

City of Newton Historic Preservation

GUIDELINES FOR EXTERIOR WOODWORK



Many of Newton's significant homes - such as this in Chestnut Hill - include significant exterior woodwork.

PURPOSE

These *Guidelines* were prepared to provide property owners with information when considering the repair, alteration or installation of exterior woodwork and trim. They are not intended to replace consultation with qualified architects, contractors, the Newton Historical Commission (NHC), Local Historic District Commissions (HDC) and their Staff. The City's Preservation Planner and the NHC/HDC will be happy to provide a preliminary consultation addressing design or materials issues to potential applicants free of charge.

These *Guidelines* were developed in conjunction with the City of Newton's Historical Commission (NHC), Local Historic Districts Commissions (HDC), and the Planning and Development Department (PDD). Familiarity with this material can assist owners of designated historic properties to move a project quickly through the City of Newton review and approval process. Information pertaining to all properties with a City of Newton historic preservation review designation is marked with the abbreviation **(ALL)**. Information pertaining specifically to properties in Local Historic Districts **(LHD)**, to Local Landmarks **(LL)**, or to properties with Preservation Restrictions **(PR)** is marked accordingly. Information in the Guidelines that is advisory only is marked with the abbreviation **(AO)**. Please refer to the Introduction section for background information on historic preservation designations and the project review process in the City of Newton.

Additional Guidelines addressing other historic preservation topics are available at City Hall and on the City's website at www.newtonma.gov. The NHC, HDC, and PDD are available to provide informational meetings or preliminary consultation with applicants prior to filing. For more information, questions regarding the application process, or to clarify whether a project requires review please contact the PDD at (617) 796-1120.

EXTERIOR WOODWORK

Wood siding, shingles, cladding and trim on a building's wall surface serve both functional and aesthetic purposes. Functionally, exterior woodwork acts as the skin of the building, shedding water and deflecting sunlight and wind. Aesthetically, woodwork is an important design feature that can be applied as siding, shingles, ornamental trim and larger elements such as porches.

Exterior woodwork and cladding:

- Establish a weather-tight enclosure, providing protection from rain, wind and sun
- Are affected by temperature variation and building movement
- Establish a building's scale, mass and proportion, adding visual interest to the streetscape
- Act as important design features, helping to define a building's architectural style and adding pattern and casting shadows on wall surfaces

With proper maintenance, exterior wood elements can last for centuries; however, improper maintenance can result in problems and deterioration from water, fungus, mold and insects. Other forms of cladding can also be susceptible to deterioration, dependent on their properties and the installation conditions.

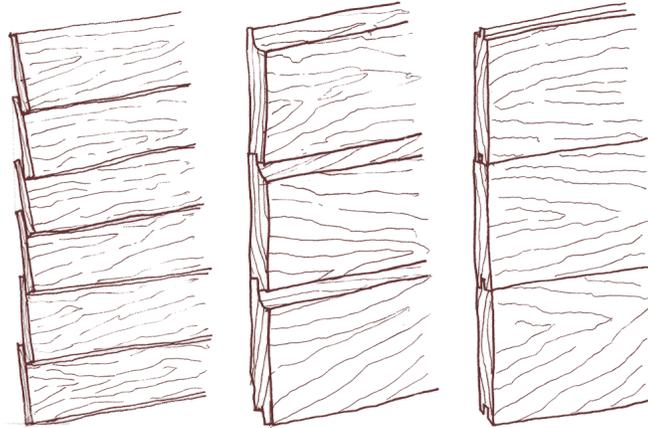


In many Victorian-era homes, such as this example in Auburndale, decorative exterior woodwork is a significant component of the building's architectural style and integrity.

WOOD SIDING TYPES

The most common type of wood siding in Newton is clapboard with drop-lap siding and flush siding being more unusual. Weatherboard siding (also known as clapboard or beveled siding), is made from long boards, tapered across the width. Drop-lap siding (also known as German siding), is a flat-faced board with a concave top and notched bottom. Flush siding has tongue-and-groove boards of uniform width.

Other types of wood siding that may be found in Newton include board-and-batten siding and ship-lap siding.



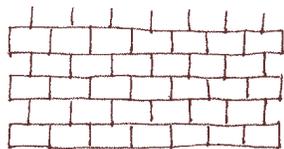
Weatherboard
Siding

Drop-Lap
Siding

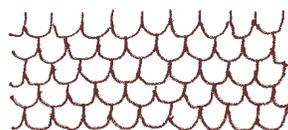
Flush
Siding

SHINGLE TYPES

Wood shingles provide a highly textured wall finish, and were used as a cladding material most often in Victorian era, Colonial Revival style and Arts and Crafts homes. Similar to clapboard siding, wood shingles are tapered and installed in an overlapping pattern with staggered joints to minimize potential moisture infiltration.



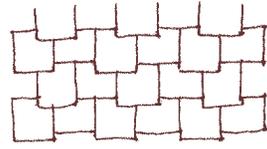
Chisel or Bevel



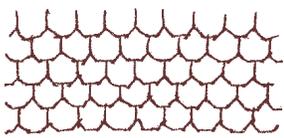
Fishscale



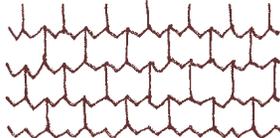
Diamond



Staggered



Octagonal



Sawtooth



This Tudor Revival house in Chestnut Hill includes a variety of exterior wood elements, including half-timbering, decorative wood brackets, wood lintels and painted wood siding at the gable end.

WOOD ORNAMENT & TRIM (ALL)

Visually, exterior wood trim frames areas of wood siding or shingles and serves as the transition to building elements such as doors, windows, cornices and porches. Functionally, it seals siding and shingles at joints, corners and openings, providing a weather-tight building enclosure. Wood trim includes window and door frames, corner boards, rake boards and wood sills. In addition to wood trim, there are numerous types of wood ornament applied to buildings, including porch posts and columns, brackets, balustrades, newel posts, spindles and other decorative details. Historically, wood trim and ornament profiles, details and sizes varied with building styles and whether a building was “high-style” or vernacular. As a result, wood trim and ornament are considered architecturally significant features.

The NHC/HDC encourage:

- Retaining historic wood trim and ornament
- Following guidelines for maintenance and repair of historic wood trim and ornament as outlined in the *Exterior Wood Checklist Section, Page 3*

When replacement of wood ornament and trim is warranted, the NHC/HDC encourage:

- Reusing original window frames and trim when replacing windows, or exactly replicating the dimensions and profiles of original frames
- Using modern composite materials as an alternative to wood only in locations where rot is a severe problem, or in areas that are minimally visible

The NHC/HDC discourage:

- Removing, altering or concealing original trim and detailing including window and door trim, corner boards, soffits, porch posts, railings, etc.
- Applying historically inappropriate ornament or trim or applying it where it did not historically exist



Porches, steps and other areas where the woodwork is laid horizontally or located close to the ground are often first to deteriorate. Ongoing exposure to moisture can lead to rot of the column bases, porch deck and apron.

EXTERIOR WOOD CHECKLIST

Property owners may not notice their exterior woodwork unless a problem occurs, or there is desire to improve the appearance or reduce maintenance. Typical exterior woodwork concerns include lack of regular maintenance, peeling paint, rot or deterioration, infestation, or loose, cracked or missing elements. Hiding these problems with materials such as vinyl without addressing the root cause of the problem results in further deterioration.

Even when poorly maintained exterior wood appears severely deteriorated, it is often not beyond repair. In addition, a deteriorated component or area typically does not necessitate the replacement or covering of all exterior woodwork. In most instances, selective repair or replacement of damaged parts and implementation of a regular maintenance program is all that is required. Full exterior woodwork replacement or encapsulation with artificial siding or another material is rarely necessary and should be avoided whenever possible.

The NHC/HDC encourage:

- Conducting semi-annual inspections of all exterior wood elements to verify their condition and determine maintenance needs. Look for signs of deterioration including excessive paint peeling that might indicate moisture problems. Look for veins of dirt on the exterior walls that might be termite mud tunnels. (Refer to *Wood Rot, Page 4.*) Clean exterior surfaces annually in warm weather with a garden hose, household detergent and a bristle scrub brush. Avoid using power washers that can force water into wall cavities through crevices and damage decorative details (AO).

- Maintaining and repainting exterior woodwork on a regular basis. A high-quality paint job can last 5 to 8 years. For best results, address any moisture or deterioration problems prior to painting. Hand scrape and sand where possible to avoid removing or damaging decorative details with power tools or burning. Apply high quality and compatible primer and paint to clean and dry surfaces. Paint colors and luster should be appropriate to the building style (AO).
- Repairing smaller areas of deterioration by reinforcing or patching as required. Small cracks and checks can be repaired with an exterior wood filler, glue or epoxy. Loose elements can be refastened with careful nailing or drilling and screwing (AO).
- Selectively replacing deteriorated wood elements when they are beyond repair. The replacement wood pieces should be the same size, profile and character as the historic wood element. It might be helpful to take a sample of the historic wood to the lumber yard or millwork shop for the best match. Wood filler in the joints between the new and old wood will help provide a smooth finish (ALL).
- Large scale or significant replacement of exterior wood might be necessary if deterioration of exterior woodwork is severe and extensive. Decorative woodwork should be retained whenever possible since it is a character defining element that can be difficult and costly to replace. Replacement wood elements should have the same visual characteristics as the historic woodwork including the size, profile and visual characteristics. Replacement wood siding materials should be installed in the original pattern being as careful as possible to match the original exposures and alignments relative to historic building elements such as door and window frames. Select replacement wood species appropriate for exterior use and location (ALL).

The NHC/HDC discourage:

- Removing or encapsulating siding, trim, decorative features and trim elements such as brackets, spindles, cornices, columns, posts, etc. (ALL)

HIRING A CONTRACTOR

- Repair, maintenance, installation and painting of exterior woodwork can be potentially dangerous work and should be left to professionals
- All contractors are not necessarily experienced in all materials, choose a contractor with demonstrated experience on similar projects
- Verify extent of warranty for materials and labor
- Check references, especially from 5 years prior, to understand how well work has held up
- Hold final payment until work is properly completed

WOOD ROT

Almost all wood rot is caused by fungi that break down dead wood to return it back to the earth. Spores of decaying fungi are continuously produced and airborne at the interior and exterior of buildings. Rot-causing fungi need four basic elements to thrive: oxygen, moisture, a food source and moderate temperatures. If one of these elements is missing, rot can be controlled.

Since oxygen and moderate temperatures are prevalent in the environment and most historic buildings are full of wood, an excellent food source, the best hope to minimize rot is to control moisture. Moisture that leads to wood rot generally comes from one of four sources: ground/surface water, precipitation, plumbing leaks and condensation.

Ground water can migrate from the soil into a building by: direct contact between wood and soil; improper drainage away from the foundation; vegetation that is too close to the foundation or growing on the building; and capillary action or rising damp in masonry foundation walls or piers carrying water several feet up to wood sills.

Precipitation in all of its forms, such as rain, snow, hail and mist, can find its way into a building through small openings and crevices, trapping moisture within a wall cavity. Painted surfaces and caulked joints can reduce the potential for moisture infiltration. Blocked or undersized gutters and downspouts can overflow and direct water towards building surfaces. Rainwater splashing on hard ground surfaces can rebound, saturating exterior woodwork. In cold weather, ice build-up along roof eaves without appropriate flashing could back-up under shingles and melt.

Leaky plumbing can be both sudden, such as a cracked pipe; or slow, where a gradual, unnoticed leak can soak a wood structure until significant damage occurs. Cracks in grout and tiles on floors and around bathtubs, sinks and washing machines can discharge enough water to rot wood framing. Periodic inspections for signs of leaking behind bathtub access panels, within sink vanities and around washing machines and dishwashers can help catch a problem before it becomes serious.

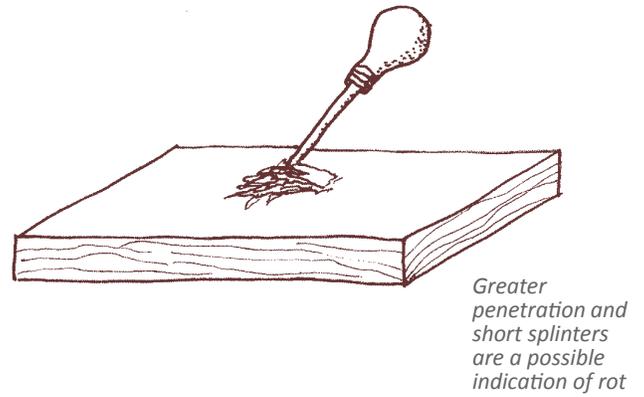
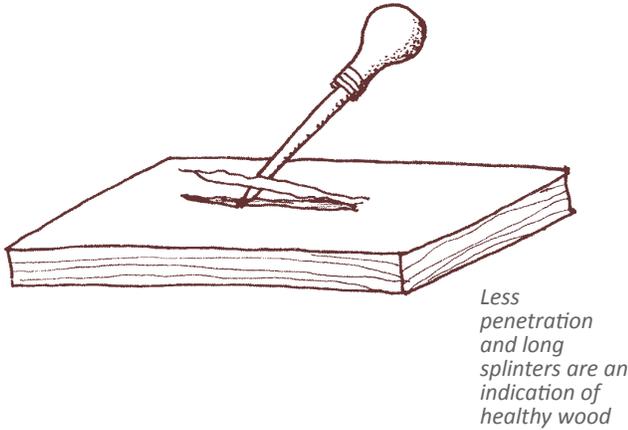
Condensation is an insidious source of moisture since the water comes from air vapor rather than an obvious source such as rain or a cracked pipe. Condensation occurs when warm moist air contacts a cold surface. Warm air can hold more moisture than cold air. If warm moist air comes in contact with a cold surface that is below the dew point temperature, the excess moisture changes to water droplets on the cold surface. Some common areas for condensation and possible solutions include:

- High humidity in kitchens, bathrooms and laundries - **Consider:** *Exhaust fans directing humid air to the outside and exterior clothes dryer vents (if renovating a bathroom or kitchen, an exhaust vent may be required by the Building Code).*

- Crawl spaces beneath a building where water can condense on framing members such as sills and joists, especially in corners with poor air circulation or if occupied spaces above are air conditioned - **Consider:** *Plastic sheathing on the ground*
- Cold water pipes in humid weather - **Consider:** *Pipe insulation*
- Exterior wood framed wall on top of foundation wall or piers - **Consider:** *Exterior wall insulation with no vapor barrier or an exterior-facing vapor barrier, painting of interior wall surface with latex paint and installation of interior humidity control*



The vertical wood corner boards were removed adjacent to the downspout exposing the structural wood post. Additional exploration revealed that there was significant rot of the post that extended deep into the thickness of the wood, compromising the structural capacity. It is likely that a persistent leak at the juncture of the roof gutter and downspout made the situation much worse.



DETECTING WOOD ROT

A simple means of testing for rot is to stab the wood member perpendicular to the grain with an awl or ice pick, particularly in areas where the wood appears darker in color. Then measuring the penetration depth and evaluating the type of splintering using the following criteria:

- If the penetration is less than 1/4", the component does not need replacement
- If the penetration is more than 1/4", the component might need replacement
- If long, dry splinters are produced, the wood is healthy and the component does not need replacement
- If short sections broken across the grain are produced, the component might need replacement

If replacement is required, it is recommended that the replacement wood be decay resistant and match the size, profiles and detailing of the historic woodworking.

DECAY RESISTANT WOOD

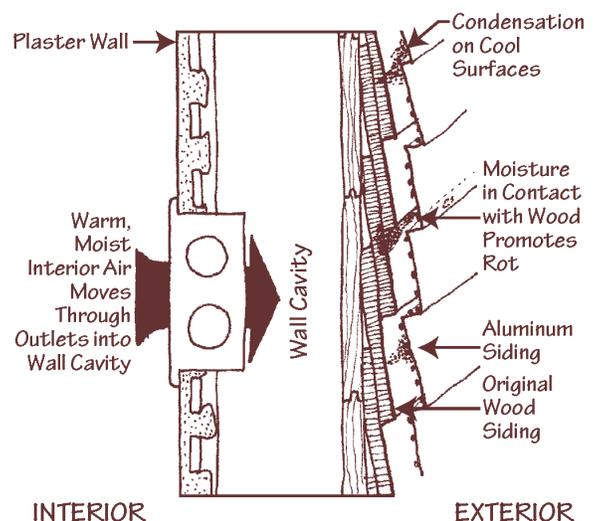
There are some woods that are naturally decay resistant, while others have a higher propensity to rot. These naturally decay-resistant woods tend to be denser than woods such as pine. In some cases, these naturally decay-resistant woods are more expensive than common woods but are not necessarily suited for all uses, such as detailed trim work. Therefore, it is prudent to understand the proposed location and final finish of exterior woodworking when considering wood for a project, to ensure the greatest longevity. Available decay-resistant woods include:

- Cedar
- Mahogany
- Redwood
- Air-dried, pressure-treated, southern yellow pine
- Pressure-treated wood for framing members

CONDENSATION

As a result of changes in our living standards, condensation has become a significant problem in historic buildings. Today's buildings include central heating and air conditioning to stabilize temperatures and relative humidity, as well as insulation that can trap moisture. Buildings also include moisture-intensive conveniences such as plumbing, bathrooms, laundry and cooking facilities. While interior conditions have stabilized and moisture laden activities have increased, exterior temperatures and relative humidity are continuously changing. The differences in temperature and relative humidity between the interior and exterior of our buildings are "bridged" through the thicknesses of exterior building walls. If the temperature is below the dew point at any location within the wall, condensation will occur causing the moisture to change into water droplets. Installing artificial siding or impervious coatings over wood can make this problem worse and hide deterioration until it is severe.

Unlike wood, vinyl and aluminum do not "breathe" and can trap moisture within a building's wall cavity, leading to rot, mold and insect damage of the wood structure. As a result, it is important to inspect and repair potential water sources to minimize the moisture within the wall cavity.



TYPES OF ARTIFICIAL SIDING

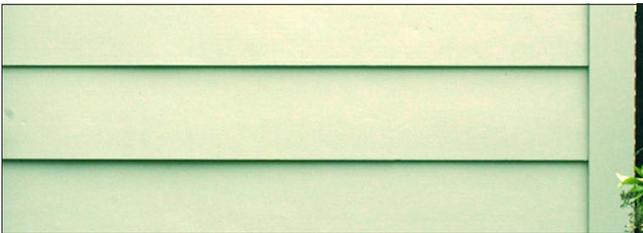
Artificial siding has been applied by Newton's property owners for years to provide an updated appearance and minimize periodic exterior maintenance and repair needs. Artificial siding materials include asphalt and asbestos and more commonly, vinyl and aluminum siding and "capping" applied over trim. These materials can significantly change a building's character and appearance and are not maintenance free. Most forms of artificial siding can trap moisture within a wall thickness, accelerating potential rot and decay.



Replacement of this aluminum siding is the best way to repair this puncture. A wood-grained texture is inappropriate.

VINYL AND ALUMINUM SIDING

Vinyl and aluminum siding often attempt to simulate a clapboard pattern. Because vinyl and aluminum are extruded pieces of plastic and metal, they are thinner and visually lighter than wood. It should also be noted that in the event of a fire, the fumes from vinyl can be very hazardous.



Fiber-cement siding material is an economical alternative for an addition to a historic building. It can be painted to match the existing paint scheme.

FIBER-CEMENT SIDING

Fiber-cement siding is a lightweight, solid material that is a durable and visually more compatible material to wood than vinyl or aluminum siding. It is manufactured in similar sizes and shapes to wood products including siding, shingles and trim, making it easier to duplicate historic characteristics. The installation method is similar to wood allowing historic alignments around window and door frames, and it can be cut to shape on-site using hand tools, and painted to match any color scheme. Manufacturers indicate that fiber-cement products are resistant to rot, termites, fire and delamination, and are dimensionally stable, allowing paint to last longer. Fiber-cement products cost more than vinyl or aluminum siding but much less than wood siding and can have a manufacturer's warranty as long as 50 years. Although not appropriate for replacement of historic wood siding, fiber-cement siding can often be used at minimally visible areas with a high potential for wood rot, and at new construction.

ARTIFICIAL SIDING (ALL)

In Newton, many of the historic framed buildings were originally clad with wood clapboard, which allowed some flexibility in installation by carpenters. Most artificial siding materials, particularly vinyl and aluminum siding, must be installed at a consistent vertical spacing as defined by the manufacturer. They do not allow flexibility to accommodate historic alignments at existing building fabric such as at window and door frames. (In historic buildings, siding was typically installed with a horizontal band aligning with the top and bottom of window and door frames.)

Most historic buildings have wood door and window frames, moldings and trim that can be damaged or concealed in inappropriate artificial siding installations. The loss of these features can significantly alter the character of a building. Artificial siding installation over existing materials can also increase the wall thickness, causing the wood trim to appear set back from the wall rather than projecting from it. This can further diminish the visual characteristics of the building.

The NHC/HDC encourage:

- Retaining and maintaining existing exterior woodwork including siding and trim
- Repairing or replacing wood siding and trim in kind
- Using painted fiber-cement clapboards with similar profiles and detailing to historic clapboards as an alternative to wood clapboards at minimally visible areas with a high potential for wood rot, and at new construction.

The NHC/HDC discourage:

- Installing aluminum or vinyl siding or coatings



Aluminum and vinyl siding were sometimes installed to conceal an underlying problem. In some cases, removal might be necessary to repair a deteriorated condition.

REMOVING ARTIFICIAL SIDING AND VENEER

Newton's property owners should consider removing artificial siding and restoring underlying woodwork. Artificial siding removal allows buildings to function as originally designed and exposes problems that might have developed since its installation. If removing artificial siding from woodwork:

- Expect to replace about 20% of woodwork
- Anticipate surprises such as removed ornament and trim
- Sell aluminum siding for recycling

EXTERIOR WOODWORK OR ARTIFICIAL SIDING (AO)

Property owners generally install artificial siding to avoid maintenance issues associated with repainting and because of aggressive claims made by the artificial siding industry. They believe that artificial siding provides a maintenance free solution that will solve their exterior building problems for a lifetime. The table below contrasts common statements by the artificial siding industry with the viewpoint of preservation professionals.

ARTIFICIAL SIDING VIEW	PRESERVATION VIEW
<i>“Vinyl and aluminum siding is a cost effective alternative to wood”</i>	<ul style="list-style-type: none"> • Vinyl siding and aluminum is usually guaranteed for 20 years and costs approximately the same as two quality paint jobs. (Guarantees over 20 years are usually prorated.) Properly maintained wood siding has been found to last hundreds of years. • Vinyl or aluminum siding installed over existing woodwork can trap moisture and lead to costly hidden structural repairs. (See weatherproof section below.) • Artificial siding can reduce home values by covering distinctive qualities and details.
<i>“Vinyl or aluminum siding improves the appearance of a building”</i>	<ul style="list-style-type: none"> • Exposures, shadow lines, joint layout, texture and the sheen of vinyl or aluminum siding typically do not match wood. • Historic or decorative trim is often covered or removed in the installation process. Installation typically requires damage to historic wall materials. • Stock vinyl and aluminum trim is generally narrower than historic wood trim. • Historic details and decorative elements are generally not available in vinyl or aluminum. • Available colors are limited and might not be appropriate for the building style. • Colors are difficult to change. (If change is desired, the type of paint should be compatible in material and color to minimize peeling, warping and curling.)
<i>“Vinyl or aluminum siding is weatherproof”</i>	<ul style="list-style-type: none"> • They can be weatherproof if properly installed, but on many historic buildings there are crevices and uneven surfaces that allow moisture behind the artificial siding or capping. (Generally, new buildings with vinyl or aluminum siding are constructed with an internal vapor barrier to exhaust moisture-laden air.) • Unlike wood, vinyl or aluminum siding does not breathe and can trap moisture within a building’s wall cavity. Trapped moisture condenses when it reaches the dew point, changing to water droplets that can drip and run through the wall’s structure. This can lead to rotting of sills and structural components and potential mold and insect damage. (To reduce trapped moisture, install continuous wall vents under eaves and add weep holes to artificial siding.) • Installing vinyl or aluminum over deteriorated wood will not make the problem disappear. (Generally, by trapping additional moisture, the deterioration could accelerate and lead to costly hidden structural repairs.)
<i>“Vinyl or aluminum siding conserves energy”</i>	<ul style="list-style-type: none"> • Insulation value of vinyl or aluminum siding is minimal, even when it is backed by a thin layer of insulating foam or rigid board insulation. Furthermore, the insulation could trap additional moisture within the wall cavity. • Studies have shown that as much as 75% of a building’s heat loss can be through its roof. Installing attic insulation is a much more cost effective method of reducing a heating bill.
<i>“Vinyl or aluminum siding is maintenance free”</i>	<ul style="list-style-type: none"> • Like wood, vinyl and aluminum siding needs regular cleaning. • Vinyl and aluminum siding is subject to denting, warping, cupping and fading from sunlight exposure. Vinyl siding is prone to cracking in cold weather. Replacement patches usually do not match the earlier installation. • The painting of vinyl or aluminum siding to change or to freshen the appearance typically voids the manufacturer’s warranty. (Type and color of paint used over vinyl siding should be compatible to minimize potential peeling, warping and curling. Once painted, artificial siding will need to be repainted as or more often as wood.)



This porch in Upper Falls, with its decorative wood trim and distinctive detailing, is an important architectural element and contributes to the character of both the house and the street.

PORCHES

Historically, porches were an outside room where residents could find a sheltered transition into their homes, exterior living space, and a place to meet and converse with neighbors. When they were constructed, their form, details and decorative elements were often intended to complement the style of the house.

Porches remain one of the most visible house elements and play a significant role in the appearance of the house and the streetscape. They can act as an extension of a home providing a welcoming feeling for visitors. Unfortunately, porches today are often one of the most altered components of a building frequently because they are not properly maintained or they are viewed as potentially enclosed indoor space.

PORCH REPAIR INFORMATION

Since many of the components of porches are discussed in depth in other *Guideline* brochures, including roofing, foundations and support piers, it might be helpful to consult the following information to address specific repair needs:

- *Guidelines for Roofing*
- *Guidelines for Masonry & Stucco*

MAINTAINING HISTORIC PORCHES

Because of the importance porches play in the perception of historic buildings and streetscapes, original materials and details should be preserved. Typically, areas covered by a porch roof tend to require less maintenance; however, steps, railings and roofs are usually exposed to the weather and might require additional maintenance. One of the best ways to preserve wood porch features is regular painting. If a component is deteriorating, repair or replacement in kind is recommended as part of the porch's regular maintenance.

The NHC/HDC encourage:

- Painting porches regularly to preserve wood (AO)
- Applying a painted finish complementing the architectural characteristics of the house - refer to *Page 10* for additional information regarding painting (AO)
- Identifying deteriorated elements (AO)
- Finding and correcting sources of deteriorated elements, such as deteriorated, cracked, blocked, inappropriately hung, broken or missing gutters or downspouts (AO)
- Replacing only those parts which cannot be repaired - in some instances, such as columns and posts, the base can be replaced at a fraction of the cost without replacing the entire column or post (ALL)
- Replacing missing or deteriorated materials with similar new materials - avoid replacement of a wood railing with a metal or vinyl railing system (ALL)
- Repairing damaged elements using standard repair techniques for that material (Refer to the *Guideline* brochures appropriate for each material, particularly *Guidelines for Roofing* and *Guidelines for Masonry and Stucco*) and restoring the porch to its original historic appearance (ALL)
- Replacing only the original elements that cannot be repaired using elements of the same material, size, profile and other visual characteristics (ALL)
- Rebuilding a porch with appropriate documentation (ALL)
- If a substantial portion of the porch is deteriorated and cannot be repaired or replicated, or if a porch is missing, creating a simplified design using stock lumber and moldings that convey similar visual characteristics as the original porch, duplicating the dimensions and materials but not necessarily all of the detailing (ALL)

The NHC/HDC discourage:

- Replacing wood porch posts and railings with metal (ALL)
- Replacing wood steps with concrete or brick - wood steps are typically appropriate for wood porches (ALL)
- Using "natural" or stained wood at a porch; this is generally not appropriate for a porch on a painted historic building (AO)

GUIDELINES FOR NEW PORCHES (ALL)

There are times when property owners might consider the construction of a new porch. This can occur when a previous porch is reconstructed; a new porch is added onto an existing house or is part of an addition; or when a new residence is erected. In considering the construction of a new porch, the following general guidelines are recommended:

- New front elevation porches are encouraged where there is evidence of a historic porch
- At existing buildings, new construction should not damage, destroy, conceal or negatively affect existing historic material and features
- On additions, porches should be simple in design and relate to the existing building
- Side and rear elevation porches should typically be simpler in design than front elevation porches
- On new buildings, porches should visually relate to the proposed building in a manner similar to historic porches on neighboring buildings
- The size, shape, scale, massing, form, materials and color of the design and its appropriateness to the house and streetscape should be considered
- Most porches at framed buildings were historically made of wood; stone or brick porches might only be appropriate on masonry and stucco buildings

The NHC/HDC discourage:

- New decks visible from the streetscape



The scale, detailing, and roof forms of historic porches - such as this Queen Anne example in Newtonville - helped define the architectural style of the house and the overall feel of the streetscape. These attributes should be carefully considered when designing new porches in a historic setting.



Porch enclosures that are attached to existing decorative porch elements such as this column can cause damage that is both difficult and costly to repair.

ENCLOSING PORCHES (ALL)

Porches were intended to be open exterior spaces. Enclosing a front porch is a radical change to the building and its visual perception from the streetscape. If considering porch enclosure, it is recommended that this occur only at a side or rear elevation porch. If enclosing a porch, it is recommended that the finished space look more like a porch than an enclosed room.

If enclosing a porch, the NHC/HDC encourage:

- Retaining porch elements in place and constructing enclosure framing inside of porch columns and railings
- Temporary enclosure systems, such as screens or glazing that can be removed seasonally
- Reversible enclosure systems that do not damage decorative or unique historic building fabric
- Translucent enclosure systems, with large screened or glazed openings
- Vertical and horizontal framing members that align with porch elements like columns and railings

The NHC/HDC discourage:

- Enclosing porches, particularly at the front elevation

EVIDENCE OF PRIOR PORCHES

It is important that documentation be found when replacing a missing porch. This can be physical evidence that a porch was present or documentation that shows or describes a porch.

- Look for evidence (such as an outline) on the wall or trim from roofs, posts or railings, evidence of nailing patterns on siding, repairs to masonry walls and evidence of former porch foundations in the landscape
- Look for historic photos, drawings or maps, and look in attics and garages for original components
- Compare porches on neighboring buildings of similar type, design, style and date of construction

EXTERIOR PAINT

Paint is one of the most common ways to protect exterior materials from the elements, particularly wood without natural or chemical preservatives, and metals that would otherwise rust. When the painted surface has been compromised, moisture and the elements can infiltrate the underlying material and potentially accelerate deterioration.

Exterior paint provides a layer of protection to a building by adding a barrier that limits moisture infiltration and damage from the sun, pests and other forms of deterioration. Exterior woodwork without natural or chemical preservatives is susceptible to moisture-related wood deterioration of the exterior envelope and underlying framing, and many metals are susceptible to rust. Although paint is an important protective layer that improves the longevity of a historic resource, it must be viewed as a temporary barrier that is subject to deterioration through cyclical temperature and humidity changes, and that requires re-application to maintain its shielding properties.

In addition to providing a protective layer, paint colors can highlight a building's architectural features and style, can visually tie the parts of a building together, and can reflect personal taste. A building's style, period of construction, materials and setting can all help identify appropriate paint colors.

In general, exterior surfaces should be repainted every 5 to 8 years, with intermediate touch-ups of high traffic, worn or deteriorated areas. If a building requires frequent repainting, it might be an indication of another problem including moisture, inadequate surface preparation and non-compatible paint.

It can be problematic to use encapsulating paints that can trap moisture in woodwork and promote rot. These are often referred to as "liquid siding," "liquid stucco" or "liquid ceramic coatings." Painting of previously unpainted masonry is strongly discouraged. Refer to *Guidelines for Masonry & Stucco, Page 11* for more information on masonry paint removal and application (ALL).



In many historic architectural styles, paint colors were used to accentuate individual architectural elements or details. This porch on a historic house in Newtonville includes decorative painted woodwork at the porch and at the windows and doors.

REPAINTING (AO)

When considering repainting, the following five steps are recommended:

- 1. Determine whether repainting is necessary:** Prior to beginning a painting project, it is appropriate to determine whether complete repainting is required or if cleaning or spot repainting is more appropriate. By painting more often than is necessary, paint layers can build up, increasing the potential for future paint failure. A dingy finish might only require washing with a mild detergent solution and natural bristle brushes to freshen the appearance.
- 2. Inspect existing paint for causes of failure:** To assure the new paint will last as long as possible, property owners should inspect the existing paint for causes of failure. Some common paint problems are:
 - **Peeling** - possible causes are painting under adverse conditions, inadequate surface preparation or moisture infiltration
 - **Cracking or crazing** - typically the sign of a hard surface that does not expand and contract with underlying material; sand and repaint if cracking and crazing is limited to the surface; remove paint if it extends down to the wood
 - **Wrinkling** - typically the result of the top coat drying before the underlying coat; sand smooth, repaint
 - **Blistering** - air bubbles under the paint; cut into blister, and if wood is visible the problem is probably moisture related; if paint is visible, the problem area was probably painted in direct hot sun
 - **Alligatoring** - severe cracking and crazing; remove all paint down to bare wood
- 3. Repair causes of failure:** Before repainting, the causes of paint failure should be addressed. The most common cause of paint failure is moisture. The most typical causes of moisture problems are ground water; rain



Paint problems at exterior woodwork are sometimes the first indication of an underlying moisture problem. The paint below the end of the gutter is peeling off the siding. Repairing the gutter and verifying that storm water is draining through the downspout is recommended prior to repainting.

or storm water; leaking plumbing; and condensation. (Refer to *Page 4* of this section and the *Guidelines for Exterior Maintenance* for additional information on how to identify moisture-related problems and some suggestions that might alleviate the situation.)

Portions of the building that are most susceptible to moisture and its related problems include: areas near rooflines, gutters and downspouts; areas near the ground; horizontal surfaces such as window and door sills, porches and wood steps; and areas or walls adjacent to high humidity including kitchens, bathrooms and laundry rooms.

4. Prepare surface: To ensure a long-lasting painted surface, appropriate surface preparation should be undertaken before repainting.

- Begin by washing the painted surfaces with a mild detergent solution and a natural-bristle brush
- Carefully scrape and sand for a smooth finish, removing any paint that is not tightly bonded to the surface
- Putty or caulk countersunk nails, window glazing, gaps, joints and openings
- Allow substrate to dry thoroughly before applying primer or paint
- Spot prime bare wood, areas of repair and wood replacement

5. Repaint: High-quality paint appropriate for the substrate applied in accordance with manufacturer's recommendations should improve the longevity of a paint job. In general, it is best to use compatible primer and paint from the same manufacturer, and apply at least two coats of paint to previously bare wood or metal.

- For best results, apply paint during appropriate weather conditions, generally 50°F to 90°F, less than 60% relative humidity, with no direct sunlight



The paint on this door has alligatored, and severe cracking is visible. Removal of paint down to bare wood and proper door repair are recommended prior to repainting.

COMPLETE PAINT REMOVAL (AO)

It is important to remember that any method of paint removal can result in harm to historic building fabric. Therefore, complete paint removal from a surface should only occur under limited circumstances.

Complete paint removal might be necessary in circumstances in which the existing paint on a surface has completely failed. Examples where complete paint removal would be appropriate include:

- Wholesale blistering or peeling that reveals the underlying substrate
- Continuous patterns of deep cracks in the surface of painted wood
- Windows, doors or shutters that have been painted shut
- To achieve a smooth transition when a new wood element is being installed as a repair
- To prevent deterioration of historic building features
- To prevent deterioration of masonry for historically unpainted masonry surfaces

PAINT COLORS (PR, LL)

Although paint colors are not usually subject to review of the NHC or HDC, property owners seeking historically accurate paint colors for a project can complete a paint analysis or consult reference books. The books can provide information on appropriate colors related to building types and architectural styles.



The multiple paint colors on this Queen Anne house in Aurburndale are typical of the Victorian era. Well-researched and properly maintained historic paint schemes represent an important component of Newton's historic neighborhoods.

STRIPPING PAINT (AO)

If the existing paint has failed, it might be necessary to strip all or portions of the paint from the surface. Although there are a variety of tools and chemicals available to strip paint, many of them are potentially hazardous and can cause significant damage to exterior surfaces and the surrounding environment. All manufacturers' recommendations should be followed during the paint removal process.

The NHC/HDC encourage:

- Hand washing with mild detergent and bristle brush
- Hand scraping
- Hand sanding

The NHC/HDC discourage:

- Rotary tools - disks can leave circular marks and wires can tear into surface
- Heat guns and heat plate - can ignite paint or underlying surface if left in one location too long
- Chemical paint removers - can raise grains, be expensive and potentially volatile; runoff can be hazardous and should be collected to reduce harm to children, pets, vegetation and ground water
- Flame tools such as blowtorches to soften paint - smoldering sparks can start a potentially devastating fire; lead components in paint can vaporize and create toxic fumes
- Sandblasting - can be abrasive to surface, wear away protective exterior coating and raise the wood grain

- High-pressure water wash - forces water into open joints affecting interior finishes and structural framing; can be abrasive to exterior surface and raise the grain

PAINT REMOVAL SAFETY

Paint removal is potentially hazardous work. Keep children and pets clear of work areas. Property owners should consult a professional for work that is unfamiliar or potentially unsafe.

- Paint removal, particularly lead based paint removal, must comply with City Health Department and EPA requirements - owners are strongly encouraged to contact the lead safety organizations found in the *Guidelines for Exterior Maintenance* for additional information prior to completing any work potentially involving lead paint
- Always wear safety goggles and a mask or respirator
- Avoid using heat tools. Users should always wear appropriate clothing, keep a fire extinguisher nearby and monitor areas of work for at least one hour after stopping work
- Paint dust from older buildings can contain lead - wear a dust mask or respirator, avoid open food or beverage containers in area of paint removal, thoroughly clean work area and exposed skin, launder work clothes

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