



# TOWN OF EXETER HISTORIC DISTRICTS Guidelines Introduction



## BENEFITS OF LOCAL DESIGNATION

The designation of local historic districts and landmarks has been found to:

- Increase neighborhood stability and property values
- Preserve the physical history of the area
- Promote an appreciation of the physical environment
- Foster community pride and self-image by creating a unique sense of place and local identity
- Increase the awareness and appreciation of local history
- Increase tourism
- Attract potential customers to businesses
- Create local construction jobs employing skilled tradesmen

These *Guidelines* were developed in conjunction with the Town of Exeter's Historic District Commission (HDC) and the Building Department. Please review this information during the early stages of planning a project. Familiarity with this material can assist in moving a project forward, saving both time and money. The Building Department is available for informal meetings with potential applicants who are considering improvements to their properties.

*Guidelines* and application information are available at the Town Office and on the Commission's website at [exeternh.gov/bcc/historic-district-commission](http://exeternh.gov/bcc/historic-district-commission). For more information, to clarify whether a proposed project requires HDC review, or to obtain permit applications, please call the Building Department at (603) 773-6112.

## WHY IS HISTORIC PRESERVATION IMPORTANT IN EXETER?

The Town of Exeter recognizes that the character and quality of life enjoyed by its citizens depend in great measure upon the Town's rich architectural heritage and the importance of the natural and designed landscapes in our community. This historical, cultural, archaeological, social and economic heritage is entrusted to each generation, enriched and passed on to future generations. The Historic District Commission (HDC) of Exeter is charged with safeguarding this heritage as represented by the Town's historical and architectural value.

## EXETER'S HISTORIC PROPERTIES

The Town of Exeter currently regulates three locally designated Historic Districts:

- **Front Street Historic District** - Established 1971
- **Downtown Historic District** - Established 1978
- **High Street Historic District** - Established 2006

The Town of Exeter regulates properties in current and future locally designated Historic Districts, as well as the proposed full or partial demolitions of buildings or structures over 50 years old.

In addition, The Town of Exeter also has several individually designated National Register properties and currently two National Register Historic Districts:

- **Front Street Historic District** - Listed 1973
- **Exeter Waterfront Historic District** - Listed 1980



There are several notable institutional buildings that are located within the locally designated historic districts including Exeter Town Hall.

## HISTORIC DESIGNATION & LISTING

### Definitions

- **Historic Resource:** An individual building, structure, site, object or district that has been determined to have historical significance or associations and whose distinctive character conveys a unique architectural and cultural heritage.
- **Historic District:** A defined area that contains concentrations of historic resources. A district can include as few as one historic resource or hundreds of resources.

### Local Designation

Local designation of a historic property or district provides a tool for local communities to determine what is architecturally and historically important to their community and a mechanism for the regulation of proposed changes to those properties.

### The National Register of Historic Places

The National Register of Historic Places is the United States government's official list of districts, sites, buildings, structures and objects identified as worthy of preservation. The National Register is administered by the National Park Service, a division of the Department of the Interior.

Listing in the National Register does not eliminate or restrict property rights of individual owners. Projects involving federal or state permits, licenses or funding are reviewed for their potential effects on significant historic properties, including those listed in the National Register. Having a property listed on the National Register could make its owners eligible for federal and state tax credits for expenses incurred rehabilitating an income-producing property. National Register information is available from the New Hampshire Division of Historical Resources. (Refer to *Preservation Organizations*, page 01-11.)

## PRESERVATION ASSISTANCE PROGRAMS

There are federal and state incentive programs available for historic properties. The submission and review requirements are rigorous and it is highly recommended that applicants contact the applicable agency at the early planning stages of a potential project.

**The Federal Historic Preservation Tax Incentive Program** rewards private investment in rehabilitating historic income-producing properties such as offices, rental housing and retail stores. The Program, established by the Tax Reform Act of 1986, is jointly administered by the U.S. Department of the Treasury and the U.S. Department of the Interior's National Park Service. Owner-occupied single-family residences are not eligible for the program. If eligible, up to 20 cents on every dollar spent on qualified rehabilitation work (including most architectural and engineering fees) would be available as a credit against federal income taxes. The 20% tax credit is available to buildings that are listed in the National Register of Historic Places, either individually or as a contributing building in a National Register Historic District, or as a contributing building within a local historic district that has been certified by the Department of the Interior. To be eligible for the 20% tax credit, project work must be certified as meeting *The Secretary of the Interior's Standards for Rehabilitation*. (Refer to *Preservation Resources*, page 01-11.)

**Preservation Easements** are a tool often used to insure the preservation of the character defining features of a property for the public's benefit. The New Hampshire Preservation Alliance and Historic New England maintain easement programs to protect historic resources. The extent of the protection of the property is dependent on the strength of the easement. Some easements protect just the façade of a building. Other easements protect the larger preservation values including but not limited to the exterior and interior architectural features, materials, landscape features, outbuildings, fences and archeological resources of a property.

**The Community Revitalization Tax Relief Incentive (RSA 79E)** has been adopted by Town of Exeter to encourage revitalization of underutilized buildings. Program information is available at [www.exeternh.gov](http://www.exeternh.gov).

## SUSTAINABLE BENEFITS OF PRESERVATION

Historic buildings are intrinsically "green," as reusing an existing building has substantially lower environmental impact than building a new one. Preservation and rehabilitation minimize the wasteful loss of materials while maintaining a distinctive sense of place. Sustainable benefits of preservation include:

- The historic building or structure already exists, and the energy required to fabricate the lumber, bricks, windows and doors was expended long ago
- New construction often includes demolition of an existing building (construction waste comprises approximately 25% to 30% of landfills), and the fabrication of new construction materials creates additional waste, while preservation of an existing building conserves landfill space
- The most appropriate materials for the majority of preservation projects are often historic materials rather than non-biodegradable manufactured products, such as vinyl and/or plastics



## PRESERVATION REGULATORY REVIEW

To maintain the character of properties within the Historic Districts, most proposed exterior changes require review and the issuance of a Certificate of Approval (COA) from the HDC prior to commencing work, or if deemed to be an exempt activity or a minor application by Building Department Staff, the approval process can be addressed administratively. The type of work requiring a COA includes:

- **Exterior Alteration** - Installation, modification and/or removal of materials or features from sites, buildings or structures including sign modification or installation
- **New Construction** - New building, structure or site feature and/or expansion of an existing building, structure or site feature
- **Demolition** - Complete or partial removal of a building, structure or site feature
- **Relocation** - Moving of a building, structure or site feature

Certificate of Approval applications are reviewed by the HDC at their monthly meetings. During their reviews, the HDC references the criteria set forth in the Historic Preservation sections of the Town's Zoning Ordinance. Review by the HDC ensures that any proposed changes will be compatible with the character and design of the individual property and/or Historic District.

The process of applying for a COA requires the project representative to provide sufficient information on the HDC's application form and to include drawings, sketches, photographs, a survey, product brochures or samples for certain building features that will be modified. The applicant is encouraged to consult with Building Department staff to ensure that all the information is included in the application. Once the application has been determined to be complete, it will be placed on the HDC agenda. The applicant or a project representative should attend the HDC meeting for COA reviews to answer any questions the HDC may have regarding the application, or the application could be tabled pending clarification and/or the submission of additional information as requested by the HDC.

## DEMOLITION REVIEW COMMITTEE

The Demolition Committee is a subcommittee of the Exeter Heritage Commission charged with the review of the proposed demolition of:

- Any building or structure within the Town limits that is more than 50 years old (with the exception of manufactured homes)
- Any building or structure that is listed or eligible for the National Register of Historic Places
- Any building or structure within a locally established Historic District

If a building or structure is found to be historically significant, the Demolition Review Committee will work with the owner to encourage alternatives to demolition. If alternatives are not agreed upon, the Demolition Review Committee will photographically document the building or structure.

## HISTORIC DISTRICT COMMISSION

Established in 1970, the HDC has oversight of the Town's preservation activities and regulatory review within the bounds of the Exeter Historic Districts. The HDC is comprised of seven members and four alternates, including a Selectman and a member of the Planning Board. Although the HDC's primary responsibility is to conduct to review applications for COAs, the HDC also provides recommendations to the Town Council regarding historic preservation activities in the Town including the documentation of historically designated properties.

The HDC can take one of four actions following the review of a COA application:

- **Approval as Submitted** - The Certificate for Approval will be issued
- **Approval with Conditions** - A Certificate for Approval will be issued pending review for compliance of required conditions
- **Continued** - The applicant provides additional information or clarification as requested by the HDC
- **Denial** - It is determined that the project does not meet the requirements for the granting of a COA - The applicant can work with Building Department Staff to bring the project into compliance with the ordinance using the *Guidelines* and resubmit to the HDC for re-review or appeal to the Zoning Board of Adjustment

### WORKING WITHOUT A COA

The Building Department will inspect all work for compliance with an approved Certificate of Approval (COA). If any changes are proposed after the issuance of a COA, please contact the Building Department at (603) 773-6112 for additional required reviews. Work completed without an approved COA is subject to possible fines, removal and restoration of the site, building or structure to its appearance prior to the violation.

### APPROVALS REQUIRED FOR WORK

HDC review and approval is triggered by the application for a building permit. This includes the replacement of signs, awnings, windows, doors and roofs. HDC approval is necessary but may not be sufficient for the granting of a building permit. Each property is subject to review for compliance with applicable zoning, building and safety ordinances and codes. The property owner is responsible obtaining all necessary approvals prior to commencing with work.

### HERITAGE COMMISSION

The Exeter Heritage Commission is advisory to other local boards and commissions; conducts inventories; educates the public on matters relating to historic preservation; provides information on historical resources; and serves as a resource for revitalization efforts

## DESIGN OF ALTERATIONS

In balancing the desire for a change to a historic property with regard to the historic integrity, the HDC encourages property owners to retain as much historic building fabric as possible. As such, the following guide can be used, listed in preferential order:

1. Maintenance
2. Repair and In-Kind Replacement
3. Alterations and Renovations
4. Adaptive Reuse
5. Additions and New Constructions

If demolition is considered, property owners should refer to the *Demolition Review Committee* process (page 01-3). Demolition of designated historic buildings is rarely appropriate.



*The symmetry of this twin residence is one of its character defining features that should be preserved.*

## GUIDELINES FOR HDC DECISIONS FOR ALTERATIONS TO EXISTING BUILDINGS

When reviewing a proposed project for alteration to a historic building, the HDC's review is guided by principles contained in *The Secretary of the Interior's Standards for the Treatment of Historic Properties*, and more specifically, *The Standards for Rehabilitation*. *The Standards for Rehabilitation* provide property owners and tenants common-sense guidelines to allow sensitive contemporary uses for their sites while retaining their architectural and cultural heritage. In reviewing projects, the HDC encourages sensitive rehabilitation involving the least amount of intervention or change as identified in the following guidelines:

- **Identify, retain and preserve** the overall form, materials and details that are important in defining the architectural and historical character of the building and site.
- **Protect and maintain** historic materials and features. This involves protection from other work that may occur in proximity to the historic materials, and also protection through regular maintenance. A regular program of protection and maintenance usually involves the least degree of intervention, and can prevent or postpone extensive and costly work.

- **Repair** rather than replace deteriorated historic materials and features. Repairs maintain the building in its current condition while making it weather-resistant and structurally sound. Repairs should involve the least intervention possible, concentrating specifically on areas of deterioration. When repair is not possible, the HDC encourages replacement in-kind, reproducing by new construction the original feature exactly, including the original material, finish, detailing and texture.
- **Replace** missing or deteriorated historic materials and features in-kind when the extent of deterioration precludes repair. Similar to repair, the preferred approach is to replace the entire feature in-kind to match the original material, finish, detailing and texture. Since this is not always technically or financially feasible, substitute materials are sometimes acceptable when they convey the appearance and finish of the original feature.
- **Reconstruct** missing historical features if adequate historical, pictorial and physical documentation exists so that the feature may be accurately reproduced. The addition of features from other historic buildings or addition of historical elements for which there is no documentation is not appropriate.
- **Alterations and additions** are sometimes needed to ensure the continued use of a building. An alteration involves returning a building to a useful condition while saving those parts that represent its historical, architectural or cultural significance. It is important that alterations do not radically alter, obscure or destroy character-defining spaces, materials, features or finishes. An addition is new construction at the exterior of an existing building and should be carefully considered. New additions should be differentiated but also compatible with the historic building in terms of size, mass, form, fenestration, material, detailing and style, and should be constructed at a less visible side or rear elevation, so that the character-defining features are not radically obscured, damaged or destroyed.

### TOWN OF EXETER - DESIGN GUIDELINES

The following *Guidelines* were prepared in this project:

- 01 *Guidelines Introduction*
- 02 *Guidelines for Roofing*
- 03 *Guidelines for Exterior Woodwork*
- 04 *Guidelines for Masonry & Stucco*
- 05 *Guidelines for Windows & Doors*
- 06 *Guidelines for Site Elements*
- 07 *Guidelines for New Construction & Additions*
- 08 *Guidelines for Commercial Buildings*

Further information is available at the Building Department and on Exeter's web site at [www.exeternh.gov](http://www.exeternh.gov). These *Guidelines* serve to cover the topics most typically addressed by the HDC. Any work under the jurisdiction of the HDC that is not specifically covered in these *Guidelines* is subject to HDC review and approval.





The replacement of deteriorated roofing is potentially dangerous work that often requires the access of workers and materials by ladders. Consideration should be given to hiring a professional for any work that is unfamiliar or potentially unsafe.

## SAFETY PRECAUTIONS

Repair and maintenance of a building can potentially be dangerous work. It is recommended that all manufacturers' recommendations be followed and appropriate safety precautions with ladders, tools, materials and processes be taken. Property owners should consult a professional for work that is unfamiliar or potentially unsafe.

Work on older buildings can uncover hazardous materials such as asbestos, lead, radon and mold. Property owners should familiarize themselves with these materials and their building's conditions prior to beginning work. Property owners who are unfamiliar with how to properly handle or work around potentially hazardous materials are strongly encouraged to consult with a trained or certified contractor.

Information about common hazardous materials can be found on national and state organizations web sites, including:

### Asbestos

US Environmental Protection Agency Hotline  
(800) 368-5888 [www.epa.gov/asbestos](http://www.epa.gov/asbestos)

### Lead

National Lead Information Clearinghouse  
(800) 424-LEAD [www.epa.gov/lead](http://www.epa.gov/lead)

### Radon

The National Safety Council's Radon Hotline  
(800) SOS-RADON [www.epa.gov/radon](http://www.epa.gov/radon)

### Mold

Indoor Air Quality Information Clearinghouse:  
(800) 483-4318 [www.epa.gov/iaq/molds/index](http://www.epa.gov/iaq/molds/index)

## BUILDING CODES

All construction projects in the Town of Exeter must comply with the Zoning Ordinances as well as the International Building and Residential Codes as amended. The intent of the Ordinance and Code is to protect the public health, safety and welfare of citizens against the hazards of inadequate, defective or unsafe conditions. The Code addresses the interior and exterior conditions of buildings and structures, building systems and the surrounding property.

For specific information regarding the applicable ordinances and code sections for a project, please contact the Building Department at (603) 773-6112. Applicants are also welcome to meet with an Inspector who can assist with permit applications and regulatory questions.



All proposed exterior alterations, including the modification or installation of signage and awnings, is subject to HDC review and requires a Certificate of Approval (COA).

## HDC REVIEW

It is important to remember that all exterior changes to a building or structure within the boundaries of a locally designated Historic District are required to receive a prior approval from the HDC. (Refer to *Preservation Regulatory Review* on page 01-3 or contact the Building Department at (603) 773-6112 for review requirements for proposed work.)

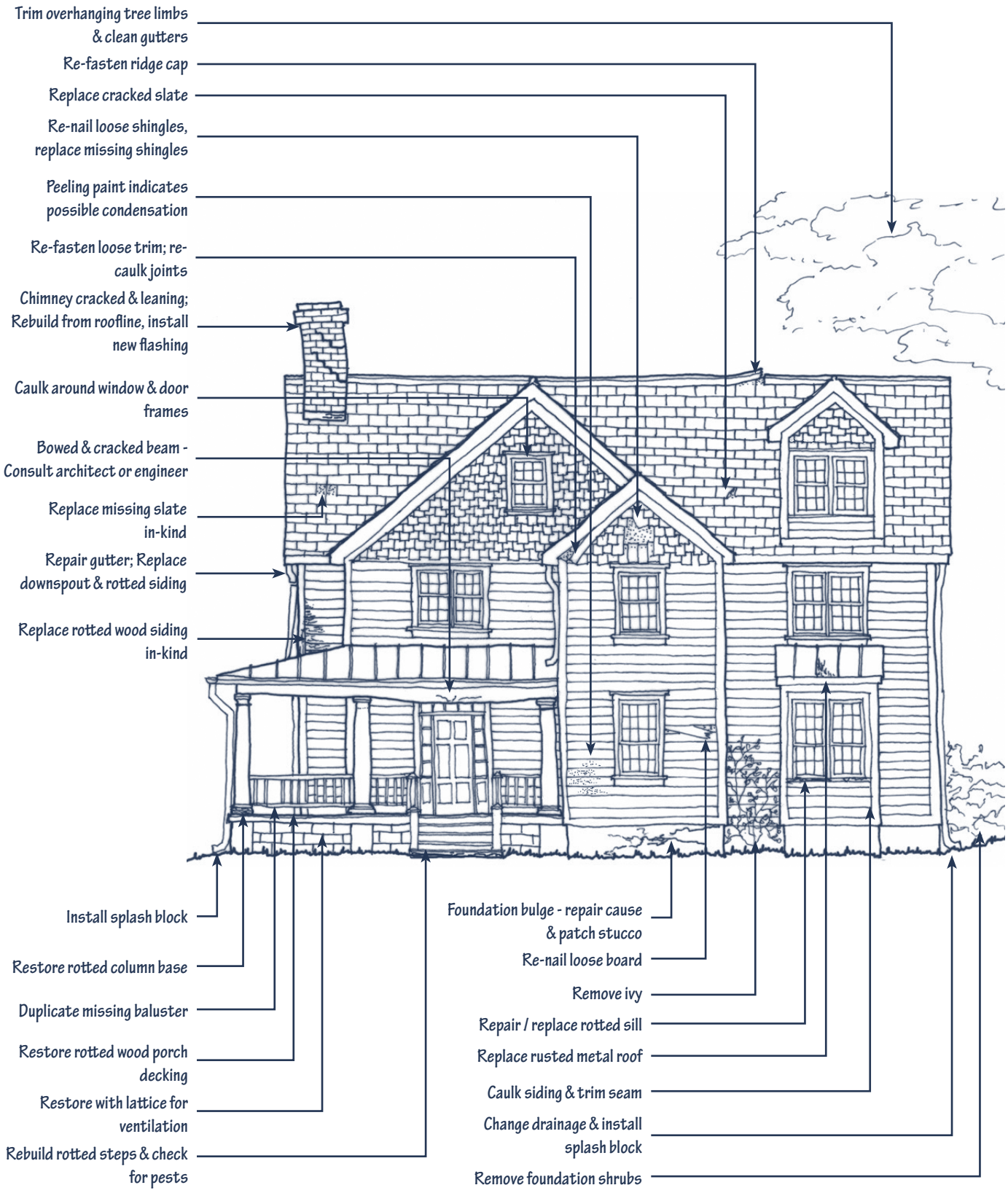
## COST VS. VALUE-ADDED

While some of the recommendations in these *Guidelines* do not represent the least expensive options, the HDC strongly believes that selecting a better quality option will be less costly in the long-term.

An immediate benefit is that using traditional materials and construction methods tends to be more historically appropriate and sustainable. (Refer to *Benefits of Historic Preservation*, page 01-2.) Another benefit is that traditional materials generally have a longer life-cycle because they are appropriate for the local climate, requiring less frequent replacement. Additionally, traditional materials tend to reduce associated landfill waste and replacement costs, as well as potentially increasing a property's value associated with authentic, higher quality construction.

# TYPICAL BUILDING MAINTENANCE NEEDS

**General:** Scrape all loose paint; sand to smooth surface; prime bare wood and metal; re-paint with historically appropriate colors



- Trim overhanging tree limbs & clean gutters
- Re-fasten ridge cap
- Replace cracked slate
- Re-nail loose shingles, replace missing shingles
- Peeling paint indicates possible condensation

- Re-fasten loose trim; re-caulk joints
- Chimney cracked & leaning; Rebuild from roofline, install new flashing

- Caulk around window & door frames

- Bowed & cracked beam - Consult architect or engineer

- Replace missing slate in-kind

- Repair gutter; Replace downspout & rotted siding

- Replace rotted wood siding in-kind

- Install splash block
- Restore rotted column base
- Duplicate missing baluster
- Restore rotted wood porch decking
- Restore with lattice for ventilation
- Rebuild rotted steps & check for pests

- Foundation bulge - repair cause & patch stucco
- Re-nail loose board
- Remove ivy
- Repair / replace rotted sill
- Replace rusted metal roof
- Caulk siding & trim seam
- Change drainage & install splash block
- Remove foundation shrubs



## BUILDING ENVELOPE DETERIORATION

The exterior envelope of a building is made up of various components that typically include roofing, walls, windows and doors. Each of these building components can be executed in various materials within the same building envelope, such as a combination of shingle roofing at sloped surfaces and rolled roofing at flat surfaces, with metal flashing at the intersections.

These components of various materials act together as a system to protect the interior from exterior environmental extremes. Some of the environmental influences affecting the exterior building envelope include:

- Moisture including rain, snow, ice, humidity and groundwater
- Wind
- Sunlight
- Temperature variations
- Atmospheric chemicals and acid rain
- Insects, birds and rodents
- Vegetation, molds, algae and fungi

All building materials, new or old, will deteriorate over time. Each of the environmental influences listed above, individually and in combination, has the potential to react differently with the materials that comprise a building's exterior envelope and cause deterioration. The potential reactions are further complicated by the way the materials are installed and joined together, and their relative locations. However, by implementing a regular maintenance and repair program, the rate of deterioration can be dramatically slowed, allowing the Town's historic buildings to last for centuries.

## MAINTENANCE IS PRESERVATION

Regular maintenance helps to preserve buildings and property, protect real estate values and investments, and keeps Exeter an attractive place to live, work and visit. Lack of regular upkeep can result in accelerated deterioration of building elements and features. In the case of historic buildings, these features often represent character defining elements that are difficult and costly to replace. Long-term lack of maintenance can impact a building's structure, resulting in expensive repairs.

It is prudent to regularly inspect buildings, structures and landscape elements to identify potential problems. If problems are detected early, minor maintenance may not only improve a property's overall appearance and value, but also can prevent or postpone extensive and costly future repairs. Regular maintenance can include a variety of tasks such as cleaning gutters and downspouts, and painting of exterior woodwork. It is important to keep in mind that if completed in a timely fashion, regular maintenance can prolong the life of a historic building or structure, while enhancing its long term value, authenticity and cultural value.

## EXTERIOR PAINT AS MAINTENANCE

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 substrate, accelerating deterioration. Exterior paint provides a layer of protection to a building by limiting 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. Many metals are susceptible to rust. Although paint is an important protective layer that improves the longevity of a historic building element, it must be viewed as a temporary barrier that is subject to deterioration through cyclical temperature and humidity changes. It 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, visually tie parts of a building together, and reflect personal taste. A building's style, period of construction, materials and setting can all help identify appropriate paint colors. (A list of historic exterior color selections for buildings styles located in historic districts is available on the Town's web site at [www.exeternh.gov](http://www.exeternh.gov).)

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.

Encapsulating paints can be problematic as they 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 *Removing Paint from Masonry, Guidelines for Masonry & Stucco, page 04-7*.)

## PROPERTY MAINTENANCE

Properties should be maintained in a manner that allows them to be safe and contribute to the Town culturally and economically. The Town and the HDC encourages the regular maintenance of any building or structure to prevent a hazardous or unsafe condition from occurring. Potential examples of hazardous or unsafe conditions include cases in which:

- All or part of the building may fall and injure people or property
- Structural elements are deteriorated such that they can no longer safely carry imposed loads
- A defect or condition makes the building susceptible to water damage, including unmaintained paint on exterior wood surfaces and openings in roofs or walls



An example of an adaptive reuse project is the conversion of a firehouse into a restaurant. If considering a change of use for a building, it is important to have a clear understanding of which uses are permitted under the Zoning Ordinance for a particular parcel, and those that would require a variance. In addition, other modifications, such as the installation of an accessible ramp, may be required.

## ALTERATIONS & RENOVATIONS

Alterations and renovations are sometimes needed to ensure the continued use of a building, but have the potential to alter the character of historic properties. When considering alterations or renovations, careful attention should be given to the original building and its relationship to the alteration or renovation.

When considering changes to historic properties, applicants should strive to:

- Identify, retain and preserve the character defining features of the historic building
- Minimize alteration to the original design, materials and features
- Use design elements, materials and techniques that are compatible to the historic building and setting
- Maintain the appropriate historic contextual setting



HDC review is required for all alterations of exterior building materials including roofing, siding and windows. In addition the HDC reviews any proposed structure, including garages, fences and walls at properties within the locally designated Historic Districts.

## ADAPTIVE REUSE

Similar to alterations and renovations, adaptive reuse projects might be necessary to use a building for a different purpose from which it is currently or was originally designed, if permitted under the Exeter Zoning Ordinance. Similar to alterations or renovations, great care should be given to the original building and its relationship to the alteration or renovation. In addition, careful attention should be taken with required alterations such as the modification or addition of window and door openings to accommodate the new use.

*Examples of Adaptive Reuse:*

- Conversion of a house to multi-family residential or offices
- Conversion of industrial/commercial buildings into housing
- Conversion of institutional buildings into commercial space
- Conversion of mill buildings into office space or residences

*Benefits of Adaptive Reuse:*

- Retention of historic character and high quality historic materials and craftsmanship
- Promotes stability of ownership and occupancy of historic resources
- Potential cost savings versus new construction
- Maintains and utilizes the established neighborhood and existing infrastructure

## REPAIR VS. REPLACEMENT

When it is no longer feasible to maintain a historic feature due to its condition, repairs or replacement in-kind may be necessary. Repairs maintain the building in its current condition while making it weather-resistant and structurally sound, concentrating specifically on areas of deterioration. When repair is not possible, the HDC encourages replacement in-kind. Similar to a regular maintenance program, these activities can prevent or postpone extensive and costly future repairs.

In order of preference, the HDC encourages the following approach:

1. Non-intrusive repairs, focused at deteriorated areas, stabilizing and protecting the building's important materials and features
2. When repair is not possible, replacement in-kind to the greatest extent possible, reproducing by new construction the original feature exactly, matching the original material, size, scale, finish, profile, detailing and texture
3. When replacement in-kind is not possible, the use of compatible materials and techniques that convey an appearance similar to the original historic features, and the use of materials similar in design, color, texture, finish and visual quality to the historic elements





*This 2-story side elevation addition is subordinate and diminutive in scale when compared to the side gable roofed main block. It is stepped back from the front elevation, and utilizes similar but larger windows, trim and siding. It is compatible but clearly identifiable as an addition to the historic building.*

## ADDITIONS

Additions to a building within a Historic District can dramatically alter the appearance of the individual property, the District and the surrounding landscapes. Exact reproduction of historic buildings is discouraged, while both traditional or contemporary design compatible to the context of the historic resources and their surroundings is encouraged. Because of the sensitivity of the area, the property owner should take great care when proposing an addition to a designated property.

When considering an addition to a historic building or structure, applicants should:

- Preserve the cohesive ambiance of historic resources with compatible, sympathetic and contemporary construction
- Use compatible siting, proportion, scale, form, materials, fenestration, roof configuration, details and finishes to the existing building
- Construct additions at secondary elevations wherever possible, subordinate to the historic building, and compatible with the design of the property and neighborhood
- Construct additions so that the historic building fabric is not radically changed, obscured, damaged or destroyed
- Reference the *Guidelines for New Construction & Additions*

## NEW CONSTRUCTION

More dramatically than additions, new construction within a Historic District can dramatically alter the appearance of the individual property, the District and the surrounding landscapes. All new construction should be compatible within the property's surrounding context. As a result, those areas that are highly cohesive with strong historical integrity, will likely be more limited than those areas with a variety of building types, scales, materials and designs such as those found in some of Exeter's commercial corridors.

When considering a new construction or development project, exact reproduction of historic buildings is discouraged, while both traditional design or contemporary design compatible to the context of the historic resources and their surroundings is encouraged. Because of the sensitivity of the area, the property owner should take great care when proposing new construction or a new development within a Historic District.

When considering new construction within a locally designated historic district or historic context, applicants should:

- Preserve the cohesive ambiance of historic resources with compatible, sympathetic and contemporary construction
- Use compatible siting, proportion, scale, form, materials, fenestration, roof configuration, details and finishes
- Reference the *Guidelines for New Construction & Additions*



*This house is sited in a manner similar to its neighbors. The multiple gable and hipped roof break down the overall mass and scale to be similar to its neighbors. The fenestration pattern includes punched window openings, avoiding a front-facing garage door.*

## RESEARCHING HISTORIC PROPERTIES

Property owners seeking information regarding the history of their property can consult with the Exeter Historical Society as well as reference historic property designation information, town atlases, Town Directories and potentially historic photographs. (Refer to *Preservation Organizations*, page 01-11.)

## FREQUENTLY ASKED QUESTIONS

***Q: Where should I begin the process?***

**A:** It is often helpful to begin by understanding what makes your property historically or architecturally significant (see below.) Contact the Town's Building Department at (603) 773-6112 for a review of your property's significance. Obtain the *Guidelines* section applicable to your proposed project and consider whether the proposed changes are appropriate for the property.

***Q: How can I find out about the history of my neighborhood or property?***

**A:** The Exeter Historical Society is the best resources for local history, (refer to page 01-11), including historic photographs, National Register Nominations and survey forms on historic buildings. Links to information on local history are also available on the Town of Exeter's website. Additional information regarding historic properties is available from the New Hampshire Division of Historical Resources, and on its website. There are also numerous reference organizations and resources, a few of which are listed on page 01-11.

***Q: How do I make it more likely that my project is approved?***

**A:** It is helpful to have an understanding of what makes your property architecturally or culturally significant when considering a project. This will allow you to make informed decisions about the proposed project with an understanding of some of the issues considered by the HDC. Each section of the *Guidelines* outlines what is and is not likely to be approved by the HDC. If considering a complex application, particularly those that include an addition or new construction, it is often helpful to informally consult with the HDC in a conceptual review prior to submission of a Certificate of Approval (COA) application. The conceptual review process can provide feedback to guide an application towards a design that may be approved by the HDC prior to expending a lot of time and money in the development of detailed plans or Construction Documents.

***Q: Is the review process expensive? Do I need to hire an outside professional?***

**A:** The HDC does not charge a fee for a reviews; however, other City departments may assess fees, such as notification fees, based on the nature of the project. Carefully review of the applicable *Guidelines* and the application requirements for an approval prior to hiring a design professional or contractor can assist in the early planning stages of your project. If not required by Code to receive a building permit, you are welcome to submit applications for work without the assistance of a design professional. However, for complex proposals or those that requires the submission of scaled drawings, consultation with a professional may be required and may expedite the review process. If you are retaining the services of a professional, it is helpful to work with architects, contractors and others familiar with the requirements of working with the HDC. Before submitting your application, confirm that it is complete with the Building Department.

***Q: I am planning a complex project. When is the best time to talk to the HDC?***

**A:** If your project is complex or requires review from multiple land use Commissions and Boards, the best time to talk to the HDC is as early in the project as possible, before you invest significant time and money into the design process. This initial informal informational review can help move a project more quickly through the review process. Please contact the Town's Building Department at (603) 773-6112 for an appointment.

***Q: Is there a way to expedite the review process?***

**A:** It is important to thoroughly complete the application and submit all required materials to the HDC for review. It is recommended that you contact the Town's Building Department directly to understand what submission materials are required for your project; whether Commission review is required or a conceptual review is recommended; and the specific submission requirements, deadlines and meeting dates. Contact the Town's Building Department to determine what other reviews are required; if multiple reviews are necessary they can often be pursued simultaneously.

***Q: Does my project require HDC review?***

**A:** Proposed changes to any building, site or structure within the boundaries of a locally designated Exeter Historic District are required to receive an approval. This includes all work that might be considered ordinary maintenance and repair with the exception of repainting. Refer to applicable *Guidelines* sections for clarifications regarding types of work that is subject to review. Most applications for maintenance and in-kind repair are reviewed at the Staff level within 7 to 10 days of a completed application filing.

***Q: How do I apply for HDC review?***

**A:** The specific submission requirements for HDC review will vary based upon whether the submission is for a conceptual review or a Certificate of Approval. In most instances, the submission materials are typically similar to those required for a building permit review. For specific information regarding the submission requirements for your proposed project please refer to the applications available on the Town of Exeter website at [www.exeternh.gov](http://www.exeternh.gov) or contact the Town's Building Department at (603) 773-6112.

***Q: Can I begin construction immediately after I get the HDC approval?***

**A:** The HDC review is not necessarily sufficient for the granting of a building permit. Each project is also subject to review by all departments having jurisdiction over compliance with zoning, building and safety codes. HDC review is just one step in obtaining a building permit. You must complete all necessary reviews and obtain all necessary permits applicable to your project prior to proceeding with any work. However, you cannot receive a building permit without obtaining an approval from the HDC.



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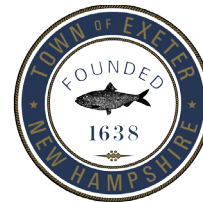
## PRESERVATION ORGANIZATIONS

### Local Organizations

- Town of Exeter Building Department  
Historic District Commission (HDC); Heritage Commission  
Town Hall; 10 Front Street, Exeter, NH 03833;  
(603) 773-6112; [www.exeternh.gov](http://www.exeternh.gov)
- Exeter Historical Society  
47 Front Street; Exeter, NH 03833;  
(603) 778-2335; [www.exeterhistory.org](http://www.exeterhistory.org)

### State and Regional Organizations

- New Hampshire Division of Historical Resources  
19 Pillsbury Street; Concord, NH 03302  
(603) 271-3483; [preservation@dcr.nh.gov](mailto:preservation@dcr.nh.gov)
- New Hampshire Preservation Alliance  
7 Eagle Square; Concord NH 03302  
(603) 224-2281; [www.nhpreservation.org](http://www.nhpreservation.org)
- Historic New England  
Otis House; 141 Cambridge Street; Boston, MA 02114  
(617) 227-3956; [www.historicnewengland.org](http://www.historicnewengland.org)



## ACKNOWLEDGEMENTS

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- Dan Chartrand, Chair, Selectboard  
Julie Gilman, Vice-Chair, Selectboard  
Nancy Belanger, Clerk, Selectboard  
Don Clement, Member, Selectboard  
Anne L. Surman, Member, Selectboard  
Russell Dean, Town Manager

### Historic District Commission

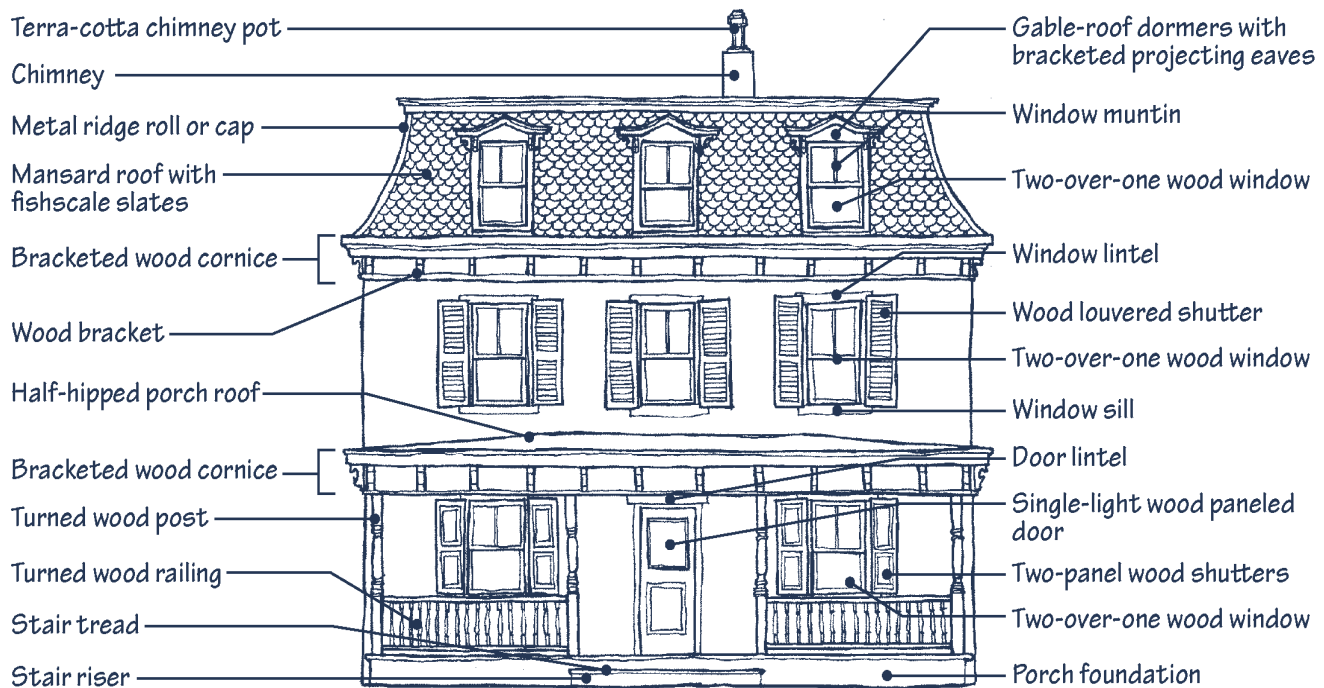
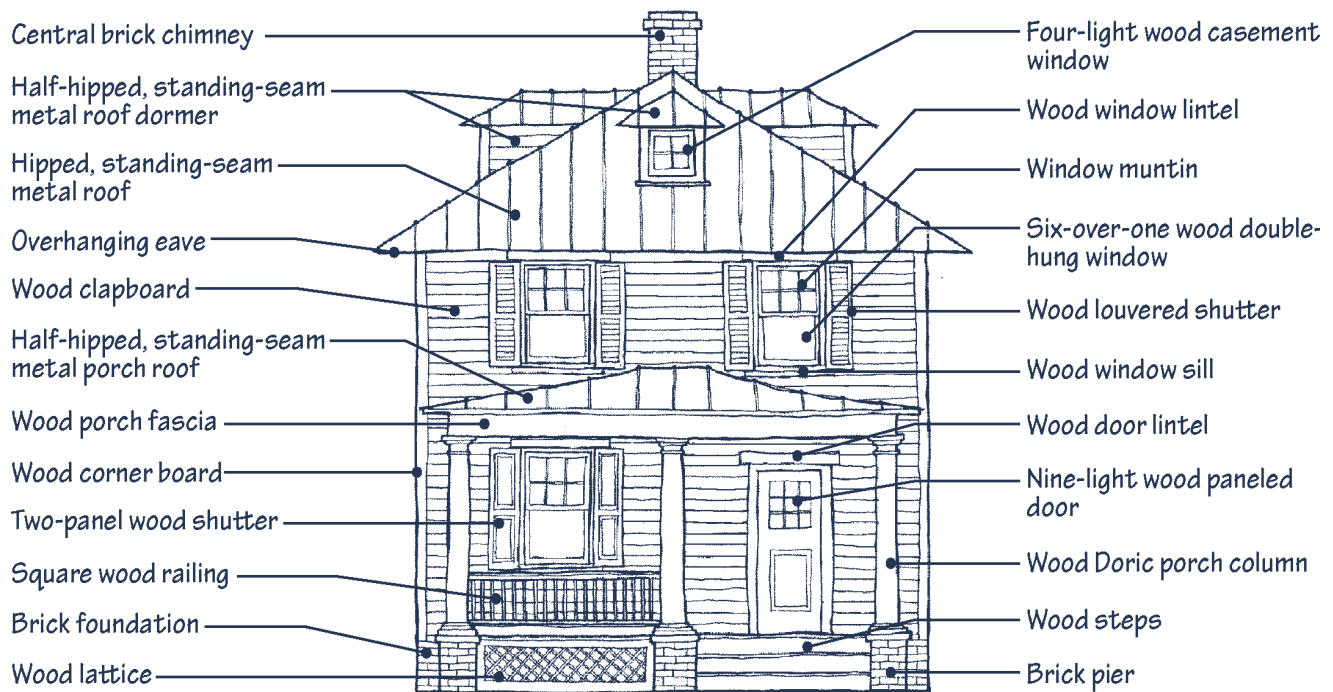
- Patrick Gordon, Chairman  
Julie Gilman, Board of Selectman Representative  
Pam Gjettum, Clerk  
Curtis Boivin, Member  
Nicole Martineau, Member  
Valerie Ouellette, Member  
Pete Cameron, Planning Board Representative, Alternate

### Building Department

- Doug Eastman, Building Inspector/Code Enforcement Officer  
Barbara McEvoy, Deputy Code Enforcement Officer

## GLOSSARY OF ARCHITECTURAL TERMS

The following diagrams represent composite buildings, and provide a basic vocabulary of architectural elements and terms. Please refer to the individual *Guidelines* for additional information.



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# TOWN OF EXETER HISTORIC DISTRICTS

## Masonry & Stucco



*18th-19th Century Brick - A soft, fired-clay, fairly regularly shaped building component; often with color and surface variations*



*20th Century Brick - A hard, dense, fired-clay, regularly shaped building component; sometimes with a glazed surface.*



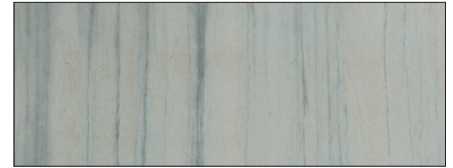
*Yellow Brick - A hard, dense, fired-clay, regularly shaped building component made from high lime content clay.*



*Sandstone - A sedimentary stone used as a building material, popular in the late 19th century.*



*Granite - A hard rock consisting of a small, yet visible, grains of minerals; can be highly polished or textured.*



*Marble - Typically fine grained and able to be highly polished; it has a wide range of colors and patterns.*



*Fieldstone - Locally quarried stone, typically uncoursed of varied sizes, shapes and colors.*



*Terra Cotta - A fired-clay, non-structural building component; used for ornate details.*



*Limestone - A sedimentary rock; used for building walls, window sills and lintels, ornamental stone trim and sculpture.*

### USE OF MASONRY & STUCCO

In the Town of Exeter, many prominent civic and institutional buildings are constructed of masonry, as are most of the commercial buildings along Water Street.

At residences, masonry and stucco can be a primary wall material or limited to foundations and chimneys at wood framed homes. Masonry landscape and retaining walls are also common at residential properties.

These *Guidelines* were developed in conjunction with the Town of Exeter's Historic District Commission (HDC) and the Building Department. Please review this information during the early stages of planning a project. Familiarity with this material can assist in moving a project forward, saving both time and money. The Building Department is available for informal meetings with potential applicants who are considering improvements to their properties.

*Guidelines* and application information are available at the Town Office and on the Commission's website at [exeternh.gov/bcc/historic-district-commission](http://exeternh.gov/bcc/historic-district-commission). For more information, to clarify whether a proposed project requires HDC review, or to obtain permit applications, please call the Building Department at (603) 773-6112.

### EXTERIOR MASONRY & STUCCO

Historically, a building's exterior masonry surface serves both visual and functional purposes. Visually, it is an important design feature that establishes the rhythm and scale of a building. Functionally, historic exterior masonry typically acts as the principal load bearing system for the building, and also serves as its "skin", shedding water and deflecting sunlight and wind.

Historic exterior masonry:

- Acts as an important design feature, helping to define a building's architectural style
- Establishes a building's scale, mass and proportion
- Adds pattern and texture casting shadows on wall surfaces
- Acts as a principal element in the structural system
- Establishes a weather-tight enclosure, providing protection from rain, wind and sun

With proper maintenance, exterior masonry and stucco can last for centuries. However, if maintenance and repairs are not completed properly and in a timely manner, masonry and stucco can be severely damaged. Typical issues that cause deterioration are moisture penetration, freeze-thaw cycling, the installation of very hard mortar, inappropriate paintings or coatings, as well as harsh or abrasive cleaning.

## MASONRY COMPONENTS

Masonry walls, foundations and piers were historically constructed of either bricks or stones, stacked on top of each other. The individual units were bonded by mortar, which served to hold the masonry units together and fill the gaps or joints between them.

Historically, the masonry was bearing, meaning it carried its own weight to the ground, as well as the load of other building elements atop it, such as walls, floors and a roof. Beginning in the 20th century, thin masonry veneers, often of brick, marble or granite, were “hung” on an underlying support structure at storefronts, and later at entire façades.

### Brick

Brick is a common masonry material in Exeter and can be found in some of the Town’s earliest commercial and institutional buildings, and it continues to be used today. Bricks are made by pressing clay into a mold and then firing or baking the brick at very high heat. While historic brick sizes vary, modern brick is generally a standardized unit, 8” by 4” by 2-1/4” in size.

The color of brick can vary, but red is by far the most common. Other colors include yellow, orange and brown. The color is determined by the chemical and mineral content of the clay and the temperature and conditions of the kiln or oven. Similar to the color, the strength or hardness of brick is determined by the clay ingredients and the firing method, but it is also determined by the way the brick is manufactured.

- **Hand-pressed bricks** tend to be very soft and can be found on buildings and structures built during the 18th and 19th centuries. They were made by pressing wet clay into a wood or metal mold, historically by hand; the shaped clay was then dried and fired. In this process, small air pockets and impurities were trapped in the clay, and the bricks were often slightly irregularly shaped with holes or voids and rounded edges and corners.
- **Dry-pressed bricks** are similar to hand-pressed bricks except the clay used is drier and it is pressed into the molds with greater force and fired longer. The result is a brick of medium hardness with sharp corners and edges. Dry pressed bricks gained in popularity in the second half of the 19th century.

- **Extruded bricks** were popularized in the early 20th century and are the hardest bricks. Unlike hand pressed bricks and dry pressed bricks, which were often made near the construction site, extruded bricks are typically made in large factories and shipped to the site. To make extruded bricks, very dry clay is forced through a form to create a long ribbon that then is cut into individual bricks. With large-scale production it is easier to achieve higher quality control and uniformity in color and hardness.
- **Veneer bricks** are thin extruded bricks, often about 1/4” thick, adhered to an underlying surface. Brick veneers have no structural capacity and are more susceptible to damage from freeze-thaw cycles and impact, which can result in cracking or popping off a surface.

### Terra Cotta

Similar to brick, terra cotta is made of fired clay and is often used for decorative details and wall finishes. It can have the color of red or yellow brick or be fired with a clear or colored glaze. Terra cotta became popular in the 20th century, and was often highly decorative and ornate.

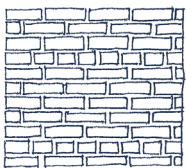
### Stone

The most common types of stone in Exeter are granite and brownstone. Limestone detailing is often found at brick buildings, and some of Exeter’s buildings include fieldstone. The stone hardness varies by type with brownstone and limestone being soft, while granite and marble are very hard. The finish can be rubble stone of varied size and arrangement, or range from a rusticated base to a highly polished, reflective surface such as stone veneer at a storefront. In addition, stone can be carved for decorative elements and sculpture.

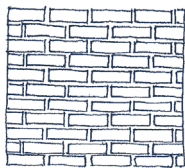
### Concrete Masonry Units

Concrete masonry units (CMUs), also known as concrete blocks, are similar to bricks in that they are formed, structural elements made from a mixture of water, cement, sand and aggregate, which is placed in forms to harden. CMUs are typically 8- by 8- by 16-inches in size with internal voids. Similar to brick, they are stacked and bonded with mortar and laid in a running-bond pattern. Today, CMUs are available in various colors with different textures and finishes, including rusticated masonry, also known as split-faced block.

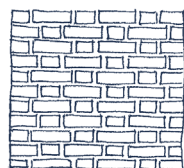
### BRICK BONDING PATTERNS



Common Bond



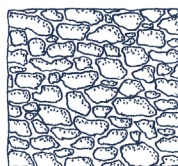
Running Bond



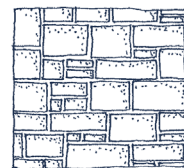
Flemish Bond

The most frequently constructed brick pattern is common bond, which features stretcher courses with a header course every 6th row. Other familiar brick bonding patterns include running bond, comprised of only stretcher course, and Flemish bond, alternating stretchers and headers.

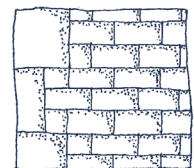
### STONE BONDING PATTERNS



Uncoursed Fieldstone



Coursed Fieldstone



Coursed Cut Stone with Quoins

Uncoursed and coursed field stone are common foundation materials in Exeter. There are fewer cases of cut stone walls. Quoins are large rectangular stones located at a building’s outside corners. Historically, quoins were used in a variety of bonding patterns including fieldstone.



## MORTAR

Historically, mortar was composed of only three ingredients: sand, lime and water, and sometimes additives such as animal hair or oyster shells. Starting in the mid-19th century, a small amount of Portland cement was added into the mix to improve workability and hasten setting time. In the early-20th century, corresponding with the manufacture of harder bricks, the amount of Portland cement in mortar was increased, resulting in harder mortar.

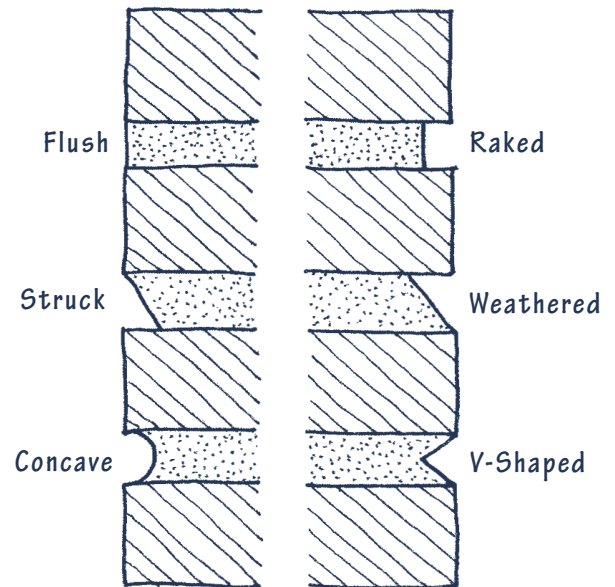
**Sand** is by far the largest component of mortar and defines its color, character and texture. Since masons utilized readily available products, sand from historic mortars tended to have weathered, rounded edges, and was available in a great variety of grain sizes and shades of white, grey and yellow. Most sand available today has sharper edges and comes in standard sizes from being mechanically broken and sieved. As a result, mixing sand colors and sizes might be needed to match historic mortar.

**Lime and Portland Cement** act as binders for the mortar. High lime mortar is soft, porous and varies little in volume with seasonal temperature fluctuations. Because lime is slightly water-soluble, high-lime mortars can be self-healing and reseal hairline cracks. Lime-based mortars can also deteriorate with continual wet-dry cycles, similar to hand pressed brick. By contrast, Portland cement shrinks significantly upon setting, undergoes relatively large thermal movements, can be extremely hard and resistant to water movement, and is available in white or grey, which can be mixed to achieve a desired color. **In general, high lime mortars are recommended for nearly all repointing projects at 18th and 19th century brick and soft masonry construction to ensure a good bond with original mortar and masonry.** It is possible to add a very small percentage of Portland cement to a high lime mixture to improve workability and plasticity. In most cases, Portland cement generally can be increased when repointing 20th century brick or harder stone such as marble and granite.

**Water** needs to be potable, clean and free of salts, harmful minerals and acid. If not, it can break down the mortar and adjacent masonry and discolor finished surfaces.

**Historic Additives** included oyster shells, animal hair, and clay particles. To duplicate the character of historic mortar, it might be necessary to include additives to match the original in hardness, texture, appearance and color. It should be noted that there are several types of chemical additives available today including those that increase or reduce setting time or expand the recommended temperature installation range. **The use of newer chemical additives is strongly discouraged at historic masonry unless they have been specifically tested over an extended period of time with historic materials similar to the proposed installation conditions.**

## JOINT PROFILES



There are numerous mortar joint profile types, or shapes, with each producing different shadow lines and highlights. When repointing an area of masonry, it is important to tool the mortar to match the existing joint profile for a consistent appearance.

MORTAR HARDNESS & MASONRY			
	Normal	Hot Masonry Expands	Cold Masonry Contracts
Flexible Lime Mortar			
Inflexible Portland Cement Mortar			
		Spalling Occurs	Bonds Break Cracks Open

Temperature changes cause masonry units to expand when heated and contract when cold. This expansion and contraction results in compression and flexing of the adjacent mortar joints.

Lime-based mortar is pliable and more likely to compress and flex through temperature cycles. Properly installed mortar should be softer than the adjacent masonry.

Portland cement-based mortars are significantly harder than lime-based mortars and far less elastic. In addition, cement mortars tend to be substantially harder than historic masonry. When masonry units expand in warm temperatures, they press against the harder cement mortar and tend to spall at the edges. During colder temperatures, masonry units tend to pull away from mortar, resulting in open cracks that can admit moisture.

## TYPICAL MASONRY PROBLEMS

It is important to identify masonry problems early to minimize damage. This is particularly true of masonry that is exposed to moisture. Once water is permitted to penetrate a masonry wall, the rate of deterioration accelerates very quickly, becoming more severe and costly. The following images include some typical masonry problems in Exeter and possible repairs. Some conditions, such as movement or settlement issues, might require professional evaluation by an architect or engineer.

### Many problems associated with historic masonry result from failure to keep mortar joints or coatings in good repair.

Deteriorated mortar joints allow moisture to penetrate the masonry and cause severe interior and exterior damage. There are five principal causes of mortar joint failure as described below.

**Weathering** of mortar or stucco occurs when rain, wind and pollution erode softer historic mortar over time. Historic mortar and stucco were purposely soft to allow the masonry wall to expand and contract with seasonal temperature changes. (Refer to *Mortar Hardness & Masonry*, page 04-3.)



*The mortar has weathered from most of the brick joints, reducing the structural capacity of the wall. The surface of some bricks has spalled, and a settlement crack has developed near the corner of the window.*

**Uneven Settling** of masonry walls and piers may result in cracks in stucco surfaces, along masonry joints or within masonry units.

## DEFINITIONS

**Efflorescence:** Water-soluble salts leach out of masonry or concrete by capillary action and deposit on a surface by evaporation, usually as a white, powdery coating

**Mortar Joints:** The exposed joints of mortar in masonry

**Repointing:** Repairing existing masonry joints by removing defective mortar and installing new mortar

**Spalling:** Chipping of masonry



*The surface of the center brick has spalled. The repointing mortar is harder than the brick and likely includes too much Portland cement. The mortar should be completely replaced with softer mortar.*

**Temperature Cycles** can cause masonry, stucco and mortar to expand and contract at different rates, breaking the masonry's bond with the stucco and mortar. This situation can be worsened if moisture enters an open joint, then freezes and expands, potentially spalling, that is, popping off the surface of the stucco, mortar and the masonry.



*Brownstone is very soft and susceptible to moisture damage. The surface of the brownstone has delaminated, the corner has spalled and a cementitious patch on the lower right corner is failing.*

**Poor Original Design and Materials** can cause ongoing problems if the masonry and mortar are incompatible or inappropriate for their installation location, or if the masonry does not properly shed water.



*Efflorescence, or white bloom, is an indication of moisture in the wall. There is a lack of mortar at the upper right.*

**Insufficient Exterior Maintenance** may result in water entering a masonry wall and accelerating deterioration. Potential areas of concern are: open joints in masonry or stucco; poorly functioning gutters, downspouts and flashing; rising damp from saturated soil; standing water at foundations; water splashing off hard surfaces onto walls; condensation discharge from air conditioners; or water-trapping vegetation such as vines or shrubs on or near a masonry wall, foundation, pier or chimney.





*A saw was used to cut-out the joints during repointing, extending the vertical joints and damaging the bricks. In addition, both the vertical and horizontal joints have been widened.*

### REPOINTING HISTORIC MASONRY

Repointing work can last at least 50 years when completed properly. For the best results, skilled craftsmen are needed to remove the existing mortar with hand tools to minimize damage to adjacent masonry, achieve the appropriate mortar mix, color and hardness, apply the mortar, and tool it to match the historic joint style and appearance. As a result, it is generally recommended that repointing projects be limited to areas of deterioration rather than an entire building unless deterioration is prevalent.

To achieve the best results, repointing work is best completed when the temperature ranges between 40°F and 90°F for at least two days after the installation of the mortar to help the mortar bond to the masonry. Mortar should be placed in joints in layers no more than 3/8-inch thick and allowed to harden. The final outer layer should be tooled to match the historic joint profile. (Refer to *Joint Profiles*, page 04-3.)



*The central bricks have been repointed with what appears to be a Portland cement mortar that is harder than the hand made brick. In addition, the mortar color and tooling is a poor match for the original mortar.*



*Long cracks at masonry, particularly cracks that split individual cracks or stones, can be an indication of a significant structural problem. In cases of more significant or re-occurrent cracking, consultation with an architect or structural engineer may be prudent prior to repointing.*

### REPAIRING HISTORIC MASONRY

When repairing masonry walls, infill pieces of masonry and mortar should match the existing in visual characteristics and hardness. For example, deteriorated hand-pressed brick must be replaced with hand-pressed brick; a granite sill should be replaced with a granite sill. (Salvaged materials should be reused with care since historic materials can have different properties based upon their installation locations, for example, brick can be exterior or interior grade). Mortar must match the original tooling, appearance and hardness.

Although mortar can easily be matched by analyzing the composition of the remaining mortar, matching brick, terra cotta and stone is more difficult. Fabricating new brick by hand to achieve similar irregularity and coloration can be costly. Terra cotta and glazed brick replacement also presents a challenge since molds often need to be recreated and the glazes tend to develop surface hairline cracks and change color over time. Matching stone with new stone is more likely if the original quarry remains active. An alternative to obtaining new masonry is to utilize salvaged units. Although the labor to clean off excess mortar and prepare salvaged material for reuse could be more expensive than purchasing new brick, the visual characteristics, irregularity and hardness would be comparable with the existing material.

### USING THE CORRECT MORTAR & STUCCO

Most pre-mixed mortar available from hardware stores is generally inappropriate for historic masonry as it contains too much Portland cement and is too hard for older brick and many types of stone. The best method of matching historic mortar and stucco is having an existing sample analyzed by a professional lab. The HDC is also available to provide guidance based upon the type, location and condition of the masonry.

## MASONRY CLEANING

Appropriate masonry cleaning can enhance the character and overall appearance of a building. However, improper cleaning of historic masonry can damage historic surfaces and cause more harm than good, both physically and visually. Masonry cleaning methods fall within three general categories:

- Low pressure water, with the possible use of gentle detergent and brushing with a natural bristle brush
- Chemical cleaning
- Mechanical cleaning including sand blasting, high-pressure power washing, grinding, sanding and wire brushing

**Because of the softness of historic brick and some types of stone, as well as the potential damage to historic masonry surfaces, cleaning should be completed only when absolutely necessary, using the gentlest means possible.** In many cases, soaking the masonry with low pressure water can remove much of the surface dirt and deposits. If the soaking method is not successful, it might be necessary to add a non-ionic detergent, such as dish washing detergent, and brush the wall surface with a natural bristle brush.

Chemical cleaners can etch, stain, bleach or erode masonry surfaces. The use of mechanical methods, including abrasive blasting, power washing, sanding or grinding, can potentially remove decorative details and the protective surface of the masonry, resulting in an eroded surface and permanent damage. Abrasively cleaned masonry usually has a rough surface that can hold dirt and be more difficult to clean in the future. Both mechanical and chemical cleaning methods can destroy the outer protective layer, making masonry surfaces more porous and deteriorating mortar joints, thus allowing water entry and accelerated deterioration. **The use of mechanical methods for cleaning masonry is strongly discouraged by the HDC. The use of chemical cleaners should only be used when all other methods are unsuccessful. Cleaners must be diluted and tested at a discrete area prior to general application.**

Before beginning any cleaning process, it is important to ensure that all mortar joints are sealed to prevent water or any detergent or cleaning solution from entering the wall structure and causing additional damage. In addition, cleaning should be scheduled to allow the wall to thoroughly dry out prior to potential frost to minimize spalling.



*The rough texture and uneven surface suggest an aggressive cleaning method was used. Stucco patches replace bricks and efflorescence, a white powdery substance, can be seen on the surface.*

## MASONRY COATING

Water repellent and waterproof coatings generally are applied to prevent water from entering a masonry wall. They can be unnecessary on weather-tight historic buildings and are problematic long-term. Water infiltration through masonry buildings is often caused by other moisture related problems including open mortar joints and deferred maintenance.

**In instances where the surface of the masonry has been compromised severely, such as by sandblasting, the use of water repellent coatings may be appropriate.**

**Water Repellent Coatings**, also referred to as “breathable” coatings, keep liquid from penetrating a surface while allowing water vapor to escape. Many water repellent coatings are transparent when applied, but might darken or discolor over time, and require frequent reapplication.

**Waterproof Coatings** seal surfaces and prevent water and vapor from permeating the surface. Generally, waterproof coatings are opaque or pigmented and include bituminous coatings or elastomeric coatings and some types of paint. Waterproof coatings can trap moisture inside a wall and intensify damage. Trapped moisture can freeze, expand and spall masonry surfaces.

## STUCCO

Stucco is a relatively inexpensive material that can provide a more finished appearance to brick, stone or, in rare examples in Exeter, wood-framed buildings. In some cases, stucco was scored or rusticated to look like stone. Stucco acts as a weather repellent coating, protecting the building from the elements including rain, snow, sunlight and wind. Stucco can also provide an insulating layer to a wall, reducing the passage of air, as well as improving a building’s fire resistance. A stucco wall surface is generally about 1-inch thick and applied in 3 coats.

Stucco was rarely used as a primary wall material in Exeter. Instead, it was applied on some buildings and structures as a remodeling material when constructing an addition to vary the original appearance or to conceal a modification or deterioration. The components of stucco are similar to pointing mortar and include sand, lime, Portland cement, water and possible binders like animal hair or straw. In some cases, pigments are added to alter the finished color.

### Stucco Application

Stucco is essentially a skin of mortar held in position by the bond formed with the underlying material. Historically, on masonry walls, one of the best ways to achieve a bond was to “rake-out” the mortar joints approximately 1/2-inch to form a groove that holds the stucco in place. When installed on masonry, stucco becomes an integral part of the wall when set. When stucco was installed on wood framed walls, the stucco was generally “hung” on strips of wood called lath that were nailed to wall studs in the same way interior plaster was applied. By the mid-20th century, metal lath replaced wood lath for stucco application on wood-framed buildings.



## PATCHING STUCCO

Similar to repointing mortar, stucco should be applied in moderate weather conditions, avoiding extreme heat, sun, humidity and freezing temperatures. The final appearance should duplicate the existing as closely as possible in composition, color and texture. Successful patching of stucco surfaces requires the services of a skilled craftsman.

Hairline cracks in stucco can generally be filled with a thin slurry coat of the finish coat ingredients. By contrast, larger cracks and bulging wall areas need to be cut out and prepared for a more extensive repair. For the best appearance, the area to be patched should be squared off and terminated at a building joint or change in materials such as a window or door frame. Larger stucco repairs are applied in three coats similar to initial stucco application. (Refer to *Stucco*, at left.) Similar to pointing mortar, if stucco patches are too hard, they can cause additional damage to the adjacent historic stucco surfaces or lead to the formation of cracks that can allow water migration into the wall.



## MASONRY & STUCCO PAINTING

If the exterior of the masonry surface has been compromised through previous sandblasting, moisture infiltration or the use of harsh chemicals, painting with mineral silicate paint can provide a degree of protection. Repaired masonry or stucco walls often will need to be repainted for a uniform appearance. When selecting paint, it is important that the new paint be compatible with earlier coats of paint and the stucco material and be applied following the manufacturer's recommendations.

When repainting masonry, proper preparation is critical to a successful masonry painting project. This includes removal of vegetation and loose or flaking paint; maintenance of adjoining materials, such as leaking downspouts or gutters; and repointing of open joints.

The HDC generally recommends mineral silicate paint for the best long-term adhesion, which includes lime and silicate that binds to masonry, providing long-lasting durability and weather resistance. Lime-based paint is also appropriate for historic masonry, although it is not as weather resistant. If the building has been painted previously, it is important to select a type of undercoat and paint appropriate for the surface coating on the building and apply them following manufacturer's recommendations. (Refer to the *Exterior Paint, Guidelines for Exterior Woodwork*, page 03-9.)



Badly peeling paint can be an indication of poor preparation or moisture issues.

## REMOVING PAINT FROM MASONRY

When considering whether to remove paint from a masonry surface, it is important to determine whether removal is appropriate. In some instances, the building might have been meant to be limewashed or painted, or limewash or paint was used to hide deterioration, later changes or additions. It might be appropriate to consider stripping paint if the existing paint has failed, the paint was applied to cover other problems such as a dirty building, or to reduce the long-term maintenance requirements associated with repainting.

Signs of failed paint include paint that is badly chalking, flaking or peeling, possibly due to moisture penetration. Prior to repainting, it is recommended that the cause of the moisture infiltration be identified and repaired to minimize the potential for future failure. It is also prudent to review whether the masonry has been "sealed" by excessive layers of paint or by waterproof coatings. The underlying masonry might not be able to "breathe" and dispel the internal moisture and salts. Eventually, pressure from moisture and salts can build up under paint layers and cause the paint to peel and masonry to spall.

If paint is stable, complete paint stripping might not be necessary. However, new paint should be compatible with previous paint layers and surface for best adhesion.

## SYNTHETIC STUCCO

The Exterior Insulation and Finish System, or EIFS, is a synthetic stucco system popularized in the United States in the late-20th century. One significant problem with EIFS is that it does not "breathe" and can trap moisture within the wall thickness. This can lead to powdering or melting of soft, hand pressed bricks, rotting of wood sills and framing, and potential mold and mildew development in the building. In addition, EIFS can provide a desirable home for termites and carpenter ants where they can easily migrate to other parts of a building. In addition to problems with its physical properties, EIFS is typically installed with control joints or grooves to allow the surface to expand and contract with temperature patterns, often resulting in unusual wall patterns that distract from the architectural design.

**Because of the differences in the visual characteristics of EIFS from stucco and the potential to harm historic building fabric, the HDC does not recommend the application of synthetic stucco or EIFS to any existing building or structure.**

## MASONRY & STUCCO GUIDE

### *The HDC encourages:*

- Replacement masonry that matches the historic in appearance, type, color, texture, size, shape, bonding pattern and compressive strength
- Replacement masonry that is toothed into existing masonry, continuing the historic pattern
- Repointing mortar or stucco of the same hardness or softer than the original mortar or stucco and always softer than the original masonry - older buildings typically of high lime content with limited Portland cement
- Using mortar and stucco that matches the appearance, color, texture, pattern, joint size and tooling of the historic installation
- Carefully removing algae, moss, vines and other vegetation from masonry and stucco walls and removing shrubs from the building perimeter
- Completing masonry and stucco work in fair weather, for improved bonding and curing

### *The HDC discourages:*

- Widening or extending the existing mortar joints or overlapping the new mortar over the masonry surface
- Removal or covering of historic masonry surfaces or details
- Removal of historic stucco from masonry surfaces exposing the soft, underlying brick to the elements
- Installing stucco over brick, stone or wood framed buildings that were not intended to be stuccoed unless covering previously damaged masonry
- Installing modern bricks for patching historic masonry, even if they are “antiqued”, since they are generally much harder and do not match the historic masonry
- Using pre-mixed mortar that does not match the appearance of the historic mortar
- Using pre-mixed mortar or stucco that contains a high percentage of Portland cement at softer or historic masonry or stucco installations
- Using power tools to remove existing mortar from joints since they can damage historic masonry - these methods can damage the exterior and inappropriately change the visual appearance
- Using modern chemical additives in mortar or stucco
- Installing pointing mortar or stucco in a single layer greater than 3/8” deep
- Installing an Exterior Insulation and Finish System, or EIFS

## **Masonry Cleaning**

### *The HDC encourages:*

- Cleaning using the gentlest means possible
- Making sure mortar joints are sound and building is water-tight before water cleaning
- Using water without traces of iron or copper that can discolor masonry
- Conducting water cleaning a minimum of one month before freezing temperatures to minimize the potential for spalling
- Minimizing water pressure, generally no more than 100 psi, to reduce potential etching of masonry surfaces
- Using non-ionic detergent and natural bristle brushes when water soaking is not successful

### *The HDC discourages:*

- Using mechanical methods including sand blasting, grinding, sanding and wire brushing - these methods can damage the exterior and inappropriately change the visual appearance
- Using water with excessive salts, acids or minerals that can deposit on masonry surfaces
- Using chemical cleaning

## **Masonry Coating**

### *The HDC discourages:*

- Applying water repellent or waterproof coatings to weather-tight historic masonry or concrete unless it is below the surface of the surrounding grade

## **Removing Paint from Masonry**

### *The HDC encourages:*

- Considering paint-removal appropriateness
- Removing paint using the gentlest means possible

### *The HDC discourages:*

- Applying water repellent or waterproof coatings to intact masonry, including paint that can trap moisture and prevent the wall from “breathing”
- Applying waterproof coatings on masonry above the surface grade level
- Painting previously unpainted historic brick or stone

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