing new additions that result in the diminution or loss of the historic character of the resource, including its design, materials, workmanship, location, or setting.

Using the same wall plane, roof line, cornice height, materials, siding lap or window type to make additions appear to be a part of the historic building.

Designing new additions such as multistory greenhouse additions that obscure, damage, or destroy character-defining features of the historic building.

Constructing additional stories so that the historic appearance of the building is radically changed.