

## Technical Preservation Services

Building Exterior **Roofs**

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The roof--with its shape; features such as cresting, dormers, cupolas, and chimneys; and the size, color, and patterning of the roofing material--is an important design element of many historic buildings.

In addition a weathertight roof is essential to the longterm preservation of the entire structure. Historic roofing reflects availability of materials, levels of construction technology, weather, and cost.

For example, throughout the country in all periods of history, **wood shingles** have been used--their size, shape, and detailing differing according to regional craft practices.

European settlers used **clay tile** for roofing as early as the mid-17th century. In some cities, such as New York and Boston, clay was popularly used as a precaution against fire. The Spanish influence in the use of clay tile is found in the southern, southwestern and western states. In the mid-19th century, tile roofs were often replaced by **sheet metal**, which is lighter and easier to maintain. Evidence of the use of **slate** for roofing dates from the mid-17th century. Slate has remained popular for its durability, fireproof qualities, and its decorative applications. The use of metals for roofing and roof features dates from the 18th century, and includes the use of **sheet iron, corrugated iron, galvanized metal, tin-plate, copper, lead and zinc**. Awareness of these and other traditions of roofing materials and their detailing will contribute to more sensitive treatment.



Slate and copper mansard roofs in an urban canyon.

**Roofs**

....Identify, retain, and preserve

recommended.....



Copper and wrought iron weathervane.

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.

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.

## Roofs

### ....Protect and Maintain



#### recommended.....

**Protecting and maintaining a roof by cleaning the gutters and downspouts and replacing deteriorated flashing.**

**Roof sheathing should also be checked for proper venting to prevent moisture condensation and water penetration; and to insure that materials are free from insect infestation.**

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



Gable and pent roof in excellent condition.

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

#### not recommended.....

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

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

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

## Roofs

### ....Repair



#### recommended.....

**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.**



Repairing slate roof using traditional methods.

**not recommended.....**

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.

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

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.

**Roofs****....Replace****recommended.....**

Replacing in kind an entire feature of the roof that is too deteriorated to repair--if the overall form and detailing are still evident--using the physical evidence as a model to reproduce the feature.



Replacement of damaged clay tile roof.

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.....**

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

## Design for Missing Historic Features

*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.....**

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.

**not recommended.....**

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.

## Alterations/Additions for the New Use

*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.....

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.



Non-obtrusive skylights on rear of residence.

### not recommended.....

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.



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