Village of Oak Park
Oak Park Historic Preservation Commission
REQUIREMENTS FOR ROOFING

A roof and its associated features, including form, materials, chimneys, dormers, and overhanging eaves, can be key elements in a building's style.

WHAT YOU NEED TO KNOW ABOUT ROOFS

A building's roof is one of its most important elements. Not only does it serve as the first line of defense against the weather, but its design greatly affects the overall appearance of the building. The following should be considered when planning any roofing project:

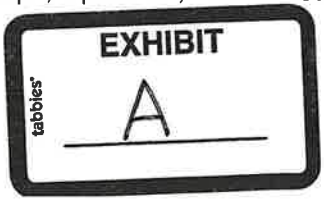
- Weather-tight roofing preserves a building and protects the building and its materials from rain, wind, sun, and snow.
- Temperature changes and building movement affect roofing materials.
- Roofing is an important element of a building's character, silhouette, and architectural style.
- The form, color, and texture of the roof and roof opening affect the scale and massing of a building.
- Variations in roofing materials and styles add visual interest to the streetscape.

Individual missing or damaged slates can often be replaced, extending the serviceable life of the roof and postponing costly replacement.

WHAT TO CONSIDER WHEN DOING A ROOFING PROJECT

When preparing for a roof-related project, these are some key issues to consider:

- Are the existing roofing materials and features historic (clay or cement tile, slate, wood shingles, copper gutters)? Make every effort to preserve, reuse, and repair historic materials.
- Are you repairing or replacing the roof or roof features? If so, limit your repairs and replacement to the damaged areas only.
- What materials do you plan to use in your repairs or replacement? If the historic materials are too damaged to be saved, replacement materials should match the original as closely as possible.
- Are you making any major changes to the shape or form of the roof? Changing the shape or style of a roof (for example, from a gable end to a mansard) can dramatically alter the appearance of a building.
- Are you adding dormers? If so, minimize their size and visibility to avoid impacting the historic integrity of the building. New dormers should be sympathetic to the historic building in design and should not cover more than 50% of the total roof area visible from the street.
- Are you adding openings or new features to the roof? If so, they should be compatible the building. Features like skylights and solar panels should be placed on the rear slope, if possible, to limit visual impact.



RECOMMENDED BEST PRACTICES FOR ANY ROOFING PROJECT

Substitute Roof Materials

- Don't rely on brochure photographs. Get samples and, if possible, visit a similar completed project to see the materials.
- Confirm that the proposed material is appropriate for your roof slope.
- Understand the total roofing system and attic ventilation that is appropriate for each material.
- Know that some materials may fade or change their appearance over time.
- Know that some substitute roof materials may require more frequent replacement, increasing overall costs over time.

Roof Repair & Replacement

- Maintain, clean, and repair your roofing, roof
- Inspect attics periodically after a storm or freeze to catch small leaks early and reduce the potential for interior damage.
- Regularly repaint metal and wood elements that are vulnerable to rusting, rot, and deterioration.
- Securely install fasteners and flashings.

Roof Accessories

- Use flashing materials and fasteners with a life span longer than the roofing material's life span.
- Regularly clean your gutters and downspouts - at a minimum each spring and fall.
- Install half-round gutters rather than "K"-gutters and use plain round or rectangular downspouts instead of corrugated downspouts.
- Minimize the overall number of openings in the roof and locate them in unobtrusive locations that are not visible from the street.

REQUIREMENTS FOR ROOFING PROJECTS REVIEWED BY THE HPC

Substitute Roof Materials

Property Owners Shall:

- Install roofing materials (not siding materials) on steep roof slopes.

Roof Repair & Replacement

Property Owners Shall:

- Repair rather than replace historic roofing materials.
- Selectively replace damaged or missing historic materials with new materials that match in size, shape, texture, color, and appearance.
- Replace damaged or deteriorated materials with new materials to match the original in size, shape, texture, pattern, color, material, and appearance.
- If repair of the original material is not possible, replace damaged or missing materials with new materials that are similar in size, shape, texture, pattern, color, and appearance.

Roof Accessories

Property Owners Shall:

- Retain and repair the historic drainage system and its appearance.

Roof Features

Property Owners Shall NOT:

- Alter the original roof form, shape, or slope, unless reversing non-historic changes.
- Remove historic roof features such as chimneys, dormers, cupolas, weathervanes, or finials.
- Add or alter rooftop features visible from the street that change the roof configuration including roof windows, roof decks, and chimney stacks.
- Add rooftop features that create a false sense of history (weathervanes, cupolas, wood shingles to replace an original slate roof) without producing supporting evidence.
- Add new features or modern amenities that are visible from the street and do not match the roof's character, scale, materials, or detailing. This includes satellite dishes and antennas, skylights, vents, mechanical equipment, and telecommunications equipment; and renewable energy sources such as solar panels, wind turbines.
- Cover decorative elements such as cornices and brackets with vinyl or aluminum capping or siding.

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GUIDELINES FOR ROOFING

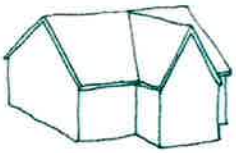

Front Gable


Side Gable


Ridged Hip


Pyramidal Hip


Cross Hipped


Cross Gable


Shed


Gambrel


Mansard


Flat with Parapet

ROOF FORMS

There are six general roof forms. These roof forms can have various slopes and be combined in different manners to provide numerous types of roofs. They can be characteristic of different building styles.

- **Gable Roofs** include front, side, and cross-gable configurations. Gable roofs generally have two equally angled slopes that meet at a central ridge. They are one of the most common roof forms because of their ability to shed water and relative ease of construction. In the front gable configuration, the main entrance is located at a gable end. In the side gable configuration, the main entrance is located below the sloping side eaves of the roof. A cross-gable roof refers to intersecting front and side gable forms.
- **Shed Roofs**, also known as a pent roofs or lean-tos, are roofs with a single slope, essentially forming a half gable, with rafters spanning between one exterior and a secondary wall. Shed roofs are typically used for additions to existing buildings.

The Guidelines were developed in conjunction with the Village of Oak Park's Historic Preservation Commission (HPC). For more information regarding application and review procedures, please consult the *Guidelines Introduction*, visit Village Hall or www.oak-park.us, or contact Village Staff at (708) 358-5440 or historicpreservation@oak-park.us. For more information regarding HPC recommendations and requirements, refer to *Requirements for Roofing*.

- **Hipped Roofs** features slopes on all sides, meeting at a ridge or, as with a pyramidal roof, at a point.
- **Gambrel Roofs**, also known as Dutch roofs, include a pair of shallow pitched slopes above a pair of steeply sloped roofs on each side of a center ridge. This roof type is characteristic of the Dutch Colonial Revival style.
- **Mansard Roofs** include a steeply sloped lower section beginning at the building cornice and a nearly flat upper slope that may not be visible from the ground. The lower slope can be straight, concave or convex. This roof type is characteristic of the Second Empire style.
- **Flat Roofs** may be a true horizontal or have a low slope to allow drainage. They often have a parapet, generally an extension of the building's exterior walls. In Oak Park, they are most often found on commercial and multi-family residential buildings.

ROOF SLOPE & MATERIALS

The roof slope may help define the appropriate materials. Low-sloped to flat roofs need a continuous or nearly continuous roof surface to keep storm water from entering a building. Although very few roofs are truly "flat", low-sloped roofs, generally defined as a pitch below 3:12 slope (3-inch rise for 12-inch run) require a watertight roofing system, generally of metal roofing, built-up hot tar roofing, and rolled roofing. By contrast, steeper-sloped roof systems generally have shingles, in materials such as slate, clay, concrete, metal, wood, and asphalt.

ROOF FEATURES

Roof features are decorative and sometimes functional elements that help to define the profile of a roof and should complement the building's style. Historic rooftop features include chimneys, dormers, cupolas, towers, turrets, finials, cresting, and weathervanes. When addressing roof features, it is important to remember they may be character-defining features and can be difficult and costly to replace.

Chimneys are typically designed to complement the style of a building and its period of construction. In Oak Park, many are constructed of brick and occasionally stone, some of which have been covered with stucco. Most building styles, including Colonial Revival and Classical Revival, tend to have square or rectangular chimneys, some with stone caps. Victorian period chimneys can include decorative detailing such as corbelling, varied patterns, and decorative surfaces.

Dormers protrude from the roof surface with a window at the downward slope, providing light and additional headroom in the interior. Dormer types, defined by their roofs, include gabled, shed, hipped, eyebrow, and arched dormers.

ROOF ACCESSORIES

In addition to the roofing surface, roof accessories are part of the overall design. While they are primarily functional, they influence the roof's appearance. Roof accessories include flashing, gutters, downspouts and snow guards.

Flashing is thin sheet metal installed to prevent water from entering a building at joints and intersections. It is typically installed around chimneys, parapet walls, dormer windows, roof valleys, and vents, as well as at intersections of porches, additions, and bay windows. Flashing often deteriorates and fails before roof surfaces, particularly with more durable roofing materials such as slate, resulting in interior leaking. It is often possible to replace flashing without replacing the entire roof.

When replacing flashing or installing a new roof, it is important to select a flashing material that has an anticipated life span similar or longer than the roofing. Flashing is typically copper, terne coated (corrosion resistant alloy of lead and tin) steel, or aluminum. The longevity of is based upon its thickness, how quickly it deteriorates from weather, and whether it is galvanized, treated, or coated. Generally, copper and terne-coated steel have the longest life spans. Aluminum is more vulnerable to punctures, tears, and galvanic reaction to other metals and some roofing materials. It is important to verify that flashing materials are compatible with your roofing materials.

Roof vents are generally air and plumbing vents. Air vents include ridge and soffit vents. They provide an outlet for air and humidity from attics. ridge vents are installed at the peak of a sloped roof while soffit vents are located at roof eaves. Ridge vents are generally preferable. Plumbing vents typically provide ventilation for bathrooms, kitchens, and furnaces.

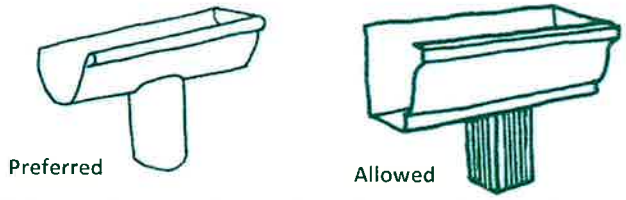
Snow guards are typically cast metal or bent wire devices arranged in a staggered pattern near an eave to prevent large masses of snow from sliding off a roof. Another form of snow guard is spaced brackets supporting metal rods above the roof surface. Both types of snow guards can protect eaves, cornices and gutters, and take advantage of the insulating effect of snow.

Roof insulation can greatly reduce heat loss during the winter and maintain a cooler environment in the summer, reducing cooling and heating costs. Installing a vapor barrier can also reduce attic moisture.

Gutters are typically located near or along the bottom edge of a roof slope to collect rainwater. Built-in gutters are hidden from view from the ground within or behind architectural features such as cornices or parapets. Built-in gutters are flashing materials wrapped around or within wood forms.

Hanging gutters are attached to the building just under the roof slope edge. Hanging gutters may be made of materials including wood, copper, galvanized metals, aluminum, and vinyl.

Similar to flashings, gutter materials have different life spans. Generally, copper has the longest life span, followed by terne coated steel. Aluminum is more vulnerable to punctures, tears, dents, and galvanic reaction to other metals. Vinyl or PVC can become brittle, and break in cold temperatures.



Half-round gutters with round or rectangular downspouts are preferred over decorative gutters with corrugated downspouts. These decorative gutters often are stylistically incompatible with historic buildings.

Downspouts, or rainwater conductors, are generally surface mounted to a building's exterior to bring a gutter's water down the face of the building to the ground or an underground drainage system. Downspouts can be made of copper, galvanized metal, aluminum and vinyl with similar characteristics, in a round or rectangular profile.

Rain barrels can collect water from downspouts for use in gardens and landscaping. As with other non-historic features, new rain barrels should be unobtrusive and placed where not visible from the street.

INVESTIGATING HISTORIC ROOFING

Some research is usually needed to determine the historic roofing material for a building. A good place to start is in the attic. New roofs are often laid atop older roofing surfaces. Older roofs can sometimes be seen between the rafters. Another area to review is the roof framing, lath and sheathing. Lath is a wood strip used to support individual slates, tiles, and shingles, while sheathing is often a solid material such as plywood used to support asphalt and metal roofing.

Due to their weight, slate, clay, and concrete tile roofs require more substantial roof framing, and larger rafters with narrower spacing than the framing used to support wood shingles. If the original lath is visible, there are variations in lath spacing that relate to standard sizes for slate, clay and concrete tile, and wood shingles. Finally, metal roof installations may be identified by wood sheathing, which was often used in the place of lath.

If original materials have been removed or are not visible, historic photographs may be helpful. Check with staff at Village Hall and the historical society. Neighbors and similar nearby buildings may also provide clues about your original roofing materials.

ROOFING MATERIALS

Historically, roofing materials were selected based on practical and aesthetic criteria including roof slope, weather conditions, and availability of materials and craftsmen. In Oak Park, historic roofing materials were generally slate, clay and concrete tiles, and wood shingles. Metal is also found and, later, asphalt shingles. Each material provides a specific color, texture, and pattern. For example, slate and wood shingles typically have variations in color, texture veining or graining, and thickness. Decorative slate shingles of varied colors and shapes were used in the late 19th century.

At the beginning of the 20th century new roofing materials were introduced, including asbestos and asphalt shingles, as well as varieties of rolled or built-up roofing for flat installations. The variety of metal roofing was also expanded to include copper, galvanized sheet steel, and aluminum.

Recently, a variety of roofing materials intended to simulate historic materials have been developed. These include "dimensional" or "architectural" asphalt-composition shingles and fiberglass, and metal or recycled rubber shingles intended to mimic the appearance of slate, wood, and clay shingles. The physical and aesthetic quality of these materials in comparison to the historic materials varies.

Slate

Slate became a popular roofing material in the United States in the late 19th century as it became more available and favored architectural styles drew from early European traditions. Slate provided a durable, fire-resistant, and attractive surface. Slate is often seen on Victorian era houses including the Second Empire and Queen Anne styles, variety of shapes and colors made the roof surface a visually important building feature. Simple, square-cut slate was later used in with the Colonial Revival style.

A slate roof can last 60 to 125 years depending on the type of stone, quality of installation, and regularity of maintenance. A failing slate often slowly delaminates (splits into layers), chips, and absorbs moisture, causing the slate to deteriorate faster. Problems with slate roofs are typically the result of failure of roof accessories or fasteners, since they often do not have the same 100-year life span as the slate itself. To extend the life of a roof, property owners are encouraged to address small problems as they appear, using a qualified slate roofer.

Typical problems and possible repairs for slate:

- Loosening or corrosion of fasteners - reattach or replace fastener
- Split or cracked slate – install sheet metal under shingle, fill split or hole with roofing cement
- Missing or damaged slates or roof accessories – replace to match original

Extensive damage may mean that replacement of the roofing is needed. Property owners are strongly encouraged to match historic materials, including colors and decorative patterns. While installation of replacement slate roofing is encouraged, other materials with similar visual characteristics are available including ceramic tile, concrete/mineral fiber, and rubber. Some dimensional or architectural fiberglass asphalt shingles simulate the shapes, color, and varied color appearance of slate. If an alternative material is used, care should be taken to match the historic material as closely as possible. Additionally, synthetic materials may not be as durable.

Clay & Concrete Tile

Clay and concrete tile roofs can last over 100 years, depending on the material's properties, manufacturing process, installation quality, and regularity of maintenance. Similar to slate, problems with tile roofs are typically the result of failure of roof accessories or fasteners, since they generally do not have the same life span as the tile itself. In addition, the tiles are relatively fragile and susceptible to damage from falling tree limbs and other impacts. To extend the life of a tile roof, property owners are encouraged to address small problems as they become apparent, using a qualified roofer.

Some benefits of tiles are that they can provide a watertight roofing system, fire resistance, and longevity at a relatively low cost over time. In addition, the tiles vary in shape, color, and texture, and can be made to resemble other materials including slate, weathered wood, and stone slabs.

Typical problems and possible repairs for tile:

- Loosening or corrosion of fasteners for tile or accessories – reattach or replace fastener
- Split or cracked tile – install sheet metal under tile; fill split or hole with roofing cement
- Missing or damaged tile or roof accessories –replace to match original

Depending on the number of tiles on a roof slope that are damaged or missing, replacement of the roofing might be warranted, although property owners are encouraged to install new clay or concrete tile and match the colors and decorative patterns with replacement materials. Other materials are used to simulate clay, concrete, or other tiles, but many do not have the same size and shape of the historic material and may not last as long. It is often possible to reuse salvaged tiles, taking care to verify availability of appropriate quantities of needed sizes, shapes, and colors. When replacing a roof, select flashing material that has a life span similar or longer than the roofing material.

Asphalt

Asphalt and asbestos became popular roofing materials at the beginning of the 20th century because they were relatively inexpensive and easily installed. Early asphalt roofing was generally made of asphalt-saturated felts in a variety of shapes, styles, textures and colors. Today, asphalt shingles are made with fiberglass, generally as 3-tab or "architectural" or "dimensional" shingles, which include multiple layers of material with simulated shadows suggesting wood or slate. An asphalt shingle roof can be expected to last from 15 to 25 years with "architectural" or "dimensional" shingles lasting longer due to their multiple layers. Over time, asphalt shingles can curl, lose their mineral coating, be dislodged by wind or ice, or become brittle.

Typical problems and possible repairs for asphalt:

- Split or puncture – install sheet metal under shingle, fill split or hole with roofing cement
- Moss or mold on surface – trim adjacent trees allowing sun to dry out roof surface, check attic for adequate ventilation
- Missing or damaged shingles or roof accessories – replace to match original

Depending on the amount of damaged asphalt on a roof slope, replacement of the roofing might be required. Some historic styles and colors for asphalt shingles are still available. Property owners are encouraged to match historic materials as closely as possible.

Asbestos Shingles

Great care should be taken when working with asbestos products. Work should be done by a licensed contractor. Property owners are responsible for ensuring that all asbestos removal and disposal meets all applicable regulations and procedures.

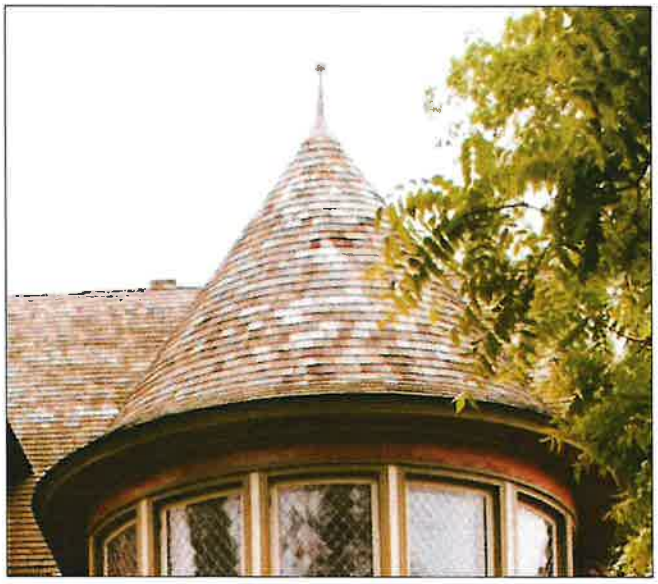
Wood Shingles

Wood shingles are typically made from cedar, cypress, redwood, oak, elm or white pine. A wood shingle roof can last 30 to 60 years depending on the roof slope, quality of materials and installation. However, like all exposed exterior wood surfaces, a shingle roof is subject to deterioration from rot, splitting, warping and eroding. In many cases, wood shingle roofs are replaced at the first indication of a localized problem when regular maintenance or a less intensive repair would be sufficient. Common locations of problems are the roof accessories including the fasteners, flashing and gutters, which might have a shorter life span than the wood shingles. To extend the serviceable life of a roof, property owners are encouraged to address localized problems as they appear.

Typical problems and repairs for wood shingles:

- Loosening or corrosion of fasteners for shingles or accessories – reattach or replace fastener
- Split or punctured shingle – install sheet metal under shingle; fill split or hole with roofing cement
- Moss or fungi on surface – trim back adjacent trees, allowing sun to dry out roof surface; investigate fungicide application; check attic for adequate ventilation
- Missing or damaged shingles or roof accessories –
- Replace to match original

Depending on the extent of damage, replacement of the roofing might be necessary. Property owners are encouraged to install replacement wood shingles that match the historic material. Wood roofing replacement alternatives include dimensional fiberglass asphalt shingles. Alternatives should match existing as closely as possible.



Flat Roofing Systems

There are a variety of flat or low-slope roof systems including metal roofing, built-up roofing, single-ply roofing, and modified bitumen roofing.

Typical localized problems for flat roofs include:

- Splits, punctures, or cracking of surface
- Standing water or poor drainage

In selecting the most appropriate roofing material, it is important to select one that will address the building drainage and weight limitations and other functions such as maintenance and life span.

Metal Roofing

Metal became popular for roofing following the Civil War and can be found on a variety of buildings and structures. Traditional sheet roofing metals include lead, copper, zinc, tin plate, terne plate (a corrosion resistant alloy of lead and tin), and galvanized iron (zinc coated). Many metal roofs require painting. Traditional colors include red, silver, green, and black. Shallow sloped roofs like porches, cupolas, or domes, feature small rectangular pieces of metal roofing soldered to form a weather-tight surface. On steeper roofs, long sheets of metal roofing are crimped together resulting in regular ridges down roof slopes.

A well-installed and maintained metal roof is very durable and can last well over a century. If not properly installed, metal roofing is subject to expansion and contraction with changes in temperature, resulting in buckling and warping. Similar to slate roofing, metal roofing work should be undertaken by a specialist.

SUBSTITUTE ROOF MATERIALS

Use care when picking substitute materials as they may not have the longevity promised and they can potentially damage historic building materials.

Here, the roof rafters running down the roof slope, are relatively small and widely spaced. The darker wood lath strips located between the rafters are covered with plywood. The wide spacing of the rafters and lath suggests a lighter roofing material such as wood shingles instead of slate or tiles.

ROOF REPLACEMENT CONSIDERATIONS

The following are a few items that should be considered for any roof replacement project:

- Roofing work is potentially dangerous and should be done by professionals.
- All roofers are not experienced in all materials. Be sure to obtain references and verify that roofers have appropriately completed similar work.
- Confirm the extent of both the material and installation warranties and company histories.
- Confirm the life-cycle cost associated with roof replacement. Traditional materials tend to last longer than newer materials.
- Confirm whether removal of existing roofing is required before installing the new roofing. Too much weight can damage structural elements.
- Look for rot or decay and make necessary repairs to the sheathing or lath and structural elements.
- Confirm that the roof framing can support the roof material and provide appropriate ventilation under roof surface.
- Use appropriate underlayment including building paper, rosin paper (slip sheet) and/or ice shield.
- Install appropriate vents for roofing materials and installation.

Ideally, the solar panels would not be visible from the street, but the above installation is appropriate as it is on a side, is removable, and does not affect any character defining features of the house.

SOLAR PANELS IN HISTORIC DISTRICTS

The Oak Park Historic Preservation Commission supports sustainable "green" building including reuse of historic buildings and use of alternative energy sources. However, solar panels shall ~~should~~ be installed in a way that is compatible with a historic district. Specifically, installation of solar panels shall ~~should~~ meet the Guidelines and the *Secretary of the Interior's Standards*. If care is taken to consider impacts of solar panel installation both on the building in question and the neighborhood, such a project may be completed in a way that requires minimal review and preserves the historic character for which Oak Park's historic districts are known.

The section below outlines review requirements and provides recommendations to best meet the Architectural Review Guidelines. For feedback on individual projects, please contact Village staff or consider attending an Architectural Review Committee meeting.

Are solar panels allowed in Oak Park's historic districts?

Solar panels are permitted in Oak Park's historic districts but shall ~~should~~ be installed in a sensitive way that are minimally visible from the street. Ideally, solar panels are installed in locations not visible from the street and in a way that does not damage any character defining features of a historic resource. For example, appropriate installation locations may include ~~on~~ the roofs of garages hidden from view by the main house or on rear roof slopes. If solar panels must be installed on side-facing roof slopes ~~and~~ of secondary facades, they shall ~~should~~ be placed as far back from the street as possible.

In most cases, solar panels may be mounted on the structural framework of historic buildings and structures when the following conditions are met:

- All efforts have been made to place the panels in areas that are not readily visible from the street, such as on rear roof slopes, behind dormers, or on a garage located behind the house.
- Solar panels shall not bear directly on ~~should stand off from~~ the wall or roof of the building.
- Panels shall be "readily reversible." This means that their installation allows for future removal of the panels without any damage or alteration of the original historic structure.
- No damage or removal of any historic feature of the building shall take place as part of the installation of the solar panels. Projects involving demolition of historic materials require a Certificate of Appropriateness from the Historic Preservation Commission.
- Solar panels are not to be placed on the slope of the roof or wall of the building's street-facing ~~primary~~ facade, which faces the street on which the building is situated.

As with the photo at the top left, the ideal location of solar panels would not be visible from the street. However, this alternative is appropriate.

Requirements to install solar panels on street-facing façade of historic buildings in historic districts

The section below outlines the requirements for installation of solar panels and strategies to reduce visual impacts of solar panels when installed on street-facing façade of historic buildings.

- Use solar panels and mounting systems that are compatible in color to established roof materials. Incorporate a monochromatic equipment design (panels are black on black, color matched black attachments and rails, etc.) that blends in well with

the roof projections.

- Use a sleek trim (or skirt) around the perimeter of solar panels array to hide components that are visible beneath the solar panels.

- Mechanical equipment associated with the photovoltaic system shall be treated to be as unobtrusive as possible. Incorporate interior conduits instead of exterior conduits and use flush-mounted solar panels that are installed directly on a roof, with a low profile and a clean aesthetic.

- An alternative to conventional solar arrays is a Solar Shingles system, also called photovoltaic shingles. Solar shingles are solar cells designed to look like conventional asphalt shingles. Various thin film solar cell technologies are used to match conventional shingles both in size and flexibility.

Do solar panel installations require Certificates of Appropriateness from the HPC?

If the solar panel installation meets the criteria listed in the Guidelines ~~above~~, the project can likely be approved administratively without additional Historic Review. Any Oak Park Landmarks or projects involving demolition of historic materials will require a Certificate of Appropriateness from the Historic Preservation Commission.

If any of the conditions in the Guidelines ~~above~~ are not met, ~~then~~ the applicant shall ~~may need to get~~ obtain a Certificate of Appropriateness ~~or a Certificate of Advisory Review~~ from the Historic Preservation Commission to proceed. If you have any questions, contact Village staff at 708.358.5440 or historicpreservation@oak-park.us for more information.

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- Temperature changes and building movement affect roofing materials.
- Roofing is an important element of a building's character, silhouette, and architectural style.
- The form, color, and texture of the roof and roof opening affect the scale and massing of a building.
- Variations in roofing materials and styles add visual interest to the streetscape.

Individual missing or damaged slates can often be replaced, extending the serviceable life of the roof and postponing costly replacement.

WHAT TO CONSIDER WHEN DOING A ROOFING PROJECT

When preparing for a roof-related project, these are some key issues to consider:

- Are the existing roofing materials and features historic (clay or cement tile, slate, wood shingles, copper gutters)? Make every effort to preserve, reuse, and repair historic materials.
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- Maintain, clean, and repair your roofing, roof
- Inspect attics periodically after a storm or freeze to catch small leaks early and reduce the potential for interior damage.
- Regularly repaint metal and wood elements that are vulnerable to rusting, rot, and deterioration.
- Securely install fasteners and flashings.

Roof Accessories

- Use flashing materials and fasteners with a life span longer than the roofing material's life span.
- Regularly clean your gutters and downspouts - at a minimum each spring and fall.
- Install half-round gutters rather than "K"-gutters and use plain round or rectangular downspouts instead of corrugated downspouts.
- Minimize the overall number of openings in the roof and locate them in unobtrusive locations that are not visible from the street.

REQUIREMENTS FOR ROOFING PROJECTS REVIEWED BY THE HPC

Substitute Roof Materials

Property Owners Shall:

- Install roofing materials (not siding materials) on steep roof slopes.

Roof Repair & Replacement

Property Owners Shall:

- Repair rather than replace historic roofing materials.
- Selectively replace damaged or missing historic materials with new materials that match in size, shape, texture, color, and appearance.
- Replace damaged or deteriorated materials with new materials to match the original in size, shape, texture, pattern, color, material, and appearance.
- If repair of the original material is not possible, replace damaged or missing materials with new materials that are similar in size, shape, texture, pattern, color, and appearance.

Roof Accessories

Property Owners Shall:

- Retain and repair the historic drainage system and its appearance.

Roof Features

Property Owners Shall NOT:

- Alter the original roof form, shape, or slope, unless reversing non-historic changes.
- Remove historic roof features such as chimneys, dormers, cupolas, weathervanes, or finials.
- Add or alter rooftop features visible from the street that change the roof configuration including roof windows, roof decks, and chimney stacks.
- Add rooftop features that create a false sense of history (weathervanes, cupolas, wood shingles to replace an original slate roof) without producing supporting evidence.
- Add new features or modern amenities that are visible from the street and do not match the roof's character, scale, materials, or detailing. This includes satellite dishes and antennas, skylights, vents, mechanical equipment, and telecommunications equipment; and renewable energy sources such as solar panels, wind turbines.
- Cover decorative elements such as cornices and brackets with vinyl or aluminum capping or siding.

Village of Oak Park
Oak Park Historic Preservation Commission
GUIDELINES FOR ROOFING

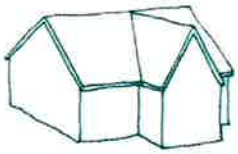

Front Gable


Side Gable


Ridged Hip


Pyramidal Hip


Cross Hipped


Cross Gable


Shed


Gambrel


Mansard


Flat with Parapet

ROOF FORMS

There are six general roof forms. These roof forms can have various slopes and be combined in different manners to provide numerous types of roofs. They can be characteristic of different building styles.

- **Gable Roofs** include front, side, and cross-gable configurations. Gable roofs generally have two equally angled slopes that meet at a central ridge. They are one of the most common roof forms because of their ability to shed water and relative ease of construction. In the front gable configuration, the main entrance is located at a gable end. In the side gable configuration, the main entrance is located below the sloping side eaves of the roof. A cross-gable roof refers to intersecting front and side gable forms.
- **Shed Roofs**, also known as a pent roofs or lean-tos, are roofs with a single slope, essentially forming a half gable, with rafters spanning between one exterior and a secondary wall. Shed roofs are typically used for additions to existing buildings.

The Guidelines were developed in conjunction with the Village of Oak Park's Historic Preservation Commission (HPC). For more information regarding application and review procedures, please consult the *Guidelines Introduction*, visit Village Hall or www.oak-park.us, or contact Village Staff at (708) 358-5440 or historicpreservation@oak-park.us. For more information regarding HPC recommendations and requirements, refer to *Requirements for Roofing*.

- **Hipped Roofs** features slopes on all sides, meeting at a ridge or, as with a pyramidal roof, at a point.
- **Gambrel Roofs**, also known as Dutch roofs, include a pair of shallow pitched slopes above a pair of steeply sloped roofs on each side of a center ridge. This roof type is characteristic of the Dutch Colonial Revival style.
- **Mansard Roofs** include a steeply sloped lower section beginning at the building cornice and a nearly flat upper slope that may not be visible from the ground. The lower slope can be straight, concave or convex. This roof type is characteristic of the Second Empire style.
- **Flat Roofs** may be a true horizontal or have a low slope to allow drainage. They often have a parapet, generally an extension of the building's exterior walls. In Oak Park, they are most often found on commercial and multi-family residential buildings.

ROOF SLOPE & MATERIALS

The roof slope may help define the appropriate materials. Low-sloped to flat roofs need a continuous or nearly continuous roof surface to keep storm water from entering a building. Although very few roofs are truly "flat", low-sloped roofs, generally defined as a pitch below 3:12 slope (3-inch rise for 12-inch run) require a watertight roofing system, generally of metal roofing, built-up hot tar roofing, and rolled roofing. By contrast, steeper-sloped roof systems generally have shingles, in materials such as slate, clay, concrete, metal, wood, and asphalt.

ROOF FEATURES

Roof features are decorative and sometimes functional elements that help to define the profile of a roof and should complement the building's style. Historic rooftop features include chimneys, dormers, cupolas, towers, turrets, finials, cresting, and weathervanes. When addressing roof features, it is important to remember they may be character-defining features and can be difficult and costly to replace.

Chimneys are typically designed to complement the style of a building and its period of construction. In Oak Park, many are constructed of brick and occasionally stone, some of which have been covered with stucco. Most building styles, including Colonial Revival and Classical Revival, tend to have square or rectangular chimneys, some with stone caps. Victorian period chimneys can include decorative detailing such as corbelling, varied patterns, and decorative surfaces.

Dormers protrude from the roof surface with a window at the downward slope, providing light and additional headroom in the interior. Dormer types, defined by their roofs, include gabled, shed, hipped, eyebrow, and arched dormers.

ROOF ACCESSORIES

In addition to the roofing surface, roof accessories are part of the overall design. While they are primarily functional, they influence the roof's appearance. Roof accessories include flashing, gutters, downspouts and snow guards.

Flashing is thin sheet metal installed to prevent water from entering a building at joints and intersections. It is typically installed around chimneys, parapet walls, dormer windows, roof valleys, and vents, as well as at intersections of porches, additions, and bay windows. Flashing often deteriorates and fails before roof surfaces, particularly with more durable roofing materials such as slate, resulting in interior leaking. It is often possible to replace flashing without replacing the entire roof.

When replacing flashing or installing a new roof, it is important to select a flashing material that has an anticipated life span similar or longer than the roofing. Flashing is typically copper, terne coated (corrosion resistant alloy of lead and tin) steel, or aluminum. The longevity of is based upon its thickness, how quickly it deteriorates from weather, and whether it is galvanized, treated, or coated. Generally, copper and terne-coated steel have the longest life spans. Aluminum is more vulnerable to punctures, tears, and galvanic reaction to other metals and some roofing materials. It is important to verify that flashing materials are compatible with your roofing materials.

Roof vents are generally air and plumbing vents. Air vents include ridge and soffit vents. They provide an outlet for air and humidity from attics. ridge vents are installed at the peak of a sloped roof while soffit vents are located at roof eaves. Ridge vents are generally preferable. Plumbing vents typically provide ventilation for bathrooms, kitchens, and furnaces.

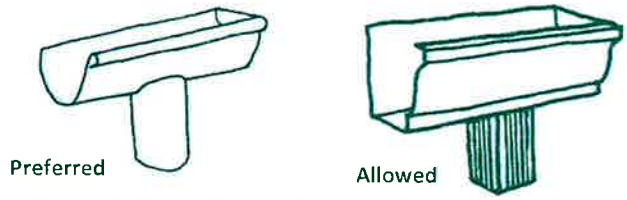
Snow guards are typically cast metal or bent wire devices arranged in a staggered pattern near an eave to prevent large masses of snow from sliding off a roof. Another form of snow guard is spaced brackets supporting metal rods above the roof surface. Both types of snow guards can protect eaves, cornices and gutters, and take advantage of the insulating effect of snow.

Roof insulation can greatly reduce heat loss during the winter and maintain a cooler environment in the summer, reducing cooling and heating costs. Installing a vapor barrier can also reduce attic moisture.

Gutters are typically located near or along the bottom edge of a roof slope to collect rainwater. Built-in gutters are hidden from view from the ground within or behind architectural features such as cornices or parapets. Built-in gutters are flashing materials wrapped around or within wood forms.

Hanging gutters are attached to the building just under the roof slope edge. Hanging gutters may be made of materials including wood, copper, galvanized metals, aluminum, and vinyl.

Similar to flashings, gutter materials have different life spans. Generally, copper has the longest life span, followed by terne coated steel. Aluminum is more vulnerable to punctures, tears, dents, and galvanic reaction to other metals. Vinyl or PVC can become brittle, and break in cold temperatures.



Half-round gutters with round or rectangular downspouts are preferred over decorative gutters with corrugated downspouts. These decorative gutters often are stylistically incompatible with historic buildings.

Downspouts, or rainwater conductors, are generally surface mounted to a building's exterior to bring a gutter's water down the face of the building to the ground or an underground drainage system. Downspouts can be made of copper, galvanized metal, aluminum and vinyl with similar characteristics, in a round or rectangular profile.

Rain barrels can collect water from downspouts for use in gardens and landscaping. As with other non-historic features, new rain barrels should be unobtrusive and placed where not visible from the street.

INVESTIGATING HISTORIC ROOFING

Some research is usually needed to determine the historic roofing material for a building. A good place to start is in the attic. New roofs are often laid atop older roofing surfaces. Older roofs can sometimes be seen between the rafters. Another area to review is the roof framing, lath and sheathing. Lath is a wood strip used to support individual slates, tiles, and shingles, while sheathing is often a solid material such as plywood used to support asphalt and metal roofing.

Due to their weight, slate, clay, and concrete tile roofs require more substantial roof framing, and larger rafters with narrower spacing than the framing used to support wood shingles. If the original lath is visible, there are variations in lath spacing that relate to standard sizes for slate, clay and concrete tile, and wood shingles. Finally, metal roof installations may be identified by wood sheathing, which was often used in the place of lath.

If original materials have been removed or are not visible, historic photographs may be helpful. Check with staff at Village Hall and the historical society. Neighbors and similar nearby buildings may also provide clues about your original roofing materials.

ROOFING MATERIALS

Historically, roofing materials were selected based on practical and aesthetic criteria including roof slope, weather conditions, and availability of materials and craftsmen. In Oak Park, historic roofing materials were generally slate, clay and concrete tiles, and wood shingles. Metal is also found and, later, asphalt shingles. Each material provides a specific color, texture, and pattern. For example, slate and wood shingles typically have variations in color, texture veining or graining, and thickness. Decorative slate shingles of varied colors and shapes were used in the late 19th century.

At the beginning of the 20th century new roofing materials were introduced, including asbestos and asphalt shingles, as well as varieties of rolled or built-up roofing for flat installations. The variety of metal roofing was also expanded to include copper, galvanized sheet steel, and aluminum.

Recently, a variety of roofing materials intended to simulate historic materials have been developed. These include "dimensional" or "architectural" asphalt-composition shingles and fiberglass, and metal or recycled rubber shingles intended to mimic the appearance of slate, wood, and clay shingles. The physical and aesthetic quality of these materials in comparison to the historic materials varies.

Slate

Slate became a popular roofing material in the United States in the late 19th century as it became more available and favored architectural styles drew from early European traditions. Slate provided a durable, fire-resistant, and attractive surface. Slate is often seen on Victorian era houses including the Second Empire and Queen Anne styles, variety of shapes and colors made the roof surface a visually important building feature. Simple, square-cut slate was later used in with the Colonial Revival style.

A slate roof can last 60 to 125 years depending on the type of stone, quality of installation, and regularity of maintenance. A failing slate often slowly delaminates (splits into layers), chips, and absorbs moisture, causing the slate to deteriorate faster. Problems with slate roofs are typically the result of failure of roof accessories or fasteners, since they often do not have the same 100-year life span as the slate itself. To extend the life of a roof, property owners are encouraged to address small problems as they appear, using a qualified slate roofer.

Typical problems and possible repairs for slate:

- Loosening or corrosion of fasteners - reattach or replace fastener
- Split or cracked slate – install sheet metal under shingle, fill split or hole with roofing cement
- Missing or damaged slates or roof accessories – replace to match original

Extensive damage may mean that replacement of the roofing is needed. Property owners are strongly encouraged to match historic materials, including colors and decorative patterns. While installation of replacement slate roofing is encouraged, other materials with similar visual characteristics are available including ceramic tile, concrete/mineral fiber, and rubber. Some dimensional or architectural fiberglass asphalt shingles simulate the shapes, color, and varied color appearance of slate. If an alternative material is used, care should be taken to match the historic material as closely as possible. Additionally, synthetic materials may not be as durable.

Clay & Concrete Tile

Clay and concrete tile roofs can last over 100 years, depending on the material's properties, manufacturing process, installation quality, and regularity of maintenance. Similar to slate, problems with tile roofs are typically the result of failure of roof accessories or fasteners, since they generally do not have the same life span as the tile itself. In addition, the tiles are relatively fragile and susceptible to damage from falling tree limbs and other impacts. To extend the life of a tile roof, property owners are encouraged to address small problems as they become apparent, using a qualified roofer.

Some benefits of tiles are that they can provide a watertight roofing system, fire resistance, and longevity at a relatively low cost over time. In addition, the tiles vary in shape, color, and texture, and can be made to resemble other materials including slate, weathered wood, and stone slabs.

Typical problems and possible repairs for tile:

- Loosening or corrosion of fasteners for tile or accessories – reattach or replace fastener
- Split or cracked tile – install sheet metal under tile; fill split or hole with roofing cement
- Missing or damaged tile or roof accessories –replace to match original

Depending on the number of tiles on a roof slope that are damaged or missing, replacement of the roofing might be warranted, although property owners are encouraged to install new clay or concrete tile and match the colors and decorative patterns with replacement materials. Other materials are used to simulate clay, concrete, or other tiles, but many do not have the same size and shape of the historic material and may not last as long. It is often possible to reuse salvaged tiles, taking care to verify availability of appropriate quantities of needed sizes, shapes, and colors. When replacing a roof, select flashing material that has a life span similar or longer than the roofing material.

Asphalt

Asphalt and asbestos became popular roofing materials at the beginning of the 20th century because they were relatively inexpensive and easily installed. Early asphalt roofing was generally made of asphalt-saturated felts in a variety of shapes, styles, textures and colors. Today, asphalt shingles are made with fiberglass, generally as 3-tab or "architectural" or "dimensional" shingles, which include multiple layers of material with simulated shadows suggesting wood or slate. An asphalt shingle roof can be expected to last from 15 to 25 years with "architectural" or "dimensional" shingles lasting longer due to their multiple layers. Over time, asphalt shingles can curl, lose their mineral coating, be dislodged by wind or ice, or become brittle.

Typical problems and possible repairs for asphalt:

- Split or puncture – install sheet metal under shingle, fill split or hole with roofing cement
- Moss or mold on surface – trim adjacent trees allowing sun to dry out roof surface, check attic for adequate ventilation
- Missing or damaged shingles or roof accessories – replace to match original

Depending on the amount of damaged asphalt on a roof slope, replacement of the roofing might be required. Some historic styles and colors for asphalt shingles are still available. Property owners are encouraged to match historic materials as closely as possible.

Asbestos Shingles

Great care should be taken when working with asbestos products. Work should be done by a licensed contractor. Property owners are responsible for ensuring that all asbestos removal and disposal meets all applicable regulations and procedures.

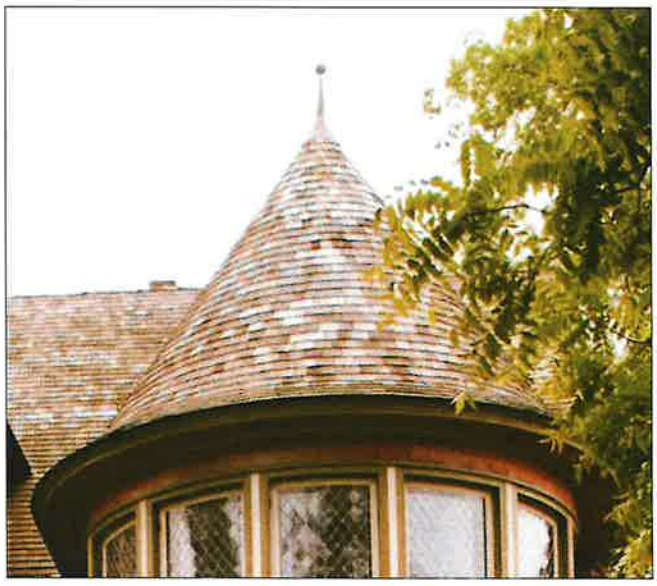
Wood Shingles

Wood shingles are typically made from cedar, cypress, redwood, oak, elm or white pine. A wood shingle roof can last 30 to 60 years depending on the roof slope, quality of materials and installation. However, like all exposed exterior wood surfaces, a shingle roof is subject to deterioration from rot, splitting, warping and eroding. In many cases, wood shingle roofs are replaced at the first indication of a localized problem when regular maintenance or a less intensive repair would be sufficient. Common locations of problems are the roof accessories including the fasteners, flashing and gutters, which might have a shorter life span than the wood shingles. To extend the serviceable life of a roof, property owners are encouraged to address localized problems as they appear.

Typical problems and repairs for wood shingles:

- Loosening or corrosion of fasteners for shingles or accessories – reattach or replace fastener
- Split or punctured shingle – install sheet metal under shingle; fill split or hole with roofing cement
- Moss or fungi on surface – trim back adjacent trees, allowing sun to dry out roof surface; investigate fungicide application; check attic for adequate ventilation
- Missing or damaged shingles or roof accessories –
- Replace to match original

Depending on the extent of damage, replacement of the roofing might be necessary. Property owners are encouraged to install replacement wood shingles that match the historic material. Wood roofing replacement alternatives include dimensional fiberglass asphalt shingles. Alternatives should match existing as closely as possible.



Flat Roofing Systems

There are a variety of flat or low-slope roof systems including metal roofing, built-up roofing, single-ply roofing, and modified bitumen roofing.

Typical localized problems for flat roofs include:

- Splits, punctures, or cracking of surface
- Standing water or poor drainage

In selecting the most appropriate roofing material, it is important to select one that will address the building drainage and weight limitations and other functions such as maintenance and lifespan.

Metal Roofing

Metal became popular for roofing following the Civil War and can be found on a variety of buildings and structures. Traditional sheet roofing metals include lead, copper, zinc, tin plate, terne plate (a corrosion resistant alloy of lead and tin), and galvanized iron (zinc coated). Many metal roofs require painting. Traditional colors include red, silver, green, and black. Shallow sloped roofs like porches, cupolas, or domes, feature small rectangular pieces of metal roofing soldered to form a weather-tight surface. On steeper roofs, long sheets of metal roofing are crimped together resulting in regular ridges down roof slopes.

A well-installed and maintained metal roof is very durable and can last well over a century. If not properly installed, metal roofing is subject to expansion and contraction with changes in temperature, resulting in buckling and warping. Similar to slate roofing, metal roofing work should be undertaken by a specialist.

SUBSTITUTE ROOF MATERIALS

Use care when picking substitute materials as they may not have the longevity promised and they can potentially damage historic building materials.

Here, the roof rafters running down the roof slope, are relatively small and widely spaced. The darker wood lath strips located between the rafters are covered with plywood. The wide spacing of the rafters and lath suggests a lighter roofing material such as wood shingles instead of slate or tiles.

ROOF REPLACEMENT CONSIDERATIONS

The following are a few items that should be considered for any roof replacement project:

- Roofing work is potentially dangerous and should be done by professionals.
- All roofers are not experienced in all materials. Be sure to obtain references and verify that roofers have appropriately completed similar work.
- Confirm the extent of both the material and installation warranties and company histories.
- Confirm the life-cycle cost associated with roof replacement. Traditional materials tend to last longer than newer materials.
- Confirm whether removal of existing roofing is required before installing the new roofing. Too much weight can damage structural elements.
- Look for rot or decay and make necessary repairs to the sheathing or lath and structural elements.
- Confirm that the roof framing can support the roof material and provide appropriate ventilation under roof surface.
- Use appropriate underlayment including building paper, rosin paper (slip sheet) and/or ice shield.
- Install appropriate vents for roofing materials and installation.

Ideally, the solar panels would not be visible from the street, but the above installation is appropriate as it is on a side, is removable, and does not affect any character defining features of the house.

SOLAR PANELS IN HISTORIC DISTRICTS

The Oak Park Historic Preservation Commission supports sustainable "green" building including reuse of historic buildings and use of alternative energy sources. However, solar panels shall ~~should~~ be installed in a way that is compatible with a historic district. Specifically, installation of solar panels shall ~~should~~ meet the Guidelines and the *Secretary of the Interior's Standards*. If care is taken to consider impacts of solar panel installation both on the building in question and the neighborhood, such a project may be completed in a way that requires minimal review and preserves the historic character for which Oak Park's historic districts are known.

The section below outlines review requirements and provides recommendations to best meet the Architectural Review Guidelines. For feedback on individual projects, please contact Village staff or consider attending an Architectural Review Committee meeting.

Are solar panels allowed in Oak Park's historic districts?

Solar panels are permitted in Oak Park's historic districts but shall ~~should~~ be installed in a sensitive way that are minimally visible from the street. Ideally, solar panels are installed in locations not visible from the street and in a way that does not damage any character defining features of a historic resource. For example, appropriate installation locations may include ~~on~~ the roofs of garages hidden from view by the main house or on rear roof slopes. If solar panels must be installed on side-facing roof slopes ~~and~~ of secondary facades, they shall ~~should~~ be placed as far back from the street as possible.

In most cases, solar panels may be mounted on the structural framework of historic buildings and structures when the following conditions are met:

- All efforts have been made to place the panels in areas that are not readily visible from the street, such as on rear roof slopes, behind dormers, or on a garage located behind the house.
- Solar panels shall not bear directly on ~~should stand off from~~ the wall or roof of the building.
- Panels shall be "readily reversible." This means that their installation allows for future removal of the panels without any damage or alteration of the original historic structure.
- No damage or removal of any historic feature of the building shall take place as part of the installation of the solar panels. Projects involving demolition of historic materials require a Certificate of Appropriateness from the Historic Preservation Commission.
- Solar panels are not to be placed on the slope of the roof or wall of the building's street-facing ~~primary~~ facade, which faces the street on which the building is situated.

As with the photo at the top left, the ideal location of solar panels would not be visible from the street. However, this alternative is appropriate.

Requirements to install solar panels on street-facing façade of historic buildings in historic districts

The section below outlines the requirements for installation of solar panels and strategies to reduce visual impacts of solar panels when installed on street-facing façade of historic buildings.

- Use solar panels and mounting systems that are compatible in color to established roof materials. Incorporate a monochromatic equipment design (panels are black on black, color matched black attachments and rails, etc.) that blends in well with

the roof projections.

- Use a sleek trim (or skirt) around the perimeter of solar panels array to hide components that are visible beneath the solar panels.

- Mechanical equipment associated with the photovoltaic system shall be treated to be as unobtrusive as possible. Incorporate interior conduits instead of exterior conduits and use flush-mounted solar panels that are installed directly on a roof, with a low profile and a clean aesthetic.

- An alternative to conventional solar arrays is a Solar Shingles system, also called photovoltaic shingles. Solar shingles are solar cells designed to look like conventional asphalt shingles. Various thin film solar cell technologies are used to match conventional shingles both in size and flexibility.

Do solar panel installations require Certificates of Appropriateness from the HPC?

If the solar panel installation meets the criteria listed in the Guidelines ~~above~~, the project can likely be approved administratively without additional Historic Review. Any Oak Park Landmarks or projects involving demolition of historic materials will require a Certificate of Appropriateness from the Historic Preservation Commission.

If any of the conditions in the Guidelines ~~above~~ are not met, ~~then~~ the applicant shall ~~may need to get~~ obtain a Certificate of Appropriateness ~~or a Certificate of Advisory Review~~ from the Historic Preservation Commission to proceed. If you have any questions, contact Village staff at 708.358.5440 or historicpreservation@oak-park.us for more information.