City of Biddeford
Historic Preservation Commission

May 14, 2025 at 4:00 PM
City Hall Council Chambers & Zoom

Join Zoom Meeting Online
Or call in by phone: +1 312 626 6799
Meeting ID: 950 4356 2174
Passcode: 011116

1. Adjustment(s) to Agenda

2. Approval of Meeting Minutes

   2.a Approval of Meeting Minutes from 4-9-25

3. New Business

   3.a 2025.10 HPC Review for Daniel Novick to install new siding at 35 State Street, Tax Map 37, Lot 75, in the MSRD-2 Zone.

   3.b 2025.11 HPC Review for Kevin Beaulieu of T&T Leasing to renovate the two-family residential structure at 74 Summer Street, Tax Map 39, Lot 14, in the MSRD-2 Zone.

   3.c Historic New England is here on May 28, 2025.

   3.d Design Guidelines

   3.e Budget $556.29

4. Other Business

5. Adjourn

CITY OF BIDDEFORD

Planning and Development Department

Brad Favreau
Economic Development Coordinator
205 Main Street
P.O. Box 586
Biddeford, ME 04005
(207)-282-7119 or (207)-284-9115
Brad.Favreau@biddefordmaine.org

HPC MEETING
April 9, 2025
Meeting Minutes
4:00
DRAFT

Staff Members in attendance: Brad Favreau & Nan Whitten
Meeting brought to order 4:12 PM
Quorum/Voting Members in attendance: Leah Schaffer (Chair), Julie Larry, Erin Ware (Vice Chair), & Shannon Chisholm

1. **Adjustments to the Agenda-Item 3.a. has been postponed and will not be heard tonight**
2. **Approval of Meeting Minutes-Approval of Meeting Minutes from March 12, & 13, 2025**
   MOTIONS: 4:13 PM
   Motion- Ware- Approval of Meeting Minutes as presented
   Second-Larry
   Vote-Unanimous
3. **New Business**
   3.a 2025.10 HPC Review for Daniel Novick to install new siding at the rear of 35 State Street, Tax Map 37, Lot 75, in the MSRD-2 Zone-POSTPONED

4. **Other Business**
   4 a. Design Guidelines-Final Deliverables Discussion
   - **Samantha Smith from JMT presented the final review of the design guidelines**
   - **Recommendations or best practices for restoration and alterations**
   - **Purpose is to preserving the historical significance of the community**
   - **They are used as a handbook or a reference for best practices**
   - **Includes the National Register of Historic Places, the Mills Historic District as well as Main Street Historic District**
   - **Open discussion between committee members and Smith.**

5. **Adjourn 5:01 PM**

Chair: Historic Preservation Commission **Date**

DRAFT

These minutes are summary and are not to be verbatim. Archived meetings are viewable on the City's website: www.biddefordmaine.org.

DRAFT

2025.10

CITY OF BIDDEFORD

PLANNING DEPARTMENT

205 Main Street PO Box 586 Biddeford, ME 04005 (207) 284-9115

HISTORIC PRESERVATION COMMISSION REPORT

TO: The Biddeford Historic Preservation Commission

FROM: Brad Favreau, Economic Development Coordinator

MEETING DATE: Wednesday May 14, 2025 PM

RE: **Item 3.a: 2025.10 HPC Review for Daniel Novick** to install new siding at 35 State Street, Tax Map 37, Lot 75, in the MSRD-2 Zone.

---

1. INTRODUCTION

The owner of this circa 1860 (?) two-family residential building at 35 State Street proposes to install new vinyl siding. The rear of the building fronts on Quimby Street, making this structure highly visible from all sides.

The building as it appeared in 2022 as part of the Kleinfelder Survey:

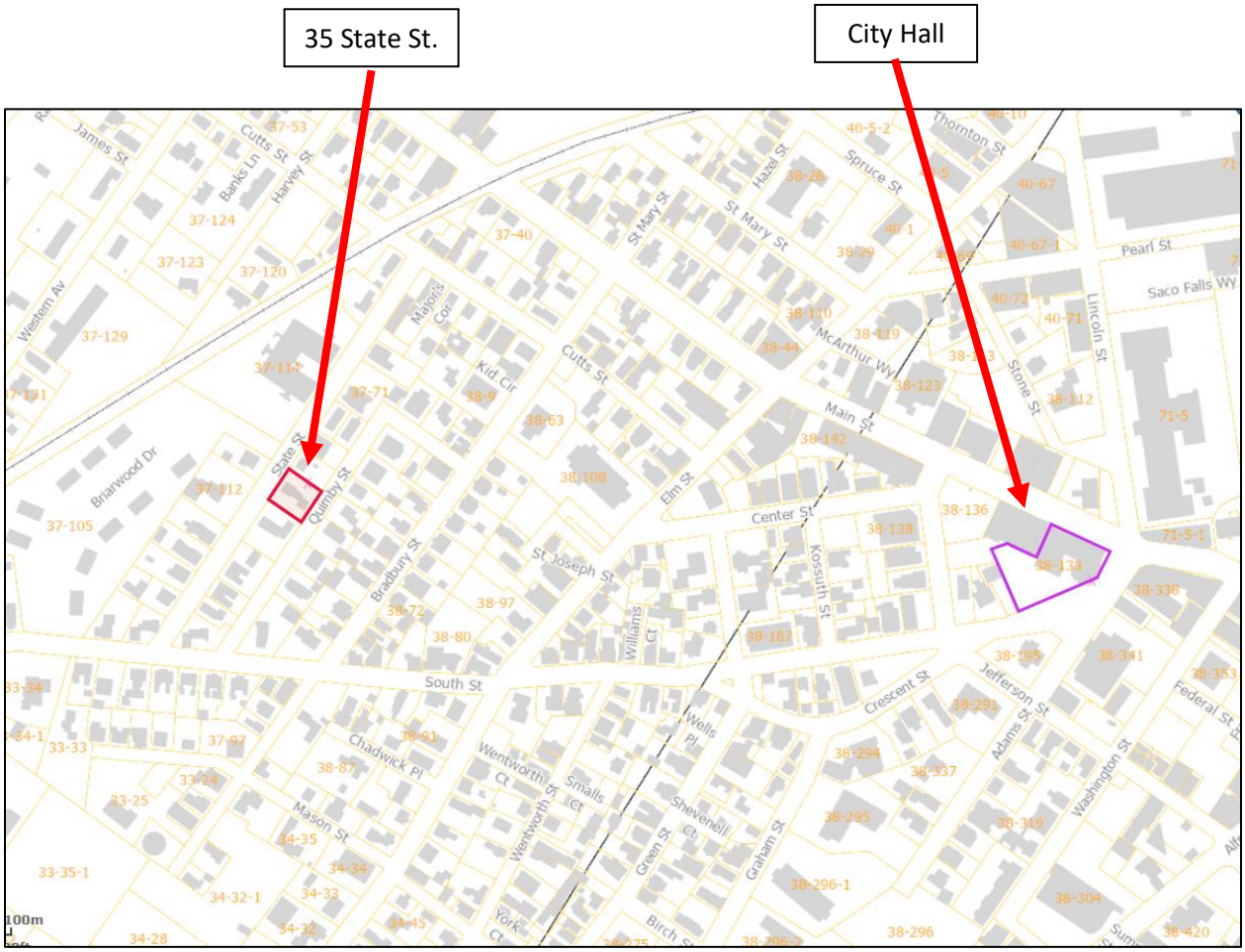
2. PROJECT DATA/INFORMATION

	SUBJECT	***DATA/INFORMATION***
1.	Applicant:	Daniel Novick 35 State Street Biddeford ME 04005 drnovick1@gmail.com
2.	Owner of Property:	Maygan Shippee
3.	Agent:	N/A
4.	Engineer/Architect:	N/A
5.	Project Location:	35 State Street
6.	Project Tax Map #/Lot #:	Tax Map 37, Lot 75
7.	Existing Zoning:	MSRD-2
8.	Overlay Zoning:	Biddeford Historic Overlay District
9.	Contributing?	No
10.	National Register of Historic Places?	No
11.	Approximate Date of Construction	Circa 1920
12.	Existing Use:	Residential
13.	Proposed Use:	Residential
14.	Uses in the Vicinity:	Residential
15.	Parcel Size:	0.23 acres
16.	Front Setback Required:	15 ft.
17.	Side Setbacks Required:	None
18.	Rear Setback Requires:	None
19.	Height Requirements:	Max 3 stories or 35 feet
20.	LDR Attachment A: Fess Paid:	Yes
21.	Historic Preservation Commission Review History:	Meeting Date April 9, 2025. Posted April 2, 2025; Mail Notices to all abutters within 100'. 12 notices sent April. 2, 2024.

3. EXISTING CONDITIONS

The subject property is located west of City Hall on State Street and is visible from both State Street and Quimby Street. This residential structure is in the Italianate style and, according to Kleinfelder, "Retains bracketed cornice, window hoods, paneled box bays with bracketed cornices and entry hood supported by heavy scroll brackets."

The Survey dates it to circa 1860, although it does not appear on an 1872 street map of Biddeford. The Assessing Department data dates the building to 1920.



According to the Kleinfelder Survey, 35 State Street:

…lacks integrity of materials and workmanship due to use of some vinyl replacement windows and some door replacement

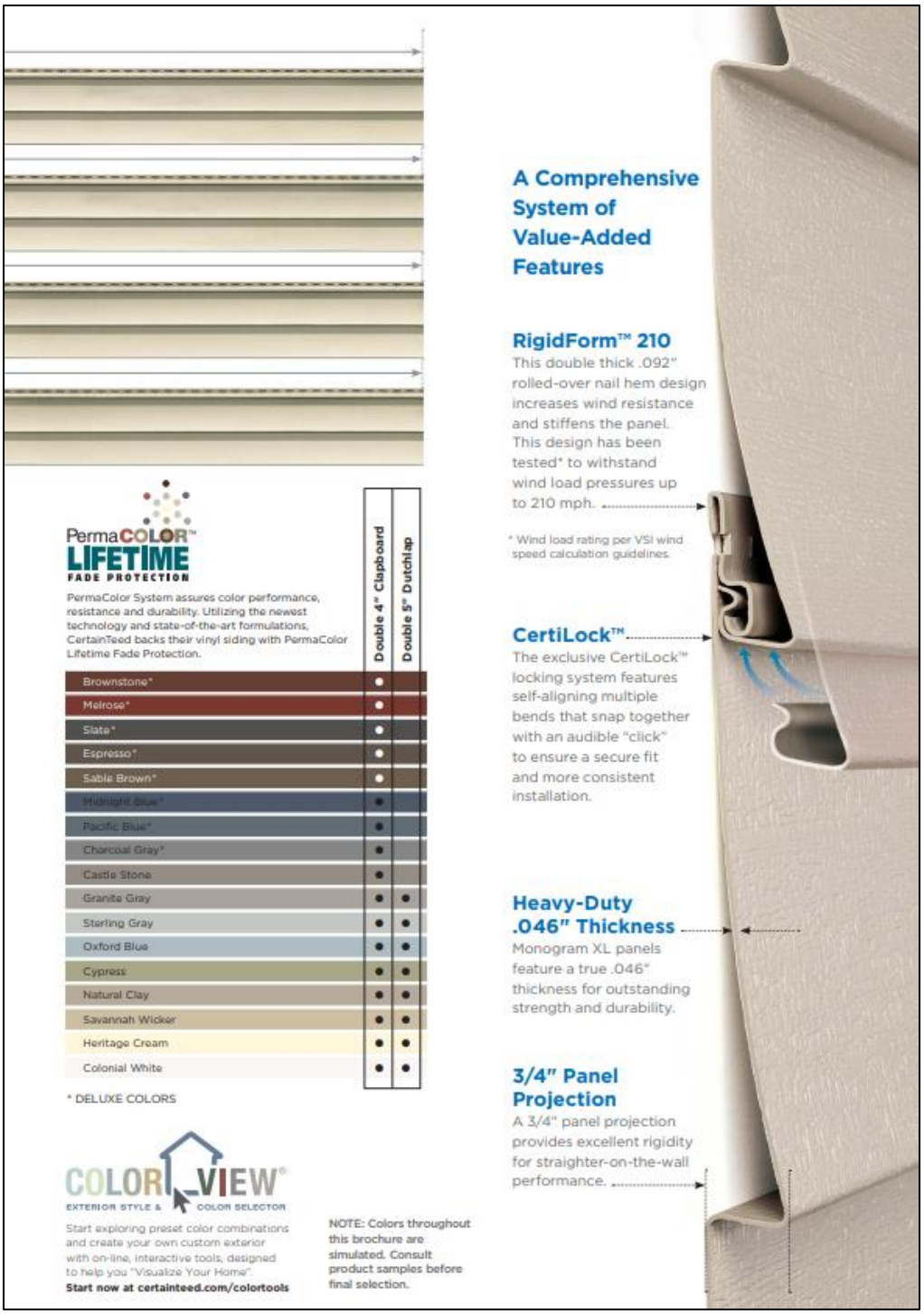
It is neither a contributing building nor individually eligible for National Register listing.

There is noticeable and significant wear to the existing wood siding on the East (rear) elevation of the building. The existing wood siding on the other elevations appears to be in good condition, needing only minor repair in some places.

4. PROJECT PROPOSAL

The applicant proposes Certainteed Monogram Vinyl Siding with a 4” exposure. This siding is in a substitute material.

Please see Preservation Briefs 16 “The Use of Substitute materials on Historic Building Exteriors” in the agenda packet and here.



PermaCOLOR™ LIFETIME FADE PROTECTION

PermaColor System assures color performance, resistance and durability. Utilizing the newest technology and state-of-the-art formulations, CertainTeed backs their vinyl siding with PermaColor Lifetime Fade Protection.

	Double 4" Clapboard	Double 5" Dutchlap
Brownstone*	●	
Melrose*	●	
Slate*	●	
Espresso*	●	
Sable Brown*	●	
Midnight Blue*	●	
Pacific Blue*	●	
Charcoal Gray*	●	
Castle Stone	●	
Granite Gray	●	●
Sterling Gray	●	●
Oxford Blue	●	●
Cypress	●	●
Natural Clay	●	●
Savannah Wicker	●	●
Heritage Cream	●	●
Colonial White	●	●

* DELUXE COLORS

COLOR VIEW® EXTERIOR STYLE & COLOR SELECTOR

Start exploring preset color combinations and create your own custom exterior with on-line, interactive tools, designed to help you "Visualize Your Home".
Start now at certainteed.com/colortools

NOTE: Colors throughout this brochure are simulated. Consult product samples before final selection.

A Comprehensive System of Value-Added Features

RigidForm™ 210
This double thick .092" rolled-over nail hem design increases wind resistance and stiffens the panel. This design has been tested* to withstand wind load pressures up to 210 mph.

* Wind load rating per VSI wind speed calculation guidelines.

CertiLock™
The exclusive CertiLock™ locking system features self-aligning multiple bends that snap together with an audible "click" to ensure a secure fit and more consistent installation.

Heavy-Duty .046" Thickness
Monogram XL panels feature a true .046" thickness for outstanding strength and durability.

3/4" Panel Projection
A 3/4" panel projection provides excellent rigidity for straighter-on-the-wall performance.

5. PUBLIC COMMENT

The notice was posted on the city website on 7, 2025. Twelve abutter notices were sent on May 7, 2025.

As of May 9, 2025, no Public Comments had been received regarding the proposed project.

6. STAFF REVIEW:

The Preservation Briefs propose these questions when evaluating a substitute material for siding:

- What are the widths, lengths, profiles, thicknesses, and textures available?
- What, if any, are the finishing requirements, and/or is it available factory-finished?
- How well does it hold paint, and can prefinished surfaces be renewed?
- What tools are needed to cut it, and can it be machined?
- Does it absorb moisture and, if so, to what effect?
- Can the material survive flooding and be reused?
- Will it expand and contract with temperature change enough to require special accommodation in its installation?
- What characteristics can affect its handling (e.g., weight, flexibility, brittleness)?
- Does it have specific fastening requirements?
- Is it susceptible to insect damage?
- What is its impact resistance?
- Does it have a flame spread rating?
- What is the expected lifespan and/or warranty?

A. REVIEW STANDARDS: Article XV (Historic Preservation Ordinance),

Section 13. Evaluation standards for certificate of appropriateness.

A. Reconstruction and alterations.

1. A building or structure classified as an historic landmark or located within an historic district, or any part thereof, or any appurtenance related to such structures, including but not limited to walls, fences, light fixtures, steps, paving and signs, shall not be reconstructed or altered unless a certificate of appropriateness has been issued for such activity. No certificate of appropriateness for a structure or building identified as contributing to the district shall be issued unless the proposed activity is found to preserve or enhance a building's or structures historical or architectural character. No certificate of appropriateness shall be issued for a noncontributing structure or building unless the proposed activity is complementary to the historic character of surrounding structures and buildings and meets the intent of this ordinance.

2. The standards and requirements in the United States Secretary of the Interior's Standards of Rehabilitation as well as the following factors shall be considered when reviewing applications for reconstruction or alteration of buildings or structures subject to review under this ordinance:

a. Every reasonable effort shall be made to use a property for its historic purpose and in a way which will require minimum alteration to the structure and its environment;

   The building will continue to be used for residential purposes.

b. Rehabilitation work shall not destroy the distinguishing qualities nor character of the structure and its environment. The removal or alteration of any historic material or architectural features should be avoided;

   Proposed vinyl siding is a substitute material replacing historic material but may not destroy any distinguishing qualities or character. However, as stated on page 4, Figure 3 of Preservation Briefs 16, "Incremental repair is best done using in-kind material to minimize differences in the performance characteristics that could negatively affect the overall assembly."

   Deteriorated architectural features should be repaired rather than replaced, wherever possible. In the event that replacement is necessary, the new material should match the material being replaced in composition, design, texture and other visual qualities. Repair or replacement of missing architectural features should be based on physical or pictorial evidence rather than on conjectural designs or the availability of different architectural features from other buildings;

   Existing wood siding will be covered by substitute (vinyl) modern material.

c. Distinctive stylistic features or examples of skilled craftsmanship which characterize historic structures and often predate the mass production of building materials shall be treated with sensitivity;

   By installing new vinyl siding over the existing siding, visual depth around existing wood trim will be lost.

d. Changes which may have taken place in the course of time are evidence of the history and development of the structure and its environment, and these changes shall be recognized and respected;

   N/A

e. All structures shall be recognized as products of their own time. Alterations to create an earlier appearance shall be discouraged;

   N/A

f. Contemporary design for additions to existing structures shall be encouraged if such design is compatible with the size, scale, material and character of the neighborhood, the structure or its environment; and,

   N/A

g. Wherever possible, new additions or alterations to structures shall be done in such a manner that if they were to be removed in the future the essential form and integrity of the original structure would be unimpaired.

N/A

7. STAFF RECOMMENDATION

This building has already lost some of its original integrity, according to the Kleinfelder Survey. However, the majority of the existing wood siding is in good condition, and installing vinyl siding will further reduce the building's integrity.

8. SAMPLE MOTIONS

A. Motion to approve Certificate of Appropriateness for Daniel Novick to install new vinyl siding at 35 State Street, based on materials and assertions submitted, and conditioned on the following:
   1. *All permits must be obtained from Code Enforcement prior to beginning any work.*
   2. _____

B. Motion to deny the Certificate of Appropriateness for Daniel Novick to install new vinyl siding at 35 State Street, based on the following:
   1. _____
   2. _____

C. Motion to table the Certificate of Appropriateness for Daniel Novick to install new vinyl siding at 35 State Street, based on the following:
   1. _____
   2. _____

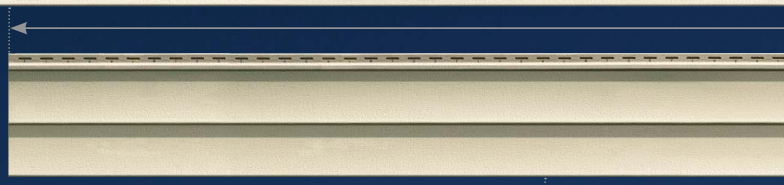
certainteed
SAINT-GOBAIN

Monogram® XL

Extended Length Siding

SAINT-GOBAIN

Monogram XL 25 – 25 Feet
(Double 4″ Clapboard only)



Monogram XL 20 - 20 Feet
(Double 4″ Clapboard only)

Monogram XL 16 - 16

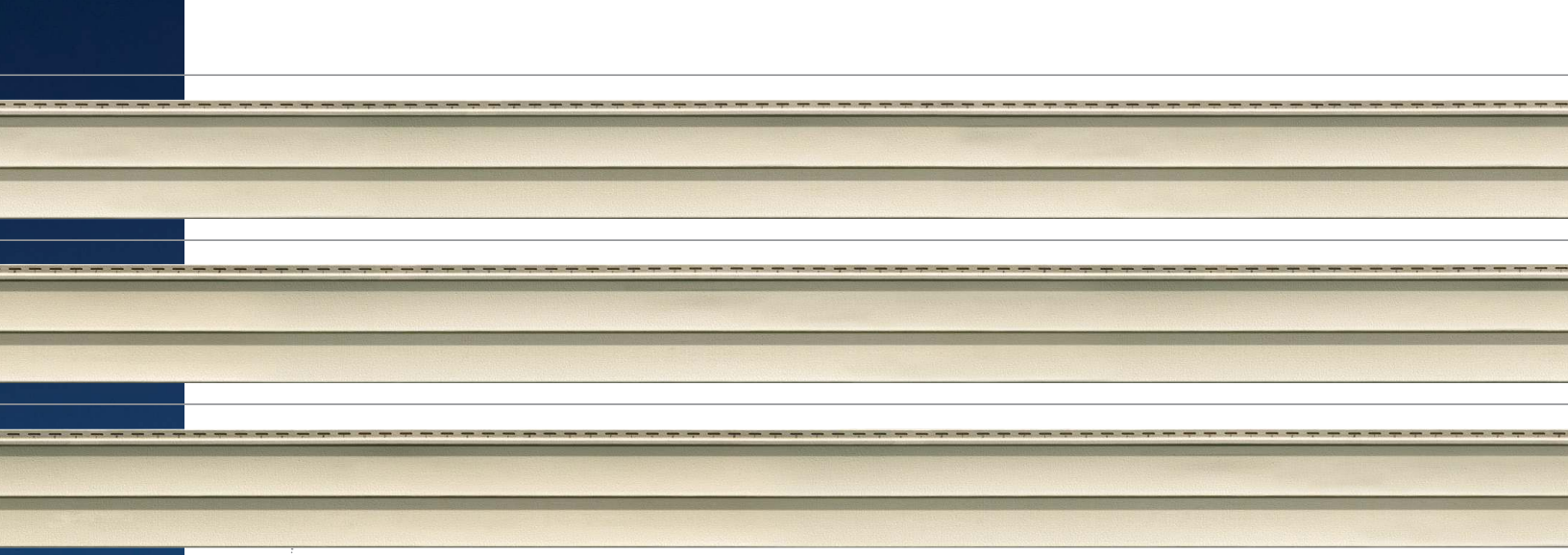
First in brand use

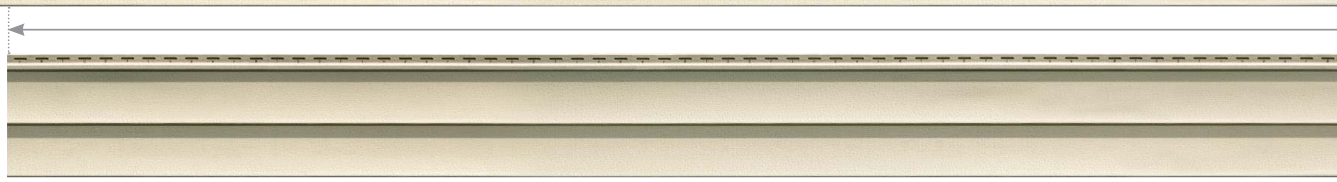
Year after year, CertainTeed Siding has been **Rated #1 in Brand Use** by remodelers, builders, architects and consumers.

On Cover:

Siding: Monogram Double 5″ Clapboard in cypress.

Trim: Vinyl Carpentry® & Restoration Millwork®.



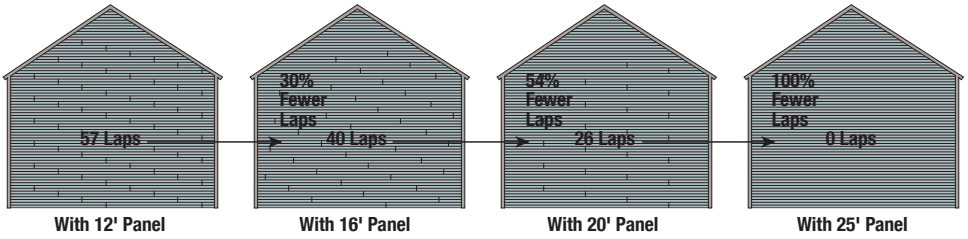


Traditional Siding Panel – 12 Feet 6 Inches

Long on Looks

With traditional 12′ siding panels, seams appear every two to three feet. Monogram's extended length panels can significantly reduce seams.

The Difference is Seamlessly Clear Two Story Wall, 25′ Wide



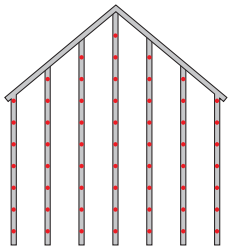
The STUDfinder™ Installation System

Monogram was the first siding engineered to include an integral installation guide on each panel. From the first nail to the last, the patented STUDfinder™ system is designed to help ensure a precise installation for optimum siding performance.

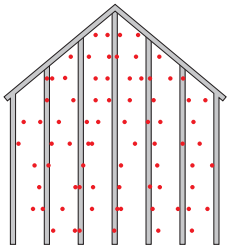
Indicator letters help:

PATENTED

- Determine location of studs
- Ensure nails are positioned correctly
- Ensure correct number of nails are used.



WITH STUDFINDER



POSSIBLE OUTCOME WITHOUT STUDFINDER

Security and Performance

- Nailing to studs provides a strong and secure connection
- Protects against blow offs from under nailing
- Protects against buckling from over nailing
- Helps avoid nailing into hazardous items between studs like plumbing or wiring

PermaCOLOR™ LIFETIME FADE PROTECTION

PermaColor System assures color performance, resistance and durability. Utilizing the newest technology and state-of-the-art formulations, CertainTeed backs their vinyl siding with PermaColor Lifetime Fade Protection.

	Double 4" Clapboard	Double 5" Dutchlap
Brownstone*	●	
Melrose*	●	
Slate*	●	
Espresso*	●	
Sable Brown*	●	
Midnight Blue*	●	
Pacific Blue*	●	
Charcoal Gray*	●	
Castle Stone	●	
Granite Gray	●	●
Sterling Gray	●	●
Oxford Blue	●	●
Cypress	●	●
Natural Clay	●	●
Savannah Wicker	●	●
Heritage Cream	●	●
Colonial White	●	●

* DELUXE COLORS

COLOR VIEW® EXTERIOR STYLE & COLOR SELECTOR

Start exploring preset color combinations and create your own custom exterior with on-line, interactive tools, designed to help you "Visualize Your Home".
Start now at certainteed.com/colortools

NOTE: Colors throughout this brochure are simulated. Consult product samples before final selection.

A Comprehensive System of Value-Added Features

RigidForm™ 210

This double thick .092" rolled-over nail hem design increases wind resistance and stiffens the panel. This design has been tested* to withstand wind load pressures up to 210 mph.

* Wind load rating per VSI wind speed calculation guidelines.

CertiLock™

The exclusive CertiLock™ locking system features self-aligning multiple bends that snap together with an audible "click" to ensure a secure fit and more consistent installation.

Heavy-Duty .046" Thickness

Monogram XL panels feature a true .046" thickness for outstanding strength and durability.

3/4" Panel Projection

A 3/4" panel projection provides excellent rigidity for straighter-on-the-wall performance.

Monogram® Extended Length Siding has the same great benefits as traditional length Monogram®, plus it reduces seams.

- **Two Classic Styles –** Three Extended Length Choices: Double 4″ Rough Cedar Clapboard, 16′ 8″, 20′ or 25′. Double 5″ Rough Cedar Dutchlap, 16′.
- **Heavy-Duty .046″ Thickness**.
- **TrueTexture**™ rough cedar finish molded from real cedar boards.
- **STUDfinder**™ is designed for accurate and secure installation.
- **RigidForm**™ **210 technology** has been tested* to withstand wind load pressures up to 210 mph.
- **CertiLock**™ self-aligning, post-formed positive lock.
- **17 low-gloss colors** with a wide variety of coordinating trim.
- **Virtually maintenance free**, never needs painting.
- **Class 1(A)** fire rating.
- **Lifetime** limited warranty.
- Works with traditional length Monogram panels.

Shown Above:

Siding: Monogram Double 4″ Clapboard in natural clay.

Trim: Vinyl Carpentry® & Restoration Millwork®.

CertainTeed products are designed to work together and complement each other in color and style to give any home a beautiful finished look.

VINYL SIDING

POLYMER SHAKES & SHINGLES

INSULATED SIDING

METAL SIDING

ROOFING AND VENTILATION

STONE

HOUSEWRAP

VINYL CARPENTRY® TRIM

PVC EXTERIOR TRIM & BEADBOARD

VINYL & METAL SOFFIT

©01/24 CertainTeed, Printed in the USA, Code No. 04-00-07-US-EN

16 PRESERVATION BRIEFS

The Use of Substitute Materials on Historic Building Exteriors

John Sandor, David Trayte, and Amy Elizabeth Uebel

National Park Service
U.S. Department of the Interior

Technical Preservation Services

The *Secretary of the Interior's Standards for Rehabilitation* generally require that deteriorated distinctive architectural features of a historic property be repaired rather than replaced. Standard 6 of the *Standards for Rehabilitation* further states that when replacement of a distinctive feature is necessary, the new feature must "match the old in composition, design, color, texture, and other visual properties, and, *where possible*, materials" (emphasis added). While the use of matching materials to replace historic ones is always preferred under the *Standards for Rehabilitation*, the Standards also purposely recognize that flexibility may sometimes be needed when it comes to new and replacement materials as part of a historic rehabilitation project. Substitute materials that closely match the visual and physical properties of historic materials can be successfully used on many rehabilitation projects in ways that are consistent with the Standards.

The flexibility inherent in the *Standards for Rehabilitation* must always be balanced with the preservation of the historic character and the historic integrity of a building, of which historic materials are an important aspect. Any replacement work reduces the historic integrity of a building to some degree, which can undermine the historic character of the property over time. With limited exceptions, replacement should only be considered when damage or deterioration is too severe to make repair feasible. When needed replacement is made with a material that matches the historic material, the impact on integrity can be minimal, especially when only a small amount of new material is needed. When a substitute material is used for the replacement, the loss in integrity can sometimes, although not always, be greater than that of a matching material. Also, whether historic or substitute material, there is a point where the amount of replacement can become excessive and the building's historic integrity is diminished to an unacceptable degree, regardless of the material used—that is, a loss of authenticity and the physical features and characteristics closely associated with the property's historic significance.

The term *substitute materials* is used to describe building materials that have the potential to match the appearance, physical properties, and related attributes of historic materials well enough to make them alternatives for use in current preservation practice when historic materials require replacement.

Compelling reasons to use a substitute material instead of the historic material include the unavailability or poor performance of the historic material, or environmental pressures or code-driven requirements that necessitate a change in material. When using a substitute material for replacement it is critical that it match the historic material in all of its visual and physical properties to preserve the historic character of the building and minimize the impact on its integrity.

Substitute materials can be cost-effective, permit the accurate visual duplication of historic materials, and provide improved durability. While the behavior of traditional, historic materials is generally well understood, the behavior of newer materials can be less established and sometimes less predictable. Substitute materials are most successful when the properties of both the original material and the substitute are thoroughly understood by all those involved in the design and construction process. The architect must be adept at the selection of substitute materials and their incorporation into architectural plans and specifications. The contractor or tradesperson in the field must also be experienced with their use.

This Preservation Brief provides general guidance on the use of substitute materials as replacement materials for distinctive features on the exterior of historic buildings. Due to the ever-evolving product market for construction materials, this Brief does not provide specifications for substitute materials. This guidance should be used in conjunction with qualified professionals who are knowledgeable in current construction and historic preservation practices.

This Brief includes a discussion of the appropriate use of substitute materials and provides a path for decision-making in their use. In considering the use of substitute materials, such issues as the deterioration or failure of the historic building component and material must be understood. The existing component's physical and visual properties, profile, surface texture, dimensions, and performance should be identified to establish the basis for evaluating a possible replacement material. The physical and visual properties of the various substitute materials available should also be assessed and compared to the original material for their physical and visual compatibility. Lastly, the suitability of a given substitute replacement material should be determined based on how well the material matches both the physical and visual properties of the existing material as well as any specific performance or application needs. The Brief's descriptions of common substitute materials are not meant to be comprehensive, and, as the performance history of newer materials continues to grow and new materials are developed, available options will change, and our understanding of current material performance will continue to evolve.

Historical Use of Substitute Materials

The tradition of using affordable and common materials in imitation of more expensive and less available materials is a long one. At Mount Vernon, for example, George Washington used wood painted with sand-impregnated paint to imitate rusticated stone. This technique, along with scoring stucco into block patterns, was common in Colonial America to imitate stone.

Nineteenth-century technology made a variety of materials readily available and widely used that were not only able to imitate traditional materials but were also cheaper to fabricate and easier to use. Traditionally, carved stone units were individually worked. Molded or cast materials greatly increased efficiency in creating repetitive elements. Cement-based products such as cast stone could provide convincing imitations of natural stone with carefully chosen aggregates and cements and was typically a commercially manufactured product. It could be tooled like natural stone, though that could reduce much of the cost advantage. These carefully-crafted cementitious products were widely used as trim elements for masonry structures or as the face material for an entire building. At the other end of the spectrum, mail-order catalogs provided a wide variety of forms for molding concrete that were merely evocative of natural stone and did little to match its appearance. Concrete masonry units could be fabricated locally and on site, avoiding expensive quarrying and shipping costs.

Offering similar efficiencies as cast stone for reproducing repetitive and even complex decorative shapes, terra cotta could mimic the surface characteristics of stone with various textures and glazes. It was popular in the late nineteenth and early twentieth centuries for details on stone or brick buildings as well as for the entire skin of large and elaborately detailed buildings.

Cast iron was also used to imitate stone, often with very decorative profiles, for a variety of architectural features ranging from window hoods to columns, piers, balustrades, and even whole façades. Cast iron offered its own set of efficiencies including cost, fabrication time, and weight, but required a painted finish.

While cast stone, terra cotta, and cast iron offered efficiencies over quarried and, particularly, carved stone, they were not cheap or impermanent materials. Less costly, but also less durable, stamped or brake-formed sheet metal, typically galvanized, could also be used instead of masonry for cornices, window hoods, roofing tiles, and even entire building façades.

Substitute Materials and Applying the Standards for Rehabilitation

The *Standards for Rehabilitation* are focused on preserving the important and distinctive character-defining features of a historic property (Standards 2 and 6), and they are to be applied in a reasonable manner, taking into account economic and technical feasibility (36 CFR 67.7 and 36 CFR 68). The Standards have an inherent flexibility that facilitates their application to diverse projects, historic properties, and conditions. They are to be applied on a "cumulative-effect" basis, when the overall effect of all work in the context of the specific conditions of the property and the project is consistent with the property's historic character.

The *Standards for Rehabilitation* require that the replacement of a distinctive feature match the old in physical and visual properties. While the use of matching materials is always preferred, the Standards purposely allow for the use of substitute materials when the use of original materials is not reasonably possible, such as in consideration of economic and technical feasibility or in new construction. They also provide additional flexibility in the treatment of secondary, less distinctive features that are less important in defining the historic character of the property. The *Standards for Rehabilitation* recognize that flexibility is appropriate to facilitate "a compatible use for a property … while preserving those portions or features which convey its historical, cultural, or architectural values" (definition of "Rehabilitation," 36 CFR 67.2(b)).

Examples of Historical Use of Substitute Materials

Figure 2a. Casting concrete blocks to mimic quarried stone was a popular late 19th- to mid 20th-century technique. Concrete masonry units could be completed by local craftsman, saving time and shipping costs. Photo: John Sandor, NPS.

Figure 2b: The 19th century also produced a variety of metal products used to imitate other materials. Across the country, cast iron was used in storefronts to imitate stone. Photo: John Sandor, NPS.

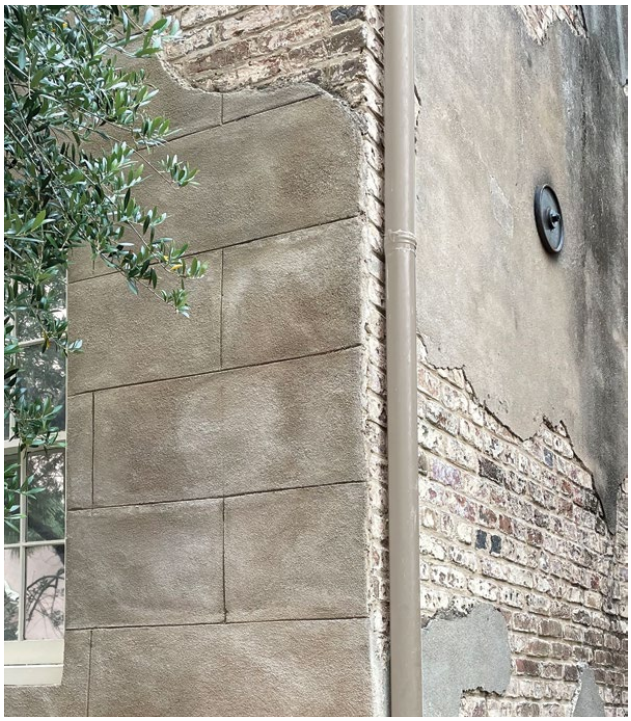


Figure 2c: Stucco has been used to imitate a number of building materials for many centuries. Seen here, stucco was applied to a brick structure and scored to represent a stone façade. Photo: John Sandor, NPS.

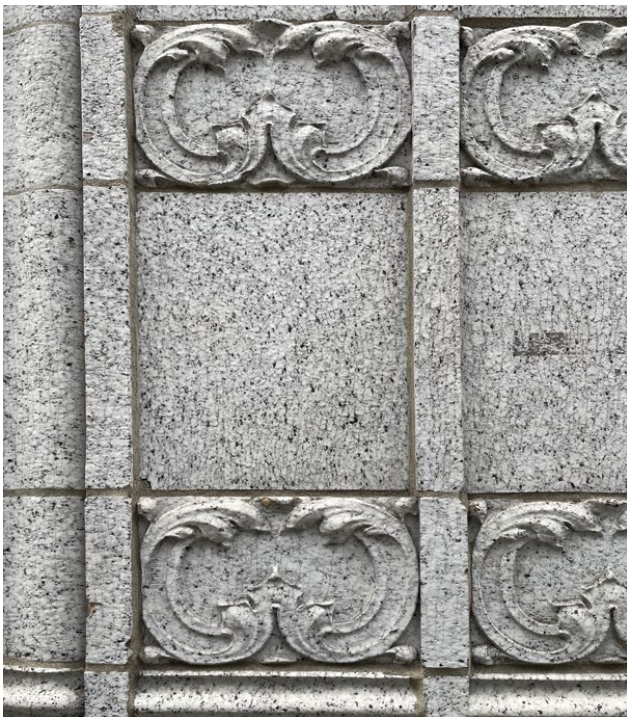


Figure 2d: Terra cotta gained popularity in the late 19th century as a cheap and lightweight alternative to stone. Glazing techniques allowed the blocks to imitate a variety of natural stone materials. Photo: John Sandor, NPS.

These examples of one material used to imitate another, more often in initial construction than for later repair and replacement purposes, are referred to as *imitative materials* in the *Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings*, updated in 2017, that accompany the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. These imitative materials, while evoking other materials, usually had distinctive qualities of their own and were not always a very close match in appearance to the historic material they were meant to imitate.

Many of the traditional materials discussed above are still available and used to replace damaged or missing original features, both to replace matching historic materials and sometimes as substitute materials. Because of their extensive use over time and their known physical and chemical properties, cast stone, cast iron, and terra cotta are well understood substitute materials. This continued usage and familiarity means their installation requirements and service life are well established, which in turn makes it easier to determine when and how to use these traditional materials as substitutes for a deteriorated material. However, innovation in replacement materials continues, and new products (many of them consisting of synthetic materials) are continually introduced. These non-traditional products are an increasing part of both the new construction and rehabilitation industries. Some materials, like glass fiber reinforced polymers, glass fiber reinforced concrete, or fiber cement, have been in use long enough for an accurate prediction of their service life and performance. Other newer, non-traditional materials may be too new to have established performance records, thus, understanding their material properties is critical, and their use should be approached with more caution.

When to Consider Using Substitute Materials in Preservation Projects

According to the *Standards for Rehabilitation*, deterioration should generally be addressed through repair if in repairable condition. Repair can entail a variety of treatments that retain the unit of building material and remove and patch or replace only the damaged portion. This approach can be done with traditional methods and materials such as a dutchman, where like-kind material is precisely inserted into wood or stone, or it may employ other materials such as epoxies for wood repair or cementitious compounds for masonry. As long as the repair methods are sound and do not damage or accelerate the deterioration of the historic material, repairs are generally preferable to replacement of an entire element. More complex manufactured products, typical of more recent historic materials (as well as a lot of modern building materials generally), may be more difficult to repair, if they can be repaired at all.

There are situations, however, when the level of deterioration makes localized repairs infeasible and entire features or units of historic material must be replaced. While achieving an effective match of all of the visual qualities of a material can be challenging, even when replacement is in kind, it can be even more challenging when the replacement is a substitute material. A good visual match is not the only consideration when a substitute material is to be used for incremental replacement within a larger assembly of historic material. When an individual siding board or a single block of ashlar is being replaced, it is usually best achieved with the original material. Introduction of a different material into an intact assembly requires that its inherent properties, such as expansion and contraction, moisture resistance, or permeability, be thoroughly considered relative to those of the surrounding historic materials to avoid causing damage.

Figure 3: Incremental repair is best done using in-kind material to minimize differences in the performance characteristics that could negatively affect the overall assembly. Photo: NPS.

Figure 4. While occasionally used to imitate other materials such as wood or slate shingle, many asbestos shingles and siding materials had their own distinct shape and profile. No longer manufactured today, alternative materials must be found to replace these materials when they are distinctive features on a historic structure. Drawing: Association for Preservation Technology, Building Technology Heritage Library.

Figure 5. (Left) Asbestos shingles were often used as a substitute for traditional slate roof shingles. The historic asbestos roof on this rehabilitation project had reached the end of its lifespan and required complete replacement. (Right) Given the limited replacement materials available to match the historic asbestos shingles, utilizing natural slate was determined to be the best visual match for the original shingles and design intent in this instance. Photos: Crosskey Architects.

Circumstances in which the use of substitute materials may generally be considered appropriate, taking into consideration technical and economic feasibility reasons, include: the unavailability of historic materials; the unavailability of skilled artisans or historic craft techniques; inadequate durability of the original materials; the replacement of a secondary feature; construction of a new addition; the reconstruction of a missing feature; code-required performance; and for enhanced resilience and sustainability:

- **Unavailability of historic material.** A common reason for using substitute materials is the difficulty in finding a good match using the historic material (particularly a problem for masonry materials where the color and texture are derived from the material itself). This may be due to the actual unavailability of the material or to protracted delivery dates, particularly if the material cannot be sourced domestically. It is not uncommon for a local quarry that is no longer in operation to have been the source of an original stone. If another quarry cannot supply a satisfactory match, a substitute material such as dry-tamp cast stone or textured precast concrete may be an appropriate alternative, if care is taken to ensure that the detail, color, and texture of the original stone are matched. Even when the color is successfully matched, the appearance of a cementitious product may diverge from that of the historic stone as the substitute material ages.

  Many manufactured materials that were used historically on buildings are no longer made. Terne-plated steel, which was the material most typically used for painted standing-seam or flat-seam roofing, is no longer made. However, because it was always painted, other metals including galvanized steel or copper can generally be substituted if painted. When the historic material needing to be replaced is a manufactured product developed as an imitation of a natural material, which was the case with asbestos shingles meant to imitate slate, the natural material may now be an appropriate substitute material to consider for the manufactured one that is no longer produced.

- **Unavailability of skilled artisans or historic craft techniques**. These two issues can complicate any preservation or rehabilitation project. This is particularly true for intricate ornamental work, such as carved wood, carved stone, wrought iron, or cast iron. While skilled craftsmen may not be as difficult to find as they once were, there can still be limitations geographically, even in finding less specialized skills, and particularly if a project is small. Technical advances have allowed some stone or wood carvers to take advantage of computerized equipment, but complex designs will likely still require hand work. It may also be possible to mimic a carved element using a material that can be cast in a mold, adding significant efficiency where an historic element survives from which a mold can be made. Options for casting include aluminum, cast stone, fiberglass, glass fiber reinforced concretes, and terra cotta, but not all carved elements can be duplicated by a casting, and mold-making and casting still require skilled craftsmen.

- **Inadequate durability of the original material.** Some historic building materials were of inherently poor quality or were not durable. In other cases, one material was naturally incompatible with other materials on the building, causing staining or galvanic corrosion. Examples of poor-quality materials are very soft sandstones, which eroded quickly, and brownstone, which is vulnerable to delamination. In some cases, more durable natural stones may be visually similar enough to stand in for these soft stones but cast stone or another material may be needed to achieve an appropriate match.

The ready availability of manufactured ornamental wood features fed a nineteenth-century taste for decorative architectural details that were often used on the exterior of buildings with little concern for how they would be affected by moisture or maintained. Even old-growth wood from decay-resistant species often could not prevent features with severe exposure from eventually needing to be replaced. Today's available commercial supplies of lumber no longer provide the denser, more decay-resistant wood of old-growth forests, so even careful matching to species, which is not always possible, will not yield a replacement equal in performance to the historic material. Old-growth wood is likely to be very expensive, if it can be found, and may not be available from a sustainable, environmentally responsible source. When features with severe exposure need to be replaced or reproduced, substitute materials that are less susceptible to decay can have a longer life, and when the feature is painted, as exterior wood features generally are, the visual effect of a substitute material can be minimal.

- **Replacement of a secondary feature.** When it is necessary to replace a less distinctive, secondary feature that is less important in defining the historic character of the property, there is more flexibility in how it can be replaced. While it may be less important to find an exact match in materials when replacing such a feature, the retention of the overall historic character should still guide selection of an appropriate replacement material. For example, replacing secondary features such as those with limited visibility (e.g., siding materials on a rear elevation) may permit replacement materials that are similar in appearance or character without having to be a perfect match.

Figure 6. The dramatic difference in the number of growth rings between old-growth wood and wood that was recently harvested from second- or third-growth forests is indicative of the diminished dimensional stability and durability of most lumber currently available. Photo: Zachary Dettmore.

- **Construction of a new addition.** The *Standards* require that new additions to historic buildings and related new construction be differentiated from the old as well as be compatible with the historic character of the property and its site and environment. Using materials that evoke, without matching, the historic material can be an effective means of achieving the needed balance between compatibility and

Figure 7. A new addition replaced non-historic construction on the rear elevation of this building. Fiber cement gives the addition a compatible appearance without replicating the exposure for thickness of the historic siding. Photo: Ward Architecture + Preservation.

differentiation for new additions and new construction. Even if differentiation is achieved through design rather than materials, there generally is no basis for requiring the use of matching historic materials for new additions and new construction as part of a rehabilitation project.

- **Reconstruction of a missing feature.** Many buildings lose significant features over the course of their lives for reasons such as those previously discussed. When a missing feature is to be reconstructed, the importance of matching the original material may be less important to the effect replacing the missing feature may have on the overall historic character and appearance of the building. Though replacement of missing features must be substantiated by documentary, physical, or pictorial evidence, in many cases the authenticity of the material may be secondary to the overall visual qualities. The use of a more cost-effective substitute material for the construction of a missing feature can often be an important factor in the feasibility of undertaking such work.

- **Code-required performance.** Modern building codes are regularly amended to require higher performance levels for new and existing buildings in such areas as life safety, seismic retrofits, and accessibility. Rehabilitation projects often trigger compliance with code requirements that were not in place when a building was constructed. Although building codes may often allow for the retention of historic materials and assemblies, substitute materials can offer an alternative in situations when the historic materials are non-compliant and cannot otherwise be reasonably retained. In these instances, a change in material may be appropriate to meet code requirements, while in other instances selecting the optimal code compliance method for the project may achieve code-compliant solutions that also allow for the preservation of a building's historic materials and finishes.

  For example, fire codes may require increased resistance to flame spread for buildings within dense urban environments where building proximity and separation between buildings is a concern. Some substitute materials are non-combustible, have good ratings for flame spread, and can provide an alternative to help meet

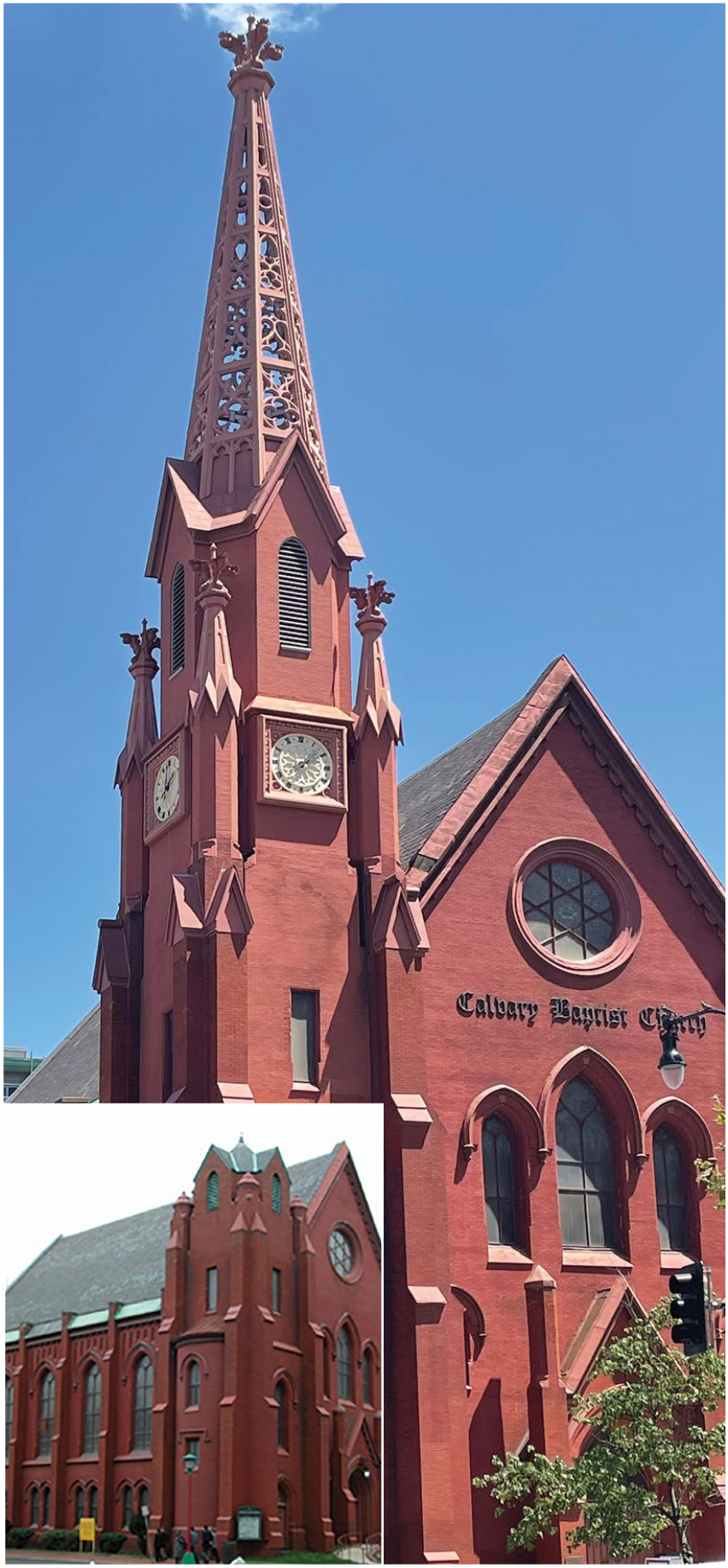


Figure 8. A long-missing cast-iron steeple was reconstructed in aluminum and fiber-reinforced polymer (FRP). Photo: John Sandor, NPS, Inset: Quinn Evans.

fire code requirements. Depending on the building component and the material, however, a substitute material may not resist fire any better than the historic material. In addressing code issues, all feasible alternatives should be considered to minimize the impact on the historic character of the building while still meeting code requirements.

With specific provisions in building code related to issues such as seismic hazards, the choice of materials for features inherently unstable in a seismic event can be a key part of a code-compliant retrofit solution. Elements at risk of falling such as parapets, finials, and overhanging cornices may be made safe by anchoring them to new structural frames. However, for some heavy masonry features, especially where there is deterioration or the feature is difficult to effectively brace, adequately anchoring the existing feature may not prove feasible. In such cases removing and replacing these features with lighter-weight replicas that incorporate a resilient structural framework can help preserve the historic character of the building while improving life safety performance.

- **Enhanced resilience and sustainability.** Wildfires, earthquakes, floods, hurricanes, and other extreme weather events put historic buildings and their occupants at risk and may require adaptive treatments that are more invasive than might be accepted in other circumstances, including related to the use of substitute materials. In these contexts, it is still necessary to try to minimize impacts on a building's historic character as much as possible while still adapting it to be more resilient. Widespread wildfires, for example, have increased demand for fire resistant materials for the exterior building envelope. Flood events may necessitate the replacement of historic materials that have been damaged or inundated with hazardous substances in contaminated floodwaters. When undertaking repairs in such circumstances, substitute materials may offer greater resilience to anticipated future exposure to natural hazard risks.

  Similarly, efforts to improve energy efficiency and performance may include the use of substitute materials as replacement components when modifications to building assemblies are required and the historic materials cannot be preserved. When evaluating substitute materials in the context of sustainability objectives, factors such as the environmental impact of production, the full life cycle of products, and the embodied carbon of the materials already in place should be carefully analyzed. There may be more sustainable choices for a replacement material, including the use of more traditional materials in place of manufactured products that may consist of non-renewable resources or hazardous materials. While some synthetic substitute materials are made from recycled materials or are otherwise sustainably produced, many are not repairable, salvageable, or recyclable themselves, and they may have shorter lifespans to their historic material counterparts. When either greater resilience or sustainability is a factor, all feasible alternatives should be considered in finding a balanced approach that maintains historic character while meeting resilience and sustainability goals.

Substitute Materials and Economic Feasibility

Economic feasibility is inevitably a concern when choosing a material for any part of a project, whether a historic or substitute material, but it should not be the sole determinant factor at the expense of maintaining the historic character and historic integrity of a building. Other factors may prompt the consideration of a substitute material, such as the cost of maintaining the historic material, because it is comparatively difficult or costly to reach or access, or the frequency of required maintenance the historic material needs. Additionally, where in-kind replacement material is found to be prohibitively expensive, it may be reasonable to consider a substitute that offers an alternative and is a good physical and visual match. Not all substitute materials are, however, cost-effective replacements. Long-term durability and maintainability are other factors that should be considered in conjunction with initial cost.

Figure 9. Previously bricked-in openings below the flood line were reopened and new aluminum windows installed with cellular PVC trim detailed to hold back moderate flood waters and survive exposure to water. Photo: John Sandor, NPS.

Maintenance of a material, particularly where accessibility is difficult or expensive, can be an important part of a

cost evaluation. Maintenance costs should not be considered without also considering life-cycle expenses. While some substitute materials may offer reduced initial costs, they may be as or more costly than traditional materials to maintain over time. For example, many substitute materials are not readily repairable, necessitating full replacement when damaged. The cost to replace a material or assembly at the end of its lifespan may also be greater than the accumulated incremental expense to maintain the historic material, particularly if it is a more traditional, repairable material. Maintenance cost should never be the sole reason for replacing a historic material that is not deteriorated.

Criteria for the Appropriate Use of Substitute Materials

Substitute materials must meet three basic criteria to be considered: they must be compatible with the historic materials in appearance; their physical properties must be similar to those of the historic materials, or the materials must be installed in a manner that tolerates differences; and they must meet certain basic performance expectations over an extended period of time.

- **Matching the Appearance of the Historic Material**
  Any material's appearance varies depending on the nature of the material and how it is used. Some historic materials, such as wood and ferrous metals, were typically painted, making the color of the substitute unimportant, though the texture of the surface, which telegraphs through a paint layer, is still an important consideration. Texture can be a large part of distinguishing a material formed by hand from one that is machine-made. Many historic materials, such as most building stones, are used without any coating, making the color, pattern, and reflectivity, as well as surface texture, dependent on the material itself. Matching the color and surface characteristics of a historic natural material with a man-made substitute can often be quite difficult.

When the color and surface characteristics of an existing material are important, cleaning the material should be the starting point for evaluating a potential matching material. In situations where there are subtle variations in color and texture within the original material, the substitute material should be similarly varied so that it is not conspicuous by its uniformity. If a material is custom fabricated, a sufficient number of samples should be supplied to permit on-site comparison of color, texture, detailing, and other critical visual qualities. For a manufactured product with preset choices of color or texture, it may be necessary to look at samples from more than one manufacturer to find the best match. Similarly, prefabricated products, such as roofing slate, may offer limited, if any, choice of unit size, which can be a critical factor for achieving a good match. A substitute material should not be used to replace distinctive, character-defining materials and features if an adequate match in design and appearance is not possible.

As all exposed materials are subject to ultraviolet degradation, samples of a new material, particularly when custom formulated, should be prepared during the early planning phases to allow for evaluation of the effects of weathering on color stability. When that is not possible, or if a prefabricated product is used, the fabricator or manufacturer may be able to identify regional locations where equivalent products have been installed long enough ago to get a better sense of how the material weathers and performs.

While a perfect match is the desired goal for replacing distinctive features, it is not always possible, even when the same matching material is chosen for the replacement. When any compromise

Figure 10. Polymer slates offer a choice of shapes but not sizes, limiting their ability to achieve a good visual match for some historic slate. With the size of the polymer slates (right) being nearly twice that of the historic slates (left), the scale of the entire feature is incompatibly altered. The molded edges of this material, which contribute to its ability to replicate slate, would be lost if each shingle was resized by cutting. Photo: John Sandor, NPS.

Figure 11. The thickness of the wood siding on the front (left) creates a deeper shadow line than is achieved with the fiber cement siding used on the side (right) elevation. While the exposure can be adjusted, fiber cement siding is not available in a matching thickness. Photo: John Sandor, NPS.

must be made in the precision of the match, it is wise to consider the vantage point from which the material will be seen. Sometimes what seems important at close range, such as variations in the texture of a surface, may be secondary to other aspects of the material when viewed from some distance. The closer a feature is to the viewer, the more closely the material and craftsmanship should match the original. An on-site mock-up using a sample of the proposed material can help evaluate whether it is an adequate visual match.

- **Matching the Physical Properties of the Historic Material**
  Carefully chosen substitute materials can often closely match the appearance of historic materials, but their physical properties may differ greatly. These differences are most critical when incrementally replacing components of a larger assembly that retains significant historic material. The chemical composition of the material (e.g., the presence of acids, alkalis, salts, or metals) should be evaluated to ensure that the replacement materials will be compatible with the adjacent historic materials. Materials that will cause galvanic corrosion or other chemical reactions must be isolated from one another.

  The thermal- and moisture-driven expansion and contraction coefficients of each adjacent material must be within narrow limits or be accommodated

Figure 12. Cellulose composite materials, like wood, expand and contract with moisture. Here it was used to reconstruct a missing storefront. Unlike solid wood that is dimensionally stable parallel to the grain, this composite moves equally in all dimensions, resulting in gaps that were not adequately anticipated in the design. Photo: John Sandor, NPS.

by carefully designed joints and fasteners. Joints can play a role both in accommodating movement of materials as well as in managing moisture, either to keep it from entering the enclosure assembly or to let it escape from the building envelope, or both. Because some synthetic materials are less permeable to moisture than more traditional materials, installations must take into account the potential to trap moisture and cause deterioration of historic and new materials. An assembly incorporating new and historic materials should be designed so that if material failures occur, the failures occur within the new material rather than the historic one.

During installation, surface preparation is critical to ensure proper attachment. Deteriorated underlying material must be removed or stabilized. Non-corrosive anchoring devices or fasteners that are designed to carry the new material and to withstand wind, rain, snow, and other destructive elements should be used. Since physical failures often result from poor anchorage or improper installation techniques, a structural engineer should be included in planning any major project. For readily available, off-the-shelf materials, manufacturers' recommendations for attachment and spacing should be followed.

Nearly all substitute materials have some properties that are different from the historic materials they may replace. Even when substitute materials are isolated from historic materials and features, it is important to understand the substitute materials' properties in order to use them successfully.

- **Performance of the Material Over Time**
  When more traditional materials are used to replace damaged historic materials and features, their performance is predictable in most cases. An exception may be modern wood that has durability and other prop-

erties different than those of historic wood from old-growth forests. Many of the materials used as substitutes have been in use long enough to provide some idea of how they perform over time. Other material may only have test results from accelerated weathering. The length of manufacturer warranties may be an indicator of expected durability and lifespan. Warranties only predict a manufacturer's expectation of a product's performance and are no guarantee that the manufacturers will still be in business at the time needed to stand behind them. Just as new manufacturers emerge with new materials, others disappear. Where possible, projects involving substitute materials in similar installations and exposures should be examined before selecting a new, less-tested material. It is unrealistic to expect a substitute material, which can be quite different in composition than the historic material, not to age differently.

Even traditional materials will not perform well if not used or detailed appropriately, and experienced architects, engineers, fabricators, and installers rely on their professional knowledge and experience to ensure proper installation and techniques when working with familiar materials. This is just one of many reasons that using the original materials for needed replacement is usually the best choice. Some of the materials now available as substitutes have properties that differ greatly from the traditional materials they may be used to replace. It is critical to the successful performance of substitute materials that everyone involved in the selection, design, and installation fully understands the material's properties, especially how it is different than the material it is replacing, and how that will affect the surrounding materials and building systems.

Many traditional building materials can be repaired either with traditional methods and materials or with more modern conservation techniques using substances like epoxies. However, many modern substitute materials (particularly synthetic ones) are not as easily repaired, if repairable at all, as their more traditional counterparts. Confirming that a material is repairable may be important for those used, e.g., where impact or significant wear or abrasion is likely.

Finally, it is critical that the substitute materials be documented as part of the historical record of the building so that proper care and maintenance of all of the building materials continue, ensuring the continued life of the historic building.

Choosing an Appropriate Substitute Material

Once all reasonable options for repair and replacement in kind have been considered and sufficient justification for substitute materials has been established, the choice among the variety of substitute materials currently available must be made. Rapidly developing technologies allow a wide variety of materials to choose from that are intended to mimic historic materials. Many of the materials that were historically used as substitutes for more traditional historic materials have themselves become historic, and some of these early substitutes continue to be reasonable options as substitute materials today. No substitute material will exactly match the historic material in all aspects, but many are able to adequately match the appearance and relevant physical attributes to make for a potential substitute. If a substitute material is not

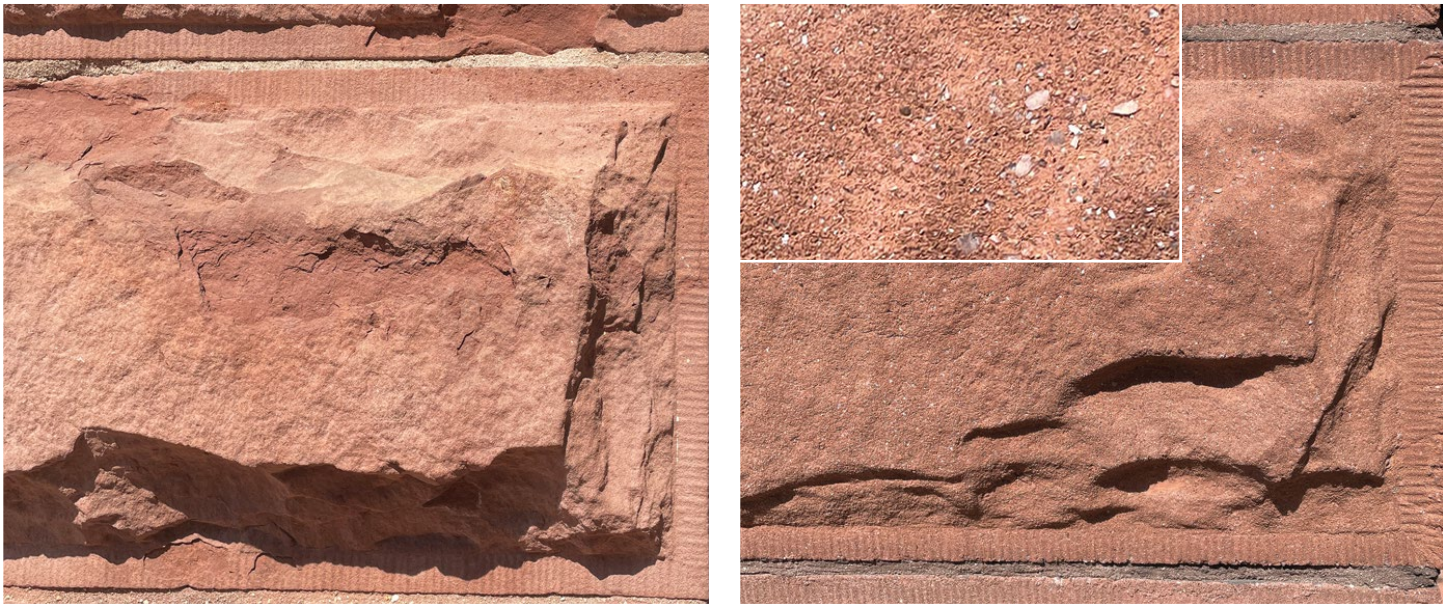


Figure 13. Cast stone was used to effectively replace individual blocks of sandstone. Both the original (left) and the substitute material (right) retain similar physical and visible properties. Having weathered for over 30 years, some erosion of the binder has revealed quartz grains of the aggregate (inset), but it is only noticeable upon close inspection. Photo: John Sandor, NPS.

an adequate physical and visual match given the specific conditions of the building and the project, then it should not be used to replace distinctive, character-defining materials and features.

Listed below are various building components or features and the substitute materials which may, in some circumstances, be considered for use as possible replacement materials in a historic rehabilitation project consistent with the *Standards for Rehabilitation*. This list includes different substitute material options available today for these building features and poses questions that should be asked and considered when choosing between the original material and various types of substitute materials. This is followed by a list of some of the more commonly used, currently available materials that may have some applications as substitute materials and the properties of each that affect their suitability for use as substitutes. This list should not be read as an endorsement of any of these materials, generally, or their appropriateness for use as a substitute material, but it serves as a reminder that the successful use of any building material requires a careful consideration of its properties relative to where and how it will be used.

Considering Substitute Materials

Considering the use of a substitute material should begin with the following questions about the conditions and location where it will be used:

- Will the significance or visibility of the historic feature require a very precise match?
- Is the entire feature being replaced or just a component of it?
- Are pre-existing conditions contributing to the failure of the existing material, and, if so, how will they be addressed/corrected?
- Is the need for replacement due to inherent deficiencies of the original material?
- Will the material need to resist any environmental hazards such as flooding or fire?

Historic Features and Substitute Materials

Historic Building Features

Potential Substitute Materials	**Masonry** Stone, terra cotta	**Architectural Metals** Cast & wrought iron, steel, pressed metal	**Siding** Wood, asbestos	**Roofing** Wood shingle, slate, tile	**Decking** Tongue-and-groove & square-edge wood	**Molding / Trim** Wood
Aluminum	●	●	●			●
Cast Stone & Precast Concrete	●			●		
Fiber Reinforced Concretes	●					
Glass Fiber Reinforced Polymers	●	●				
Fiber Cement			●	●		●
Mineral / Polymer Composite			●	●	●	●
Cellulose Fiber / Polymer Composite			●	●	●	●
Non-composite Polymers		●			●	●
Cellular PVC			●		●	●

The above chart lists materials that are sometimes used as substitutes for replacement of historic building features. Even within a given category, all materials may not be equally suitable as a substitute replacement material for the actual historic material or feature. Any substitute material should be selected based on its specific physical and visual characteristics, conditions, and intended application consistent with the Secretary of the Interior's Standards for Rehabilitation.

Historic Building Features: Criteria for selecting an appropriate replacement material

Masonry

FEATURES: corbels, brackets, balusters, cornices, window and door surrounds, friezes, wall surfaces, horizontal surfaces, incidental ornament, columns

HISTORIC MATERIALS: terra cotta, cast stone, stone, concrete

POTENTIAL SUBSTITUTES: cast stone, pre-cast concrete, GFRC, GFRP, non-composite polymers (polyurethane), cast or stamped metal

Questions to ask about the replacement material:

- Can it serve a structural function?
- How is the material affected by moisture?
- Can the material survive flooding and be reused?
- Can it reproduce the surface texture of the original?
- Is its shrinkage in curing low enough to allow it to be molded from existing stones?
- Can matching color be achieved without a coating and with UV stability?
- Can an adequate match of the surface (color and texture) be achieved with a coating?
- Is a coating required?
- If it is not self-supporting, is it lightweight enough to be supported by an underlying framework?
- Can multiple original units be replicated with a single replacement piece?
- Where thermal movement is different from the original material, how will joints accommodate?
- Is the material combustible?

Architectural Metals

FEATURES: pilasters, door and window surrounds, cornices, incidental ornament, columns, spandrels, ceilings, sheathing, roofing

HISTORIC MATERIALS: cast and wrought iron, steel, bronze, lead, aluminum, and stamped steel (usually galvanized or terne-coated)

POTENTIAL SUBSTITUTES: GFRP, aluminum, non-composite polymer (polyurethane), GFRC, metallic/polymer composite

Questions to ask about the replacement material:

- Will the replacement material serve a structural or cosmetic role?
- Will it expand and contract with temperature change enough to require special accommodation in its installation?
- If part of an assembly of mixed materials, how will any expansion and contraction of the dissimilar materials be accommodated?
- Will the replacement material increase deterioration of the historic or surrounding elements, for instance due to galvanic corrosion, moisture entrapment, jacking of original material, off-gassing creating a corrosive environment, or poor original design of the historic material?
- How will the replacement material mimic the surface color/patination of the original material?
- If a coating is needed, what preparation is needed, and what is its durability or service life of the finish?
- What attachment and support systems are necessary?
- If the original element is structural, but the new material is not, how can supplemental structure be introduced to support the new?

Figure 14. Surface texture is an important aspect in matching the appearance of a historic material, especially when a material is viewed at close range. As seen in these two images, many of the substitute materials produced for siding and trim have an embossed wood grain, making them incompatible for replacing historic wood that was typically planed to a smooth surface. Some substitute products are available with a smooth surface as well. Photos: John Sandor, NPS.

Siding

FEATURES: clapboard, tongue-and-groove or shiplap siding, board and batten, shingles

HISTORIC MATERIALS: wood and asbestos

POTENTIAL SUBSTITUTES: cellular PVC, wood fiber/polymer composite, fiber cement, mineral/polymer composite

Questions to ask about the replacement material:

- What are the widths, lengths, profiles, thicknesses, and textures available?
- What, if any, are the finishing requirements, and/or is it available factory-finished?
- How well does it hold paint, and can prefinished surfaces be renewed?
- What tools are needed to cut it, and can it be machined?
- Does it absorb moisture and, if so, to what effect?
- Can the material survive flooding and be reused?
- Will it expand and contract with temperature change enough to require special accommodation in its installation?
- What characteristics can affect its handling (e.g., weight, flexibility, brittleness)?
- Does it have specific fastening requirements?
- Is it susceptible to insect damage?
- What is its impact resistance?
- Does it have a flame spread rating?
- What is the expected lifespan and/or warranty?

Roofing

HISTORIC MATERIALS: wood shingle, slate shingle, asbestos shingle, clay tile, concrete tile, metal

POTENTIAL SUBSTITUTES: fiber cement, mineral/polymer composite, wood fiber/polymer composite, pre-cast concrete, metal

Questions to ask about the replacement material:

- What sizes and shapes are available?
- What are color choices?
- What is the color stability of the new material, and how will it age/weather?
- What is the impact resistance?
- What is its flame spread rating?
- What are the installation requirements of the new material?
- Can the feature being replaced be custom-produced if ready-made ones of the new material are not an accurate match?
- What is the expected lifespan and/or warranty?

Decking

FEATURES: tongue-and-groove, square-edge flooring

HISTORIC MATERIALS: wood

POTENTIAL SUBSTITUTES: cellular PVC, wood fiber/polymer composite, mineral/polymer composite, non-composite polymers (solid PVC)

Questions to ask about the replacement material:

- What are the widths, lengths, and textures available?
- Is it site painted or prefinished?
- How well does it hold paint, and can prefinished surfaces we renewed?
- What tools are needed to cut it, and can it be machined?
- What dimensional span does its strength allow?
- Does it absorb water, and if so, to what effect?
- Can the material survive flooding and be reused?
- Does it require a drainage plane, or can it be installed atop a membrane?
- Will it expand and contract with temperature change enough to require special accommodation in its installation?
- Is it susceptible to insect damage?
- Is it impact resistant?
- Does it have a flame spread rating?
- What is the expected lifespan and/or warranty?

Molding / Trim

FEATURES: run moldings, flat boards, casings, cornice, frieze, railings, balustrade, columns

HISTORIC MATERIALS: wood, metal

POTENTIAL SUBSTITUTES: cellular PVC, wood fiber/polymer composite, mineral/polymer composite, non-composite polymer (polyurethane), GFRP, sheet metal

Questions to ask about the replacement material:

- What are the widths, lengths, and textures available?
- What, if any, are the finishing requirements and/or is it available factory-finished?
- How well does it hold paint, and can prefinished surfaces be renewed?
- What tools are needed to cut it, and can it be machined?
- Does it absorb moisture, and if so, to what effect?
- Can the material survive flooding and be reused?
- Will it expand and contract with temperature change enough to require special accommodation in its installation?
- What characteristics can affect its handling (e.g., weight, flexibility, brittleness)?
- Does it have specific fastening requirements?
- Is it susceptible to insect damage?
- What is its impact resistance?
- Does it have a flame spread rating?
- What is the expected lifespan and/or warranty?

Figure 15. Tongue-and-groove porch flooring is manufactured in several different substitute materials. Each type has different properties, though most are more moisture-resistant than wood. The prefinished product shown can be painted when worn, but repainting is not recommended for some product choices. Photo: Oak Alley Foundation.

Potential Substitute Materials: Matching properties and performance needs

Physical Composition and Properties

After assessing different material options based on the intended application, the appropriateness of a substitute material should also be considered in context of the material's physical composition, associated properties, and necessary visual match.

Aluminum

MATERIAL: Aluminum is a highly corrosion-resistant alloy that can be cast, wrought, or extruded. Molten aluminum is cast into permanent (metal) molds or one-time sand molds forming cast aluminum. Extruded aluminum is formed by passing heated aluminum through a die which produces the desired form. Wrought aluminum is worked using the heated metal and then bending, stamping, and otherwise shaping the metal. If not self-supporting, aluminum elements are generally screwed or bolted to a structural frame. Aluminum can be welded, but more often sections, particularly extruded ones, are mechanically connected.

PROPERTIES:

- Isotropic
- Lightweight
- Thermal movement greater than cast iron or wood
- Corrosion-resistant, but direct contact with other metals may trigger galvanic corrosion
- Lower structural strength that iron or steel
- Ductile - less brittle than cast iron
- Non-combustible
- Retains high definition through molding process and produces crisp profiles through extrusion
- Can be given a durable metallic finish through anodization. Surface etching required for paint adhesion
- Can be machined into a large variety of shapes/ dimensions

Figure 16. Aluminum is a highly corrosion-resistant metal that is commonly used as a substitute material for cast iron. Aluminum can be a more affordable and lightweight alternative to cast iron that retains a similar texture, shape, and maintenance cycle. Photo: NPS.

Figure 17. The balustrade consists of multiple prior campaigns of using cast stone to replace the natural stone. The effective match for the surface texture and color of the original stone allowed individual elements to be incrementally replaced only when they had failed, thus retaining the maximum amount of original material as long as possible. Photo: EverGreene Architectural Arts.

Cast Stone & Precast Concrete

MATERIAL: A cement lime and aggregate mixture that is dry-tamped into a mold is generally referred to as cast stone. Cast stone is one of the original substitute materials. Its longevity has proved that the material ages compatibly with stone. A wet mix of cement and aggregate poured into molds also has a long history of being used to produce concrete masonry units mimicking stone and roofing tiles mimicking clay tile. Both methods have minimal shrinkage during curing, though they employ different curing and finishing techniques. Both can include reinforcing bars and anchorage devices installed during fabrication. The dry-tamp fabrication method is especially effective at producing an outer surface with the appearance of stone.

PROPERTIES:

- Isotropic
- Weight equivalent to stone
- Expansion/contraction similar to stone
- Water absorption may differ from that of any particular stone
- Can be structural
- Non-combustible
- Vapor-permeable
- May achieve a wide range of color and surface textures by varying mix, but use of pigments may reduce UV stability
- Can be coated
- May be tooled to match the appearance of tooled stone
- Repairs similarly to stone

Figure 18. Missing historic terra cotta spandrel panels on all floor levels were recreated utilizing glass fiber reinforced concrete (GFRC) replacements. New spandrels were fabricated as individual components and attached with metal clips between historic terra cotta piers. Photo: Kris Frail, Dewberry.

Fiber Reinforced Concretes (GFRC, CFRC)

MATERIAL: Fiber reinforced concretes are lightweight concrete compounds modified with additives and reinforced with alkaline resistant glass fibers (GFRC), or less frequently carbon fibers (CFRC). They are generally fabricated as thin-shelled panels and applied to a separate structural frame or anchorage system. GFRC is typically sprayed into forms, although it can be poured, and anchoring devices are included in the fabrication. The color is derived from the natural aggregates and, if necessary, a small percentage of added pigments. Because of its low shrinkage in curing, it can be produced using molds taken directly from the building.

PROPERTIES:

- Isotropic
- Lighter weight than solid masonry
- Expansion/contraction similar to stone
- No load bearing capacity, so underlying framework must be used to accommodate any loads
- Material can be fire-rated
- Vapor-permeable
- Can be produced in larger sections efficiently reproducing repetitive elements or features that were originally made up of small individual units
- Large range of colors achievable by varying aggregates, but when pigments are needed UV stability may be reduced
- May be left uncoated or may be painted

Figure 19. A new, lightweight fiber reinforced polymer is attached to a new metal armature to replicate damaged and missing elements of a terra cotta cornice. Photo: Quinn Evans.

Glass Fiber Reinforced Polymers (FRP, Fiberglass)

MATERIAL: Fiberglass is the most well-known of the FRP products generally produced as a thin, rigid, laminate shell formed by pouring a polyester or epoxy resin gelcoat into a mold. When tack-free, layers of chopped glass or glass fabric are added along with additional resins. The surface gel coat can be pigmented or painted. Reinforcing rods and attachment devices can be added when necessary. Because of is low shrinkage in curing, it can be produced using molds taken directly from the building. Rather than being produced as standard components, FRP is custom fabricated for individual applications.

PROPERTIES

- Isotropic
- Lighter weight than masonry, similar to sheet metal
- More thermally driven expansion than masonry or metals
- No load bearing capacity, so underlying framework must be used to accommodate any loads
- High strength to weight ratio
- Flammable
- Not vapor-permeable
- Can be produced in larger sections efficiently reproducing repetitive elements or features that were originally made up of small individual units
- May be difficult to match false joints in multi-unit assemblies to actual joints that need to accommodate movement
- Color can be incorporated into the surface gel-coat, or the surface may be coated

Figure 20. Cement board was used to replace a non-historic infill and mimics the configuration of a typical vehicular door of the period. Photos: Historic Augusta.

Fiber Cement

MATERIAL: Fiber cement products are made from fiber, sand that is ground to a powder, cement, and proprietary additives to reduce moisture absorption. The fiber used in roof products is glass fiber alone, whereas siding and trim board products are primarily wood fiber. The material is formed with a smooth or textured surface, cut to standard sizes of panels, boards, or shingles, and cured in an autoclave. Roofing material has integral color, but board and siding products are produced with a primer, if not fully factory finished. Most siding and trim boards are embossed with a wood grain on one surface and are smooth on the other, the smooth side being the appropriate surface to imitate planed wood.

PROPERTIES:

- Products are minimally orthotropic
- Heavier and more brittle than wood, limiting available lengths
- Very little thermal- and no moisture-driven movement
- Low water absorption, but not recommended for ground or roof contact
- Class A flame spread
- Resists insect damage
- Available in limited thicknesses and widths
- Not machinable, but may be cut with special carbide blades; cutting requires dust collection and personal protective equipment
- Cut edges require sealing
- Available unfinished, primed, or prefinished, and must be painted (with latex paint)
- 15-year limited warranty typical

Figure 21. A mineral polymer composite siding was available in the profile very similar to the historic siding. The replacement siding was used where the original material was almost completely missing beneath a more modern covering. Areas where the original wood was largely intact were replaced with matching wood to sustain more of the material integrity of the building. Photo: Belk Architecture.

Mineral / Polymer Composite

MATERIAL: Calcium carbonate or fly ash are mineral ingredients held in a matrix of various polymers to produce materials formed or molded into a number of building products. Additives found in some of the roofing products include pigments and UV stabilizers. Some use a substantial portion of recycled material. Different combinations yield products with different properties, each formulated for a specific building component. When the material is fly ash with some glass fibers bound in a matrix of polyurethane, it is identified as polyash. Siding, trim, bead board, and deck products are primed or prefinished, whereas roof products have integral color.

PROPERTIES:

Fly ash (siding and trim)

- Isotropic
- Heavier and more brittle than wood, and lacking structural capacity
- Little thermal or moisture-driven movement
- Sufficiently low water absorption to permit ground contact
- Class C flame spread
- Resists insect damage
- Available in limited thicknesses and widths
- Machinable with carbide tools blades; requires dust collection
- Cut edges do not require sealing
- Must be painted
- 30-year limited warranty typical

Calcium carbonate or recycled rubber (roofing)

- Isotropic
- More thermally-driven movement than slate or wood
- Little to no moisture absorption
- As shingles: lighter and more flexible than slate
- As tongue-and-groove decking: heavier and harder than wood
- Not vulnerable to insect damage
- Available in limited dimensions
- As shingles: Class 4 impact resistance, and flame spread ratings ranging from Class A to Class C depending on the specific product
- As shingles: integral color, that may be subject to fading
- As tongue-and-groove decking: prefinished with non-renewable finish, and can be cut with woodworking tools
- 50-year limited warranties on roofing products typical

Cellulose Fiber / Polymer Composite

MATERIAL: Wood strands or fibers are coated with resin for moisture resistance and zinc-borate for insect and fungal-decay resistance, then consolidated under heated pressure. Solid composite core boards are cut from sheets of material, then factory-primed or finished. Resulting siding and trim board products can be referred to as engineered wood, fiber board, or hardboard. Products may be embossed with a wood grain or have a smooth finish, the smooth side being the appropriate surface to imitate planed wood. Siding, trim, and tongue-and-grove decking with a slightly different properties are produced by extruding polyvinyl chloride (PVC) combined with non-wood cellulose. Roofing shingles are molded from fine wood fibers, color additives, and UV stabilizers bound with polypropylene or polyethylene (thermoplastics).

Figure 22. A porch was reconstructed using posts fabricated on site from a smooth-surface cellulose/polymer composite material. Though the face of the posts are painted, the lack of paint on the bottom at the cut ends is not consistent with manufacturers' recommendations. This treatment will allow moisture to be absorbed, shortening the life of the new replacement feature. Photo: John Sandor, NPS.

PROPERTIES:

Predominantly Cellulose (siding, trim and decking)

- Minimal thermal movement
- Resistant to moisture-driven movement
- Lighter and more flexible than solid wood, but lacks structural capacity
- Rice hull cellulose: can span typical floor-framing spacing as decking
- Low water absorption (for wood, no ground or roof contact)
- Class A or Class C flame spread
- Resists insect damage
- Available in limited dimensions
- Machinable with woodworking tools
- Wood cellulose: Cut edges must be sealed and may need additional surface prep for finish; must be painted if unfinished or primed, also available prefinished
- Rice hull cellulose: Accepts stain/paint, but no finish required
- 30–50 year limited warranty, depending on manufacturer

Predominantly Polymer (roofing)

- Minimal thermal movement
- Little to no moisture absorption
- Lighter and more flexible than slate
- Class 4 impact-resistance
- Class A flame spread
- Available in limited shingle size
- 50-year limited warranty typical

Figure 23. 3-D printing using various polymers is occasionally used to replicate missing metal or wood features. This new application is continually being refined, but the application can be successful when a painted, lightweight feature needs to be replicated. Photo: NPS.

Non-composite Polymers

MATERIALS: The main two polymer materials used without significant other components are polyurethane and polyvinyl chloride (PVC). Polyurethane millwork is constructed of urethane foam created by mixing isocyanate and resin. The polyurethane mixture is kept under pressure in a mold as it expands to any desired shape. These molded products have a closed-cell, foamed core with a denser surface skin. Polyurethane products can have exterior applications but are more often used for interior features. Polyvinyl chloride (PVC) in a solid extruded form is another polymer that can have architectural application as tongue-and-groove decking. Various polymers formed using 3-D printing are also being explored as replacements for painted metal or wood ornamental features.

PROPERTIES: Each of the two groupings has distinct physical properties

Urethane Foam (moldings and decorative elements)

- Lightweight and flexible, but lacking structural capacity
- More thermally-driven movement than wood or stone, but less than cellular PVC
- Does not absorb water
- Flammable
- Resists insect damage
- Can be cut with standard woodworking tools
- Adhesive and mechanical fasteners both recommended for installation
- Supplied primed and must be painted (latex paint)
- Lifetime limited warranty typical

Solid PVC (flooring)

- Isotropic
- Heavier and less flexible that wood
- Minimal thermal movement
- Does not absorb water
- Strength to span typical floor-framing spacing
- Impact-resistance greater than wood
- Class A flame spread
- No insect susceptibility
- Good paint adhesion, but also available prefinished
- 20-year warranty typical

Cellular Polyvinyl Chloride (PVC)

MATERIAL: Varying amounts of calcium carbonate and a foaming agent are added to melted PVC before passing through an injection die and then a calibrator to produce the shape and size of the finished product. Cellular PVC is produced as sheets, boards, and moldings. Differences in the specifics of the equipment and the rate of cooling create two varieties of product, with distinct properties. One is known as free-foam, having a fairly consistent structure throughout its section, and the other is identified as Celuka, having a skin that is denser than its core. This primarily affects the ease with which the product can be milled and shaped. The material is white and needs no applied finish. When produced for decking the material has a colored and textured wear layer over the PVC core.

PROPERTIES

- Isotropic
- Lighter and more flexible than wood
- Less strong than wood (in tension and shear), but can span typical floor- framing spacing as decking
- More impact-resistance than wood
- Negligible water absorption; no moisture-driven movement, unlike wood
- Subject to thermal expansion and contraction significantly greater than wood, though the thermal movement is less for the same dimension than the cross-grain moisture-driven movement of wood
- For longer pieces, thermal movement requires manufacturer's specifications to be followed for attachment, and inclusion of expansion joints when installed at low temperature (joints should be glued)
- Class A flame spread
- Resists insect damage
- Machinable with woodworking tools, though cut edges may need additional surface prep for finish
- Good paint adhesion; if painted, high light reflectance (HLV) is recommended to minimize heat driven expansion
- 25–30-year limited warranty, depending on manufacturer

Figure 24. Cellular PVC when painted can be used to replace deteriorated wood features. This beadboard set in a wood frame was not historically designed to shed water effectively and had deteriorated. Cellular PVC was able to match the appearance of the wood details, while its properties were well matched to the shady location, painted finish, and limited size and configuration within the overall assembly; thus, it should provide a long-lasting solution for this application. Photo: Jennifer Balson Alvarez, NPS.

Acknowledgements

John Sandor, Architectural Historian, David Trayte, Historical Architect, and Amy Elizabeth Uebel, Architectural Historian, Technical Preservation Services, National Park Service, revised *Preservation Brief 16: The Use of Substitute Materials on Historic Building Exteriors*, originally written by Sharon C. Park, FAIA, FAPT, and published in 1988. The revised Brief contains expanded and updated information as well as new color photographs describing the general issues and application of substitute materials on historic buildings.

The authors wish to thank the following: Peyton Hall, FAIA, Principal Architect Emeritus, Historic Resources Group, Mary Jablonski, President, Jablonski Building Conservation, Inc., Thomas Jester, FAIA, FAPT, LEED AP, Principal, Quinn Evans, Sharon Park, FAIA, FAPT, Associate Director Emerita, Smithsonian Institution, Debra Slaton, Principal, Wiss, Janney, Elstner Associates, Inc., for their guidance and review of this revision; and to Brian Goeken, Chief of Technical Preservation Services, National Park Service, and Jo Ellen Hensley, Elizabeth Tune, and Jennifer Oeschger, Technical Preservation Services, National Park Service, for their help in the editing of the publication. Illustrations not specifically credited are from National Park Service files. Front cover image: Installation of a new roof feature on a ca.1895 commercial building. The dome was constructed of fiber-reinforced polymer to replicate the missing original feature in Aurora, Illinois, 2023. Photo: Kelsey Cozens/JH Real Estate Partners LLC.

This publication has been prepared pursuant to the National Historic Preservation Act of 1966, as amended, which directs the Secretary of the Interior to develop and make available information concerning historic properties. This publication is available from the Technical Preservation Services website at http://www.nps.gov/tps/ or hard copies may be purchased from the Government Printing Offices at the U.S. Government Bookstore at https://bookstore.gpo.gov/. Comments about this publication should be addressed to Technical Preservation Services, National Park Service, 1849 C Street, NW, Mail Stop 7243, Washington, DC 20240, or by email to NPS_TPS@nps.gov.

This publication is not copyrighted and can be reproduced without penalty. Normal procedures for credit to the authors and the National Park Service are appreciated. The photographs used in this publication may not be used to illustrate other publications without permission of the owners.

October 2023

35

ZERO-S
RECYC
(51)30(59)
(51)36
(61)00(51)10

CITY OF BIDDEFORD
PLANNING DEPARTMENT

HISTORIC PRESERVATION COMMISSION
APPLICATION FOR A CERTIFICATE OF APPROPRIATENESS

Applicant's/Owner's Information:

Applicant's Name: DANIEL NOVICK

Applicant's Address: 35 STATE ST. APT 1, BIDDEFORD, ME 04005

Applicant's Phone(s): 617 462 5448

Applicant's E-mail: DRNOVICK1@GMAIL.COM

Applicant's Legal Interest in the Property:

- [x] Owner
- [ ] Purchase and Sale
- [ ] Tenant - Lease/Rental Agreement

Owner's Name: "

Owner's Address: "

Owner's Phone(s): "

Owner's E-mail: "

Representative(s) - Agent, Engineer, Architect, and/or Contractor Information:

Agent's Name:

Agent's Address:

Agent's Phone(s):

Agent's E-mail:

Attach separate pages where multiple representatives are involved.

CITY OF BIDDEFORD
PLANNING DEPARTMENT

Project Information:

Project Address: 35 State Street

Project Zone: MSRD 2 Property Map & Lot Number(s): 35/75

Existing Use of Property:

☑ Residential ☐ Commercial ☐ Mixed Use ☐ Industrial ☐ Institutional

COMMISSION Full Review Project Activities $275.00 Fee (check all that apply):

Alterations and Repair

- ☐ Removal and/or replacement of architectural detailing (for example porch spindles and columns, railings, windows and window moldings, and cornices)
- ☑ Installation or replacement of siding
- ☐ Porch replacement or construction of new porches
- ☐ Installation or replacement of either roofing or gutters when they are a significant and integral feature of the structure
- ☐ Alteration of accessory structures such as garages
- ☐ Other: _____

Additions and New Construction

- ☐ New Construction
- ☐ Building additions, including rooftop additions, dormers or decks
- ☐ Construction of accessory structures
- ☐ Installation of exterior access stairs or fire escapes
- ☐ Installation of antennas and satellite receiving dishes
- ☐ Installation of solar collectors
- ☐ Rooftop mechanicals (e.g., HVAC)

Other: _____

Moving and Demolition

☐ Moving of structures or objects on the same site or to another site

☐ Any demolition or relocation of a landmark contributing and/or contributing structure within a district

☐ Other: _____

SUBCOMMITTEE Review Project Activities $50.00 Fee (check all that apply):

Alterations and Repair

☐ Masonry work, including repointing, sandblasting, chemical cleaning, painting where the masonry has never been painted, or conversely, removal of paint where the masonry historically has been painted

☐ Other: _____

Signage and Exterior Utilities

☐ Installation or alteration of any exterior sign, awning, or related lighting

☐ Exterior lighting where proposed in conjunction with commercial and institutional signage or awnings

☐ Exterior utilities, including mechanical, plumbing, and electrical, where placed on or near clearly visible facades

☐ Other: _____

Note: In cases where the project is minor in nature, the Planning Department may determine that even if the activity qualifies for full Commission review it would be more appropriate to have it delegated to Subcommittee review.

Note: Your project may also require a building permit. Please call the Code Enforcement Office (284-9236) to make this determination.

CITY OF BIDDEFORD
PLANNING DEPARTMENT

Submittal Information Checklist:

- [ ] Required Application Fee: If full Commission review is required - $275.00
  If Subcommitee review is required – $50.00
- [ ] Completed Application Form
- [ ] Description of Proposed Activity
- [ ] Photographs of the building involved as well as adjacent buildings
- [ ] Samples of materials proposed for use in the activity
- [ ] Drawings (i.e., exterior elevations) and/or plans to illustrate the proposed activity for which the certificate is being applied for, including lettering styles (if applicable)

Signature of applicant: _____ Date: 3/26/25

Signature of property owner (Required): _____ Date: 3/26/25

EVERLAST®

Advanced Composite Siding

CERTIFICATE OF CONFORMANCE

Everlast® Composite Siding

Everlast® Composite Siding panels are manufactured to the following specifications.

PHYSICAL DATA

Panel Thickness: 0.22" (± 0.005")
Panel Projection: 7/16"
Width: 8 ½" ± 1/16" and 6 ⅜" ± 1/16"
Exposure: 6 ⅞" & 4 ½"
Length: 12'
Weight: 6 ⅞ plank = 7.8#, 4 ½" plank = 6.4#
Packaging: 8 planks/bundle
Color: Uniformity is spectrophotometrically controlled.
Texture: Embossed with a rough cut cedar finish
Gloss: Uniform low gloss maintained with a 75° gloss meter

PRODUCT TEST DATA

Heat Shrinkage:	0.1% at 160°F
Static Windload Test Pressure:	93 psf. (>250mph)
Squareness:	<1/16" of square
Length:	Within - 1/4" of specification
Warp/Camber:	<1/16"
Coefficient of Linear Expansion (in/in/°F):	8.38×10^{-6}
Weathering and Flexural:	104.4% Strength Retention
Freeze Thaw and Flexural:	94.1% Strength Retention
Water Absorption per ASTM D-570:	<2.0% Long Term (3 weeks)

FIRE RESISTANCE

ASTM E84:
Flame Spread Index: 75
Smoke Developed Index: >450

ASTM D635:
Classified CC1
Rate of burn: No Self Sustained Burn

ASTM D-1929:
Self Ignition/Flash Ignition Temperature: 430°C/400°C

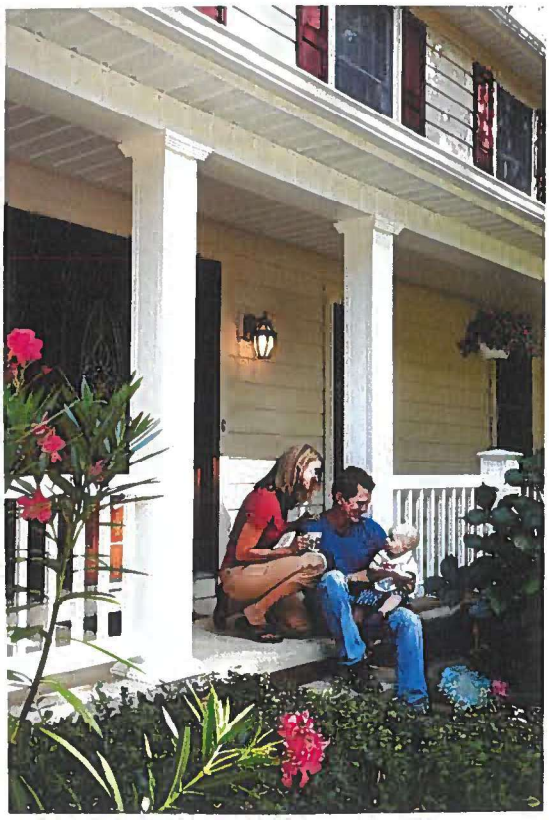
RELEVANT CODES AND REGULATIONS COMPLIANCE
Code Compliance Research Report #0201

Architectural Testing
CCRR
0201

COLORS

- Antique Ivory
- Cabernet Red
- Canvas
- Chestnut
- Flagstone
- Harbor Blue
- Heritage Cream
- Misty Taupe
- Polar White
- Sand Dune
- Seaside Gray
- Slate
- Spanish Moss
- Willow

All colors feature capping resins, a UV- Stable acrylic polymer for exceptional color retention.



 ©2016 Chelsea Building Products, Inc. Printed in the USA.

CITY OF BIDDEFORD

2025.11

PLANNING DEPARTMENT

205 Main Street PO Box 586 Biddeford, ME 04005 (207) 284-9115

HISTORIC PRESERVATION COMMISSION REPORT

TO: The Biddeford Historic Preservation Commission

FROM: Brad Favreau, Economic Development Coordinator

MEETING DATE: Wednesday May 14, 2025 PM

RE: **Item 3.b: 2025.11 HPC Review for Kevin Beaulieu of T&T Leasing** to renovate the two-family residential structure at 74 Summer Street, Tax Map 39, Lot 14, in the MSRD-2 Zone.

---

1. INTRODUCTION

The applicant proposes to renovate the building by replacing siding, windows, doors, and roof shingles. The applicant also plans to add one housing unit by adding a story to the one-story addition at the right of the main building. This project is a part of the City's Lead Abatement program.

The building as it appeared in 2022 as part of the Kleinfelder Survey:

2. PROJECT DATA/INFORMATION

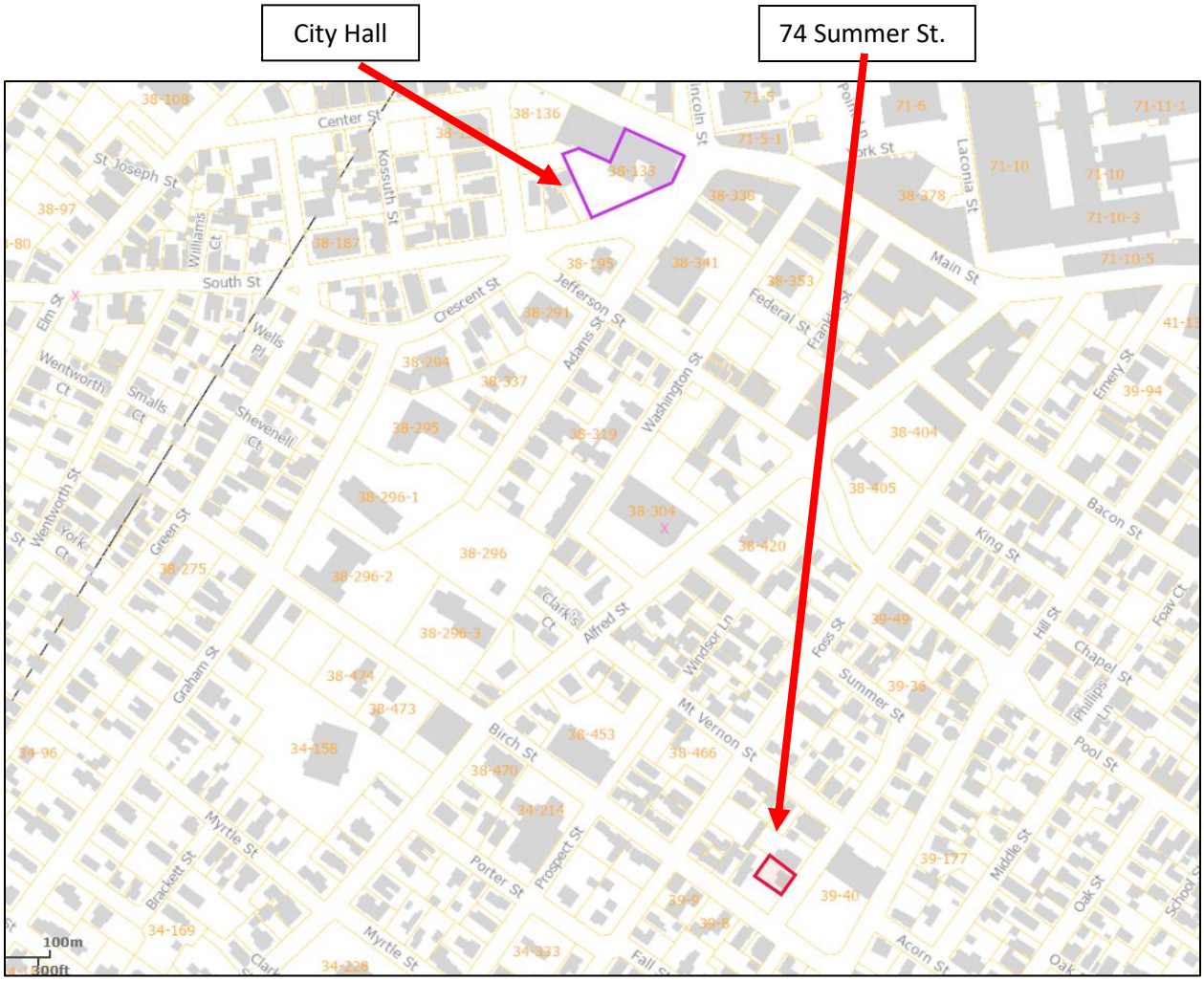
	SUBJECT	***DATA/INFORMATION***
1.	Applicant:	T & T Leasing LLC 109 Cascade Rd Old Orchard Beach ME 04064 Biddeford ME 04005 kevin@atlanticdeveloperslbiz
2.	Owner of Property:	Same as Above
3.	Agent:	N/A
4.	Engineer/Architect:	N/A
5.	Project Location:	74 Summer Street
6.	Project Tax Map #/Lot #:	Tax Map 39, Lot 14
7.	Existing Zoning:	MSRD-2
8.	Overlay Zoning:	Biddeford Historic Overlay District
9.	Contributing?	No
10.	National Register of Historic Places?	No
11.	Approximate Date of Construction	Circa 1890
12.	Existing Use:	Residential
13.	Proposed Use:	Residential
14.	Uses in the Vicinity:	Residential
15.	Parcel Size:	0.10 acres
16.	Front Setback Required:	15 ft.
17.	Side Setbacks Required:	None
18.	Rear Setback Requires:	None
19.	Height Requirements:	Max 3 stories or 35 feet
20.	LDR Attachment A: Fess Paid:	Yes
21.	Historic Preservation Commission Review History:	Meeting Date May 14, 2025. Posted May 7, 2025; Mail Notices to all abutters within 100'. 10 notices sent May 7, 2024.

3. EXISTING CONDITIONS

The subject property is located south of City Hall on Summer Street near the corner of Birch Street. This two-family residential structure is in the Vernacular style, dating to circa 1880. The front porch likely dates to circa 1960.

The one-story addition to the right of the main building is a separate dwelling unit.

The building has been vacant for several years.



According to the Kleinfelder Survey, 74 Summer Street:

…Resource lacks integrity of materials, design, and workmanship due to use of vinyl siding, loss of windows, use of replacement door and porch, and insensitive addition.

It is neither a contributing building nor individually eligible for National Register listing.

The building has lost much of its original integrity. The one-story addition was insensitively executed and modern materials have replaced most historic materials (e.g. siding, windows, doors). The front stoop has a 1960s-era canopy and railing.

4. PROJECT PROPOSAL

The applicant proposes to replace the following materials on the exterior of the building:

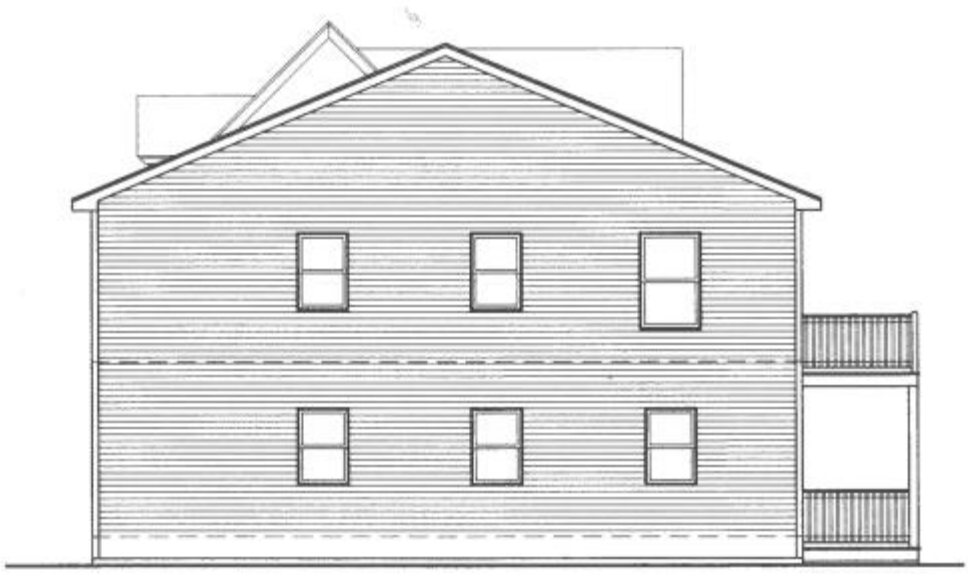
- Siding
- Roofing
- Windows
- Doors

Also, the applicant will add one Accessory Dwelling Unit (ADU) by building a second story above the existing ADU.

The following elevation drawings show the massing of the two story addition and placement of windows, and doors.

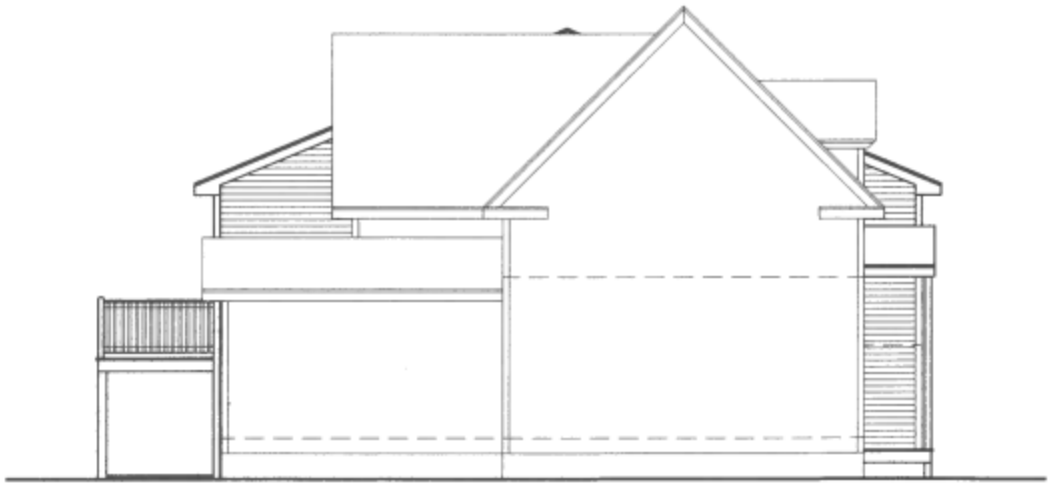
Front Elevation

Scale: 1/4" = 1'-0"



Right Elevation

Scale: 1/4" = 1'-0"



Left Elevation

Scale: 1/4" = 1'-0"

Rear Elevation

Scale: 1/4" = 1'-0"

Siding

The applicant proposes Alside vinyl siding for the main structure and the addition on the right side of the building. Alside Odyssey is .044" thick, making it nominally heavier duty than other siding. The applicant has selected clapboard style profile with 4" exposure. See below and agenda packet for more information:

Overview | **Profiles** | Color Collection | Resources

A Variety of Profile Designs

Odyssey Plus offers a wide variety of options when designing your home's exterior. With four profiles to choose from and a full selection of decorative trim and accessories, you can create a custom design that's a clear reflection of your personal taste.

Profiles

D4 Clapboard

D4 Dutch Lap

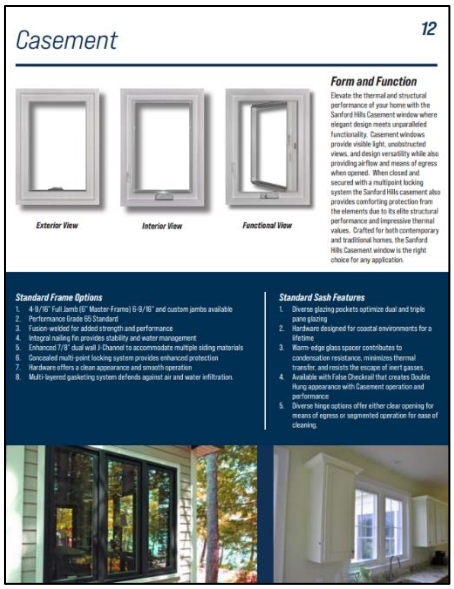
D5 Clapboard

D5 Dutch Lap

The **Alside Siding Product Directory** outlines product specifications for all Alside manufactured vinyl, aluminum and steel products.

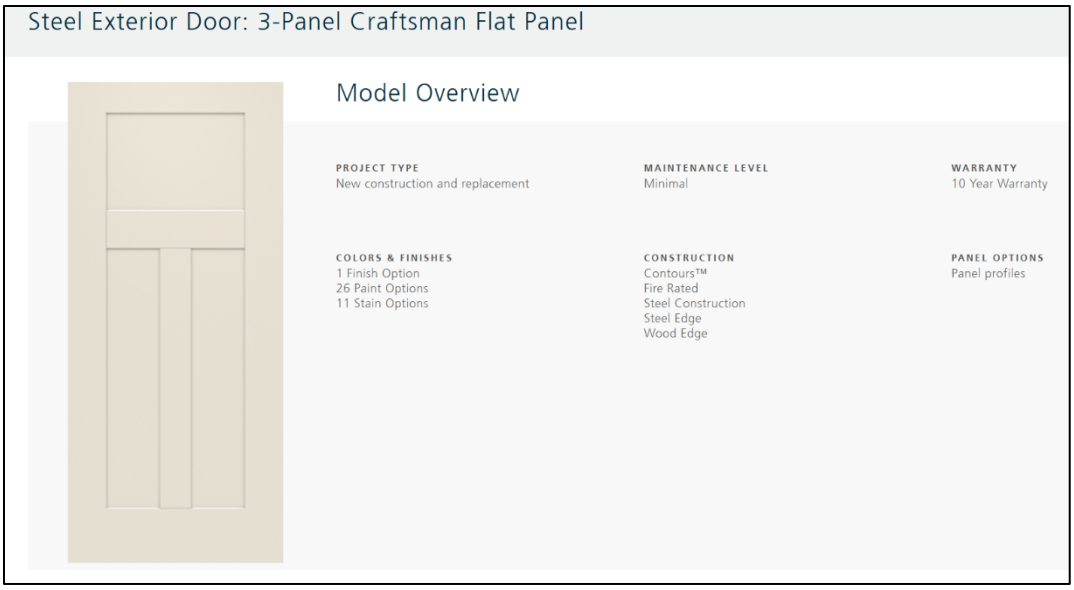
Windows

The existing windows are replacement vinyl units, some with existing grille patterns. The applicant proposes to replace all existing windows with Matthews Brothers Sanford Hills Collection vinyl windows, with double hung units used except at the front dormers, where casement windows are needed for egress purposes. The applicant proposes no grille pattern in the new windows.



Doors

This project will require four new exterior doors, two at the front and two at the rear. All will be Jeld Wen Steel 3 Panel doors.



Roofing

The existing 3 tab shingles are in poor condition and will be replaced with IKO Cambridge architectural shingles.

5. PUBLIC COMMENT

The notice was posted on the city website on May 7, 2025. Twelve abutter notices were sent on May 7, 2025.

As of May 9, 2025, no Public Comments had been received regarding the proposed project.

6. STAFF REVIEW:

The proposed work to the original house (siding, windows, and doors) will not substantially further diminish the integrity of the building.

The addition to the right side of the original house was insensitively constructed, and the proposed second floor addition significantly alters the appearance of the building.

According to Preservation Brief 14, page 5:

A new addition should always be subordinate to the historic building; it should not compete in size, scale or design with the historic building. An addition that bears no relationship to the proportions and massing of the historic building-in other words, one that overpowers the historic form and changes the scalewill usually compromise the historic character as well. The appropriate size for a new addition varies from building to building; it could never be stated in a square or cubic footage ratio, but the historic building's existing proportions, site and setting can help set some general parameters for enlargement. Although even a small addition that is poorly designed can have an adverse impact, to some extent, there is a predictable relationship between the size of the historic resource and what is an appropriate size for a compatible new addition.

A. REVIEW STANDARDS: Article XV (Historic Preservation Ordinance),

Section 13. Evaluation standards for certificate of appropriateness.

A. Reconstruction and alterations.

1. A building or structure classified as an historic landmark or located within an historic district, or any part thereof, or any appurtenance related to such structures, including but not limited to walls, fences, light fixtures, steps, paving and signs, shall not be reconstructed or altered unless a certificate of appropriateness has been issued for such activity. No certificate of appropriateness for a structure or building identified as contributing to the district shall be issued unless the proposed activity is found to

preserve or enhance a building's or structure's historical or architectural character. No certificate of appropriateness shall be issued for a noncontributing structure or building unless the proposed activity is complementary to the historic character of surrounding structures and buildings and meets the intent of this ordinance.

2. The standards and requirements in the United States Secretary of the Interior's Standards of Rehabilitation as well as the following factors shall be considered when reviewing applications for reconstruction or alteration of buildings or structures subject to review under this ordinance:

a. Every reasonable effort shall be made to use a property for its historic purpose and in a way which will require minimum alteration to the structure and its environment;

   The building will continue to be used for residential purposes. One additional Accessory Dwelling Unit (ADU) is proposed.

b. Rehabilitation work shall not destroy the distinguishing qualities nor character of the structure and its environment. The removal or alteration of any historic material or architectural features should be avoided;

   No historic features or materials will be removed or destroyed. However, the addition of a second story over the existing side addition appears not in scale and proportion and is not sufficiently subordinate to the original house.

   Deteriorated architectural features should be repaired rather than replaced, wherever possible. In the event that replacement is necessary, the new material should match the material being replaced in composition, design, texture and other visual qualities. Repair or replacement of missing architectural features should be based on physical or pictorial evidence rather than on conjectural designs or the availability of different architectural features from other buildings;

   New materials proposed will replace materials in-kind, (e.g. vinyl siding will replace existing vinyl siding).

   Distinctive stylistic features or examples of skilled craftsmanship which characterize historic structures and often predate the mass production of building materials shall be treated with sensitivity;

   N/A

c. Changes which may have taken place in the course of time are evidence of the history and development of the structure and its environment, and these changes shall be recognized and respected;

   The existing side addition was insensitively constructed; however it is subordinate to the original house. The addition of a second story over this addition will alter the appearance of the house significantly.

   All structures shall be recognized as products of their own time. Alterations to create an earlier appearance shall be discouraged;

   N/A

d. Contemporary design for additions to existing structures shall be encouraged if such design is compatible with the size, scale, material and character of the neighborhood, the structure or its environment; and,

The proposed addition is not compatible in scale to the original structure; however, many of the neighboring buildings are larger multi-family units.

e. Wherever possible, new additions or alterations to structures shall be done in such a manner that if they were to be removed in the future the essential form and integrity of the original structure would be unimpaired.

Removal of the proposed addition in the future will leave the essential form of the original house unimpaired.

7. STAFF RECOMMENDATION

While the house has lost some integrity due to replacement materials and an insensitive earlier addition, the proposed second story to the addition is not in scale with the original house.

The replacement of existing windows, doors and siding will not further diminish the original building's integrity further.

8. SAMPLE MOTIONS

A. Motion to approve Certificate of Appropriateness for Kevin Beaulieu of T & T Leasing to build second story over existing addition and replace exterior materials throughout at 74 Summer Street, based on materials and assertions submitted, and conditioned on the following:
   1. *All permits must be obtained from Code Enforcement prior to beginning any work.*
   2. _____

B. Motion to deny the Certificate of Appropriateness for Kevin Beaulieu of T & T Leasing to build second story over existing addition and replace exterior materials throughout at 74 Summer Street, based on the following:
   1. _____
   2. _____

C. Motion to table the Certificate of Appropriateness for Kevin Beaulieu of T & T Leasing to build second story over existing addition and replace exterior materials throughout at 74 summer Street, based on the following:
   1. _____
   2. _____

T&T Leasing, LLC
109 Cascade Road
Old Orchard Beach, ME 04064
207-229-4979

To Whom It May Concern,

My name is Kevin Beaulieu and I am the owner of T&T Leasing, LLC and Atlantic Developers. We purchased this property at 74 Summer Street the fall of 2024 with plans to create more housing units. I have been working with the City of Biddeford on the lead abatement program and still waiting to get this complete. We would like to repair the exterior of this building as the exterior is in terrible shape. We would like to replace the roofing, windows/doors and siding. We also plan to take advantage of density bonus and add a third one bedroom unit.

I have enclosed the spec sheets on the roofing, windows, siding and exterior doors.

Thank you,

Kevin Beaulieu
President/Owner

74

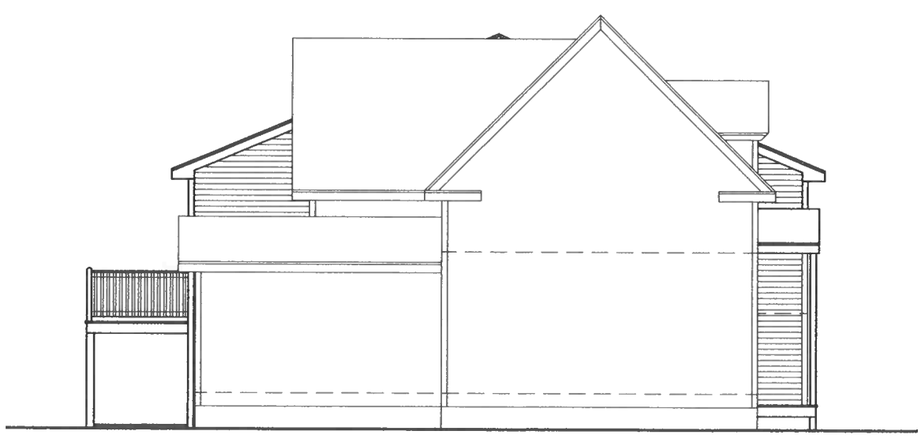
74

Front Elevation

Scale: 1/4" = 1'-0"

Right Elevation

Scale: 1/4" = 1'-0"



Left Elevation

Scale: 1/4" = 1'-0"

Rear Elevation

Scale: 1/4" = 1'-0"

Drafting Plus is not an engineering firm. it is the responsibility of the general contractor or structural engineer of record to ensure that this home is built according to all state & local codes in effect at the time of construction.

Prepared For:

Atlantic Development

74 Summer St

Biddeford Maine

Approvals

Revisions

DRAFTING PLUS LLC

ARCHITECTURAL DESIGN & DRAFTING
BIDDEFORD, ME
207-229-4587

SPECIALIZING IN YOUR DREAM HOME

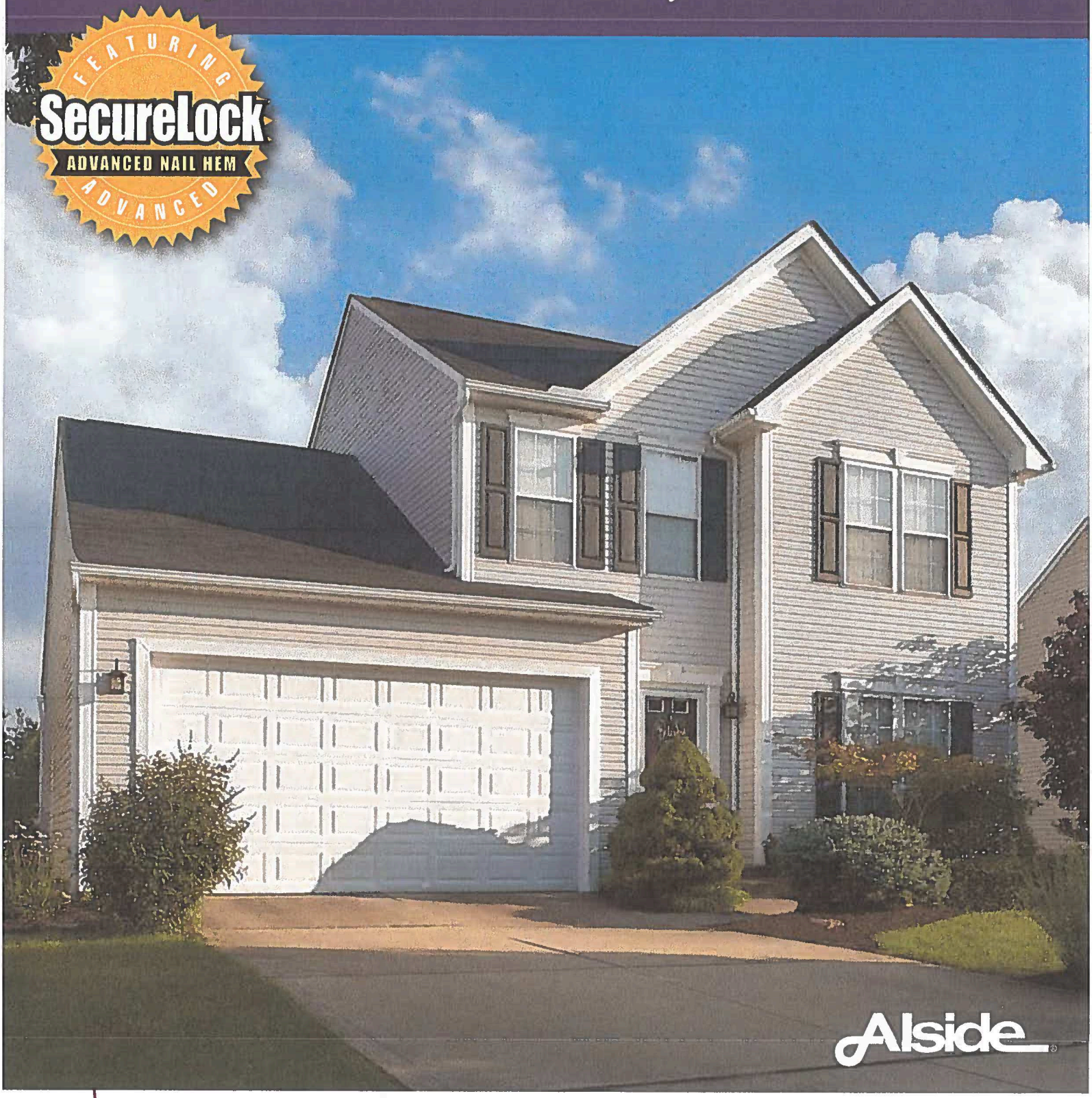
Date: 3/01/25
Revised: xx/xx/xx
Dr. By: John A. Barron
Sheet No. X

Preliminary

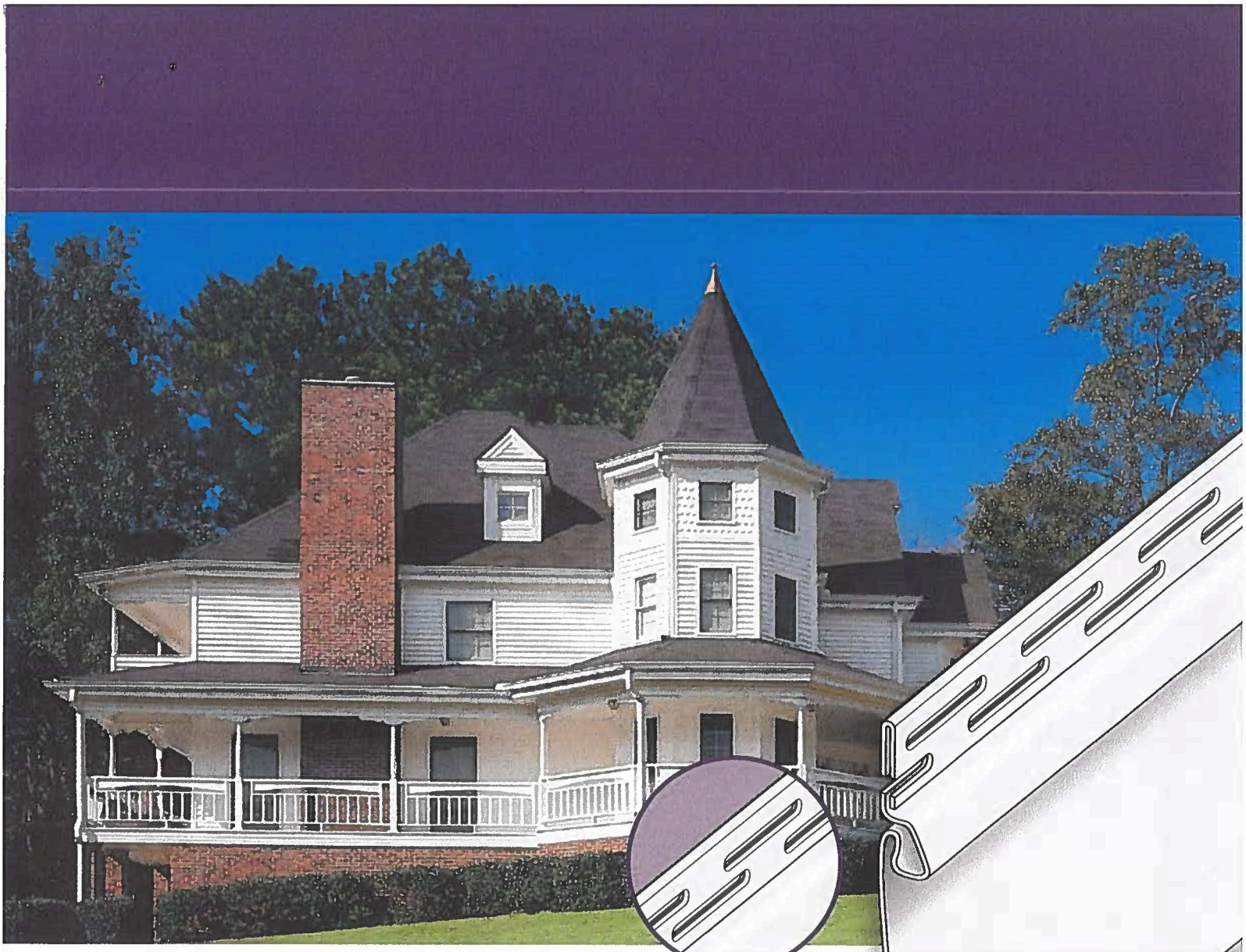
ODYSSEY Plus®

PREMIUM VINYL SIDING

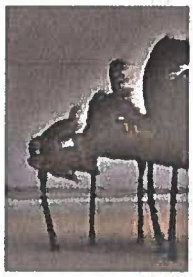
Quality Exterior Products with Easy-Care Convenience



Siding

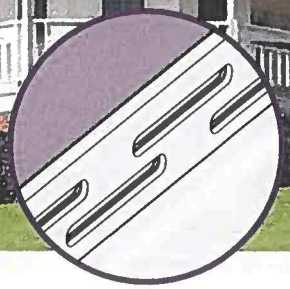


ADVANCED SECURELOCK STAGGERED NAIL HEM SECURES YOUR VINYL SIDING EFFORTLESSLY

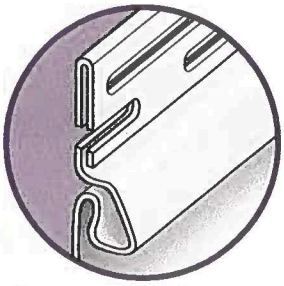


SecureLock advanced lock design from Alside provides outstanding performance. Double staggered nail slots and a fully rolled over nailing hem ensure exceptional wall gripping strength. Odyssey Plus has been laboratory tested to meet or exceed the ASTM D5206 industry test standard for negative windload resistance. This strong locking system also means your siding will lay flat and look beautiful year after year.

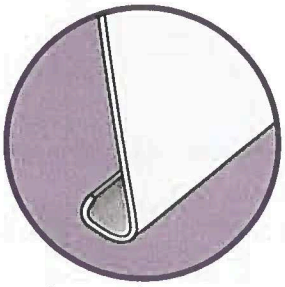
Whether you are replacing your existing siding or building a new home, choose a brand that provides both advanced performance and lasting beauty . . . choose Odyssey Plus.



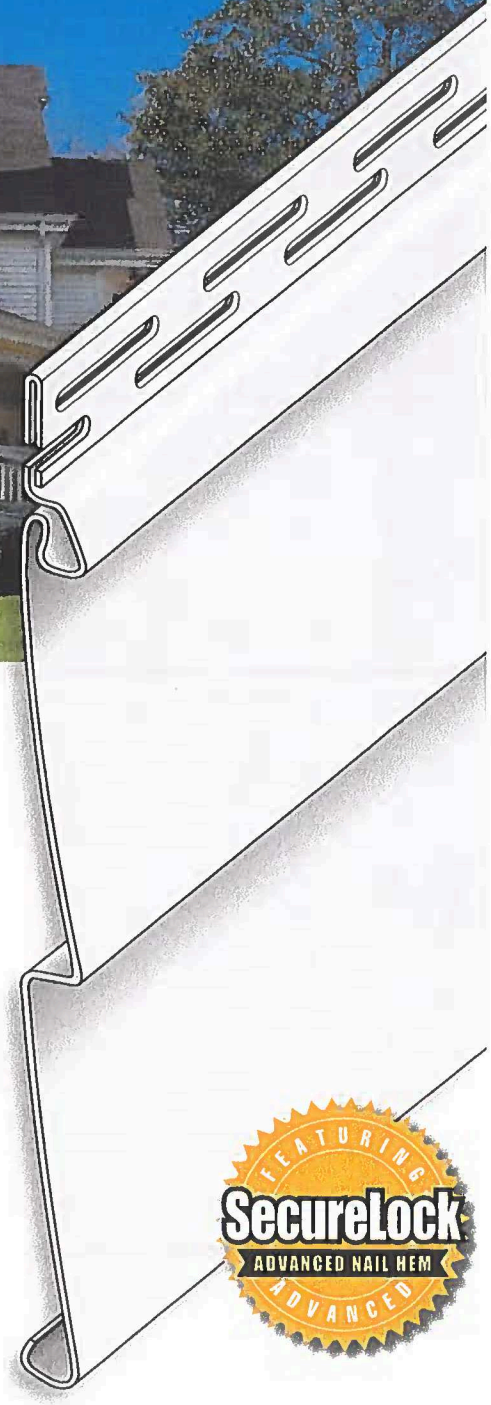
Double staggered nail slots hit a stud every time.

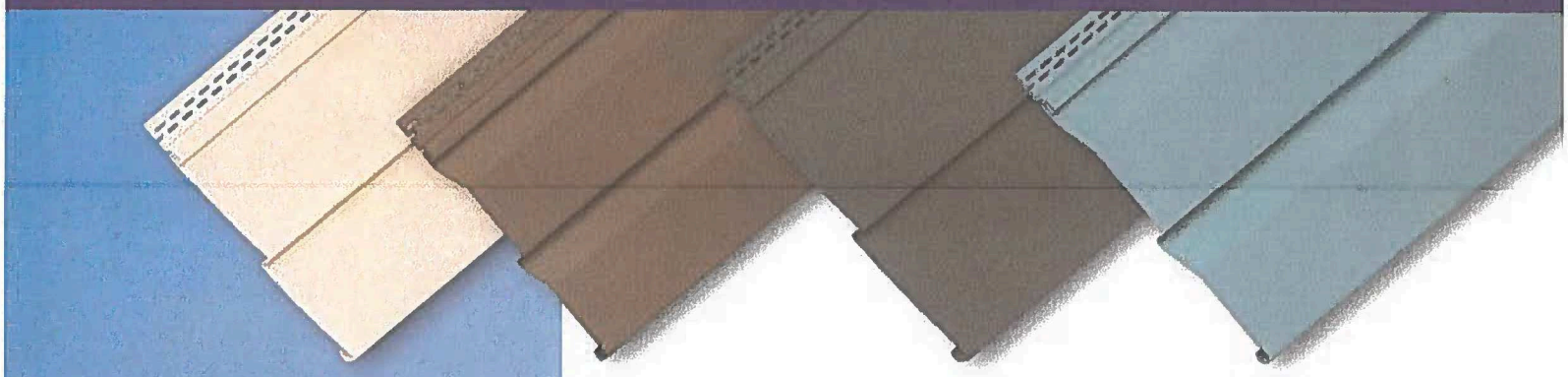


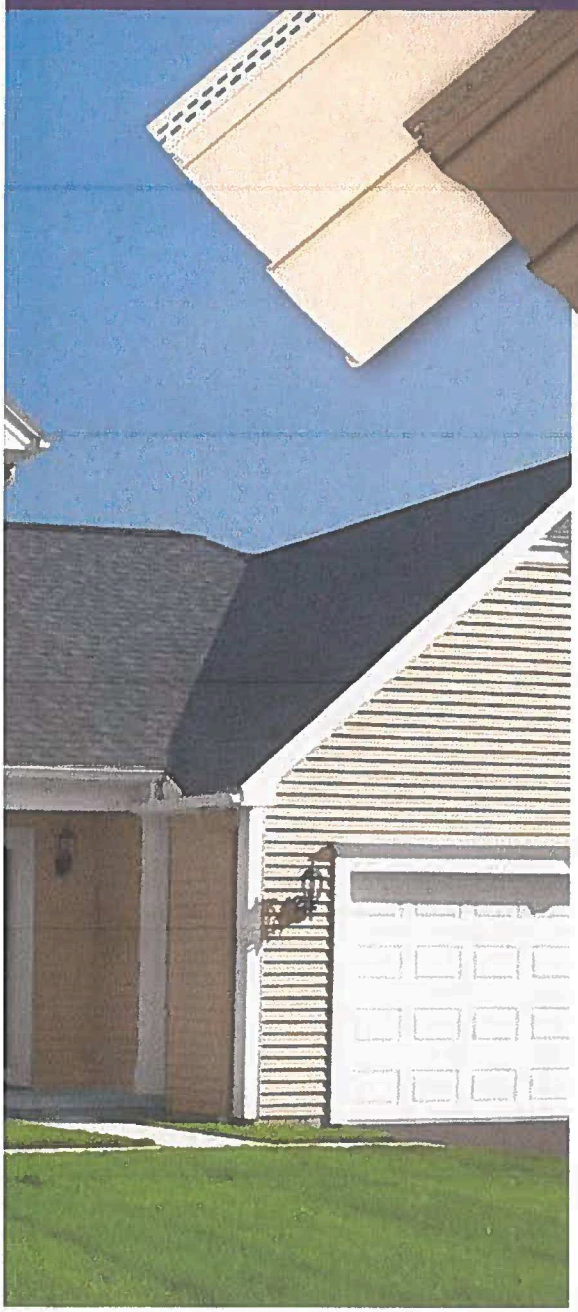
Extra-strong rolled over nail hem.



Locking panels resist challenging winds.







PREMIUM APPEARANCE

Choose from two of America's most popular siding styles – traditional clapboard or beveled-edge dutch lap. Both styles are available in double 4" and 5" widths. A natural grain pattern, realistic shadow lines and a low-gloss, look-of-paint finish recreate the distinctive details of genuine wood siding. For greater design flexibility, choose from up to 24 popular colors including 11 designer hues.

OUTSTANDING PERFORMANCE

Heavy-duty panel thickness (.044" nominal) and an advanced lock design deliver increased rigidity so walls stay straight and smooth. The strengthened lock provides superior holding power, keeping panels tight on walls, even in challenging winds.

CAREFREE UPKEEP

Odyssey Plus is made with durable, weather-resistant vinyl, so there's never any painting or staining. Just a simple rinse with a garden hose will remove most airborne dust and dirt and restore the like-new beauty.

Odyssey Plus contains premium features that are not found in many competing sidings. Make the comparison yourself . . . you'll find Odyssey Plus vinyl siding is one of the best investments you can make in your home.

A VARIETY OF PROFILE DESIGNS

Odyssey Plus offers a wide variety of options when designing your home's exterior. With four profiles to choose from and a full selection of decorative trim and accessories, you can create a custom design that's a clear reflection of your personal taste.

QUICK SPECS:
- Subtle woodgrain texture
- .044" panel thickness
- Rolled over nailing hem
- 1/2" panel projection (D4 profiles); 5/8" panel projection (D5 profiles)
- Available in Double 4" clapboard, Double 4" dutch lap, Double 5" clapboard, and Double 5" dutch lap
- 24 contemporary colors

DID YOU KNOW for nearly two decades vinyl siding has been a leading choice for exterior cladding on new single-family homes. This broad appeal stems not only from its beauty, durability and easy upkeep, but also from the fact that vinyl siding can add value to homes.

COLOR AND DESIGN INSPIRATION

Odyssey Plus' full array of profiles and colors makes it easy to give your home a style all its own. Whether you prefer a subtle monochromatic color scheme in classic hues or rich architectural colors with contrasting accents, Odyssey Plus has everything you need to achieve your ideal finished look.

STANDARD COLOR COLLECTION

Glacier White | *Antique Parchment* | *Natural Linen* | *Platinum Gray* | *Cape Cod Gray* | *Mystic Blue* | *Coastal Sage*

Juniper Ridge | *Adobe Cream* | *Maple* | *Monterey Sand* | *Vintage Wicker* | *Tuscan Clay*

ARCHITECTURAL COLOR COLLECTION[1]

Fired Brick | *Canyon Drift* | *Flagship Brown* | *Mountain Fern* | *Deep Moss* | *Harbor Blue* | *Midnight Blue*

Storm | *Sterling Gray* | *Ageless Slate* | *Charcoal Smoke*

[1]Color restrictions by market may apply.

DARKER COLORS STAY TRUE!

ChromaTrue®

Our darker Odyssey Plus colors stay luxurious and true, thanks to ChromaTrue technology. This advanced copolymer compound provides Odyssey Plus with long-term color stability and better performance on darker colors.

THE ART OF THE MIX

There's no need to settle for siding and trim that almost match. Alside's ColorConnect® Color Matching System offers smart solutions for every design approach. ColorConnect standards have been painstakingly applied to select Alside products to ensure you are making tasteful color choices with enduring aesthetic value and the custom look you desire.

Whether it's a rich color that draws your eye to an interesting architectural detail, or neutral hues applied to a historic home, the Alside ColorConnect Color Matching System helps you successfully match the color of your siding with other Alside exterior products and accessories.

colorconnect® color matching system

Introduction

The Sanford Hills Collection

A breakthrough window design that delivers aesthetics and performance at a world-class level. The Sanford Hills Collection has the appearance of a classic New England Wood Window built with a full frame jamb, 1-3/4" historic sash, and a myriad of traditional exterior sill and casing options. Sash profiles, interior sticking and muntin bars pay homage to 1850's craftsmanship while finishes of old and new are available through both Wood-Based and solid extruded interiors.

Despite its classic beauty, the Sanford Hills Collection delivers both structural and thermal performance that stands in a class all its own. Built with highly engineered components that increase strength while minimizing thermal conductivity, the Sanford Hills Collection performs above and beyond industry standards. Simply stated the Sanford Hills Collection is The New Standard.

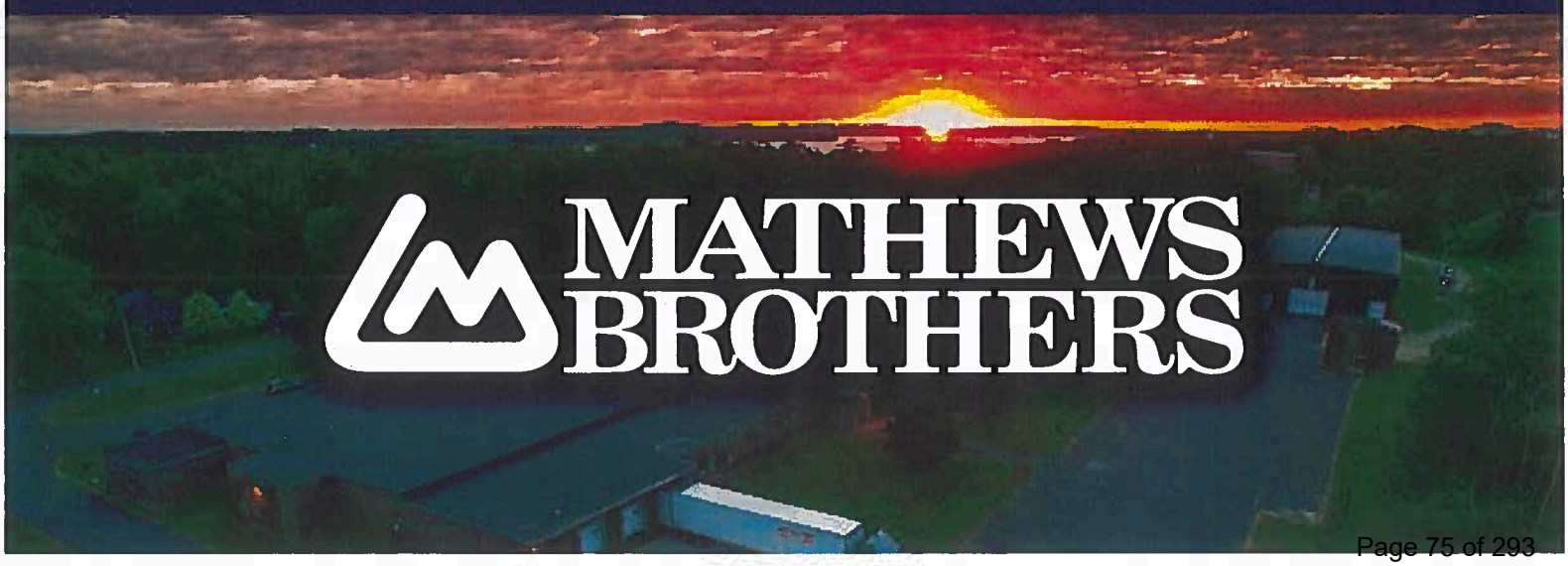
A Window 165 Years In The Making

Sanford Hills Mathews studied the art of wood joinery as a young man and combined his talents with his family establishing Mathews Brothers in 1854. Mathews Brothers manufactured putty glazed wood window sash, coffins, stair parts, and various millwork. Mathews Brothers even took on a commission to build a five masted schooner, the Jennie Flood Kreger, in 1917. Basically, anything that required a passion for woodworking and an expertise in joinery was within the scope of what the people of Mathews Brothers could create.

Over 50 years ago Mathews Brothers was one of the first wood window manufacturers to adopt the use of dual pane insulating glass in order to elevate the thermal performance of their window offering and 20 years after that Mathews Brothers began manufacturing products made from vinyl in order to serve the need for durable, low maintenance, and structurally sound products. Innovation did not occur at the expense of our unique dedication to craftsmanship and quality.

With an extensive history of providing quality PVC windows and majestic wood windows for thousands of homes each year, it became apparent that windows made from either of these materials offered a plethora of features and benefits, yet these wants and needs were not satisfied with one all-encompassing offering.

The inspiration for the Sanford Hills Collection was driven by what had been our passion for over 165 years. The historic and majestic charm of traditional wood windows combined with the innovation, durability, strength, and thermal performance of vinyl resulted in a window that exceeded industry expectations in aesthetics, thermal performance, and structural integrity. The New Standard. Those who see and experience the Sanford Hills Collection want it to become part of their home.



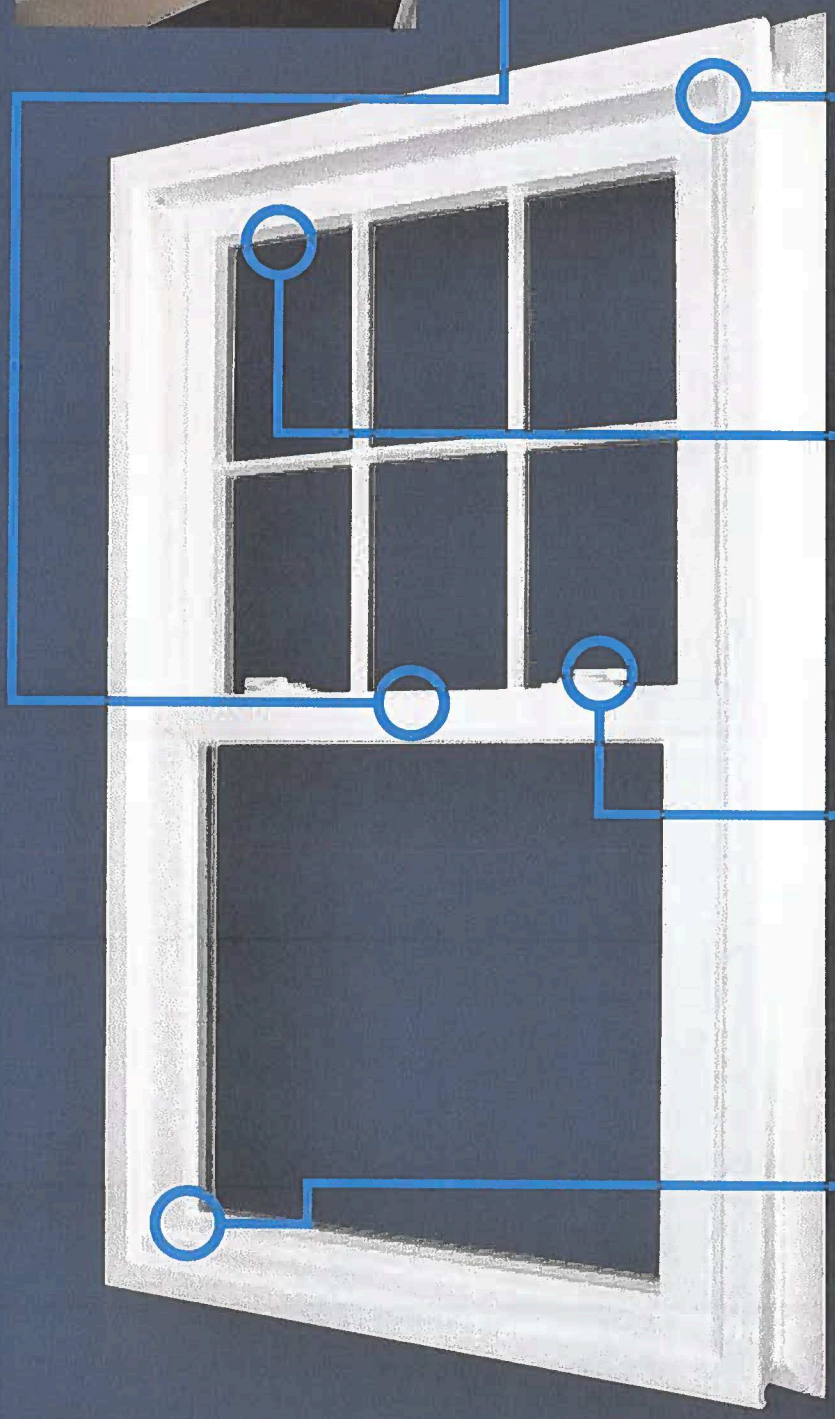
Welcome to Sanford Hills

SANFORD HILLS DOUBLE HUNG

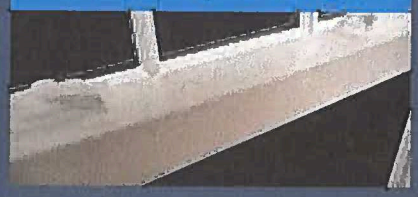
EXTERIOR

SANFORD HILLS DOUBLE HUNG

INTERIOR

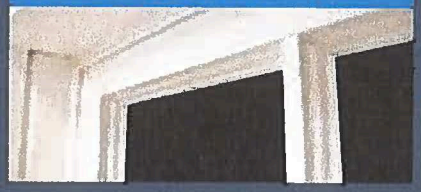


Full 1-3/4" Historic Sash
Enhanced Strength and Elegance



Simulated New England Side Stop
Hidden Sash Balance

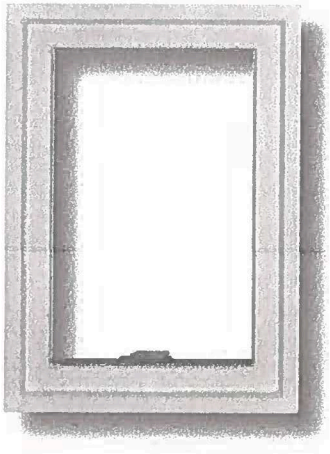
Historic Restoration Profile
Interior Muntin Bar



Concealed Tilt Washing Hardware
Traditional Sash Lock and Keeper

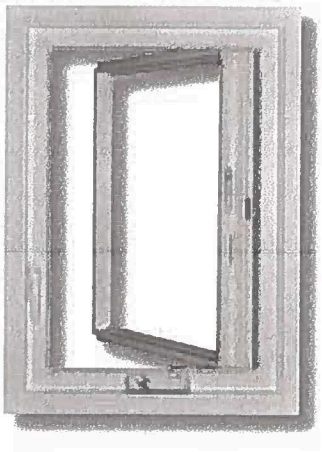
Historic Restoration Sash Profile
Contoured Sill Dam Profile

Casement



Exterior View

Interior View



Functional View

Form and Function

Elevate the thermal and structural performance of your home with the Sanford Hills Casement window where elegant design meets unparalleled functionality. Casement windows provide visible light, unobstructed views, and design versatility while also providing airflow and means of egress when opened. When closed and secured with a multipoint locking system the Sanford Hills casement also provides comforting protection from the elements due to its elite structural performance and impressive thermal values. Crafted for both contemporary and traditional homes, the Sanford Hills Casement window is the right choice for any application.

Standard Frame Options

1. 4-9/16" Full Jamb (6" Master-Frame) 6-9/16" and custom jambs available
2. Performance Grade 65 Standard
3. Fusion-welded for added strength and performance
4. Integral nailing fin provides stability and water management
5. Enhanced 7/8" dual wall J-Channel to accommodate multiple siding materials
6. Concealed multi-point locking system provides enhanced protection
7. Hardware offers a clean appearance and smooth operation
8. Multi-layered gasketing system defends against air and water infiltration.

Standard Sash Features

1. Diverse glazing pockets optimize dual and triple pane glazing
2. Hardware designed for coastal environments for a lifetime
3. Warm-edge glass spacer contributes to condensation resistance, minimizes thermal transfer, and resists the escape of inert gasses.
4. Available with False Checkrail that creates Double Hung appearance with Casement operation and performance
5. Diverse hinge options offer either clear opening for means of egress or segmented operation for ease of cleaning.

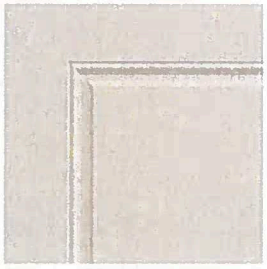
STRENGTH, DEPENDABILITY, AND STYLE

Now available with new designs, JELD-WEN steel doors provide dependable performance, added security, and peace of mind. These new steel door designs evoke a timeless, updated style, and complement current exterior and interior design trends.

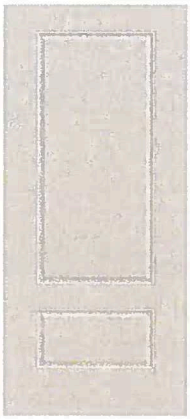
- Available with 20-minute and 90-minute fire rated options
- Doors are ADA compliant
- Standard widths of 2/8, 2/10, and 3/0

DISCOVER NEW TRADITIONAL STEEL DOOR DESIGNS

BEADED STICKING

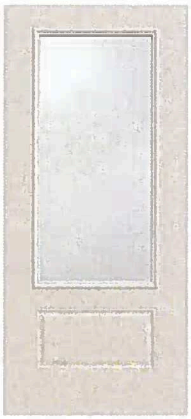


- Traditional door designs complement classic exterior and interior trends
- Choose from multiple configurations



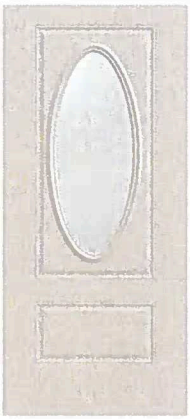
2-PANEL 3/4 TOP

Height	Model
6/8	CT-28
7/0	CT7-28
8/0	CT8-28



3/4 VIEW 1-PANEL

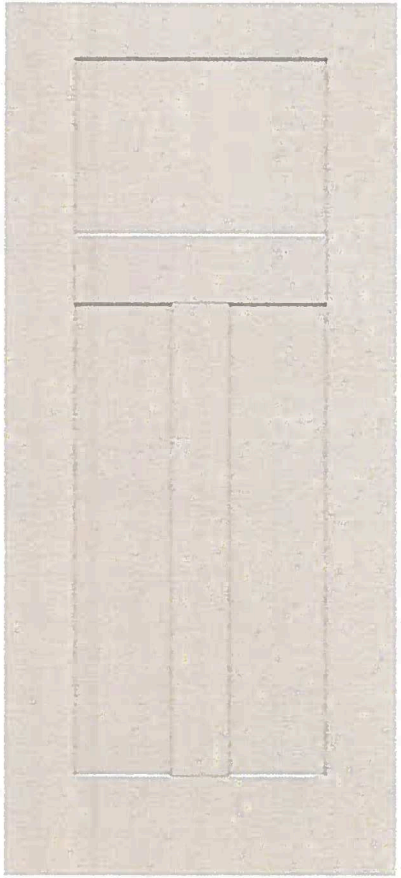
Height	Model
6/8	CT-607-1P
7/0	CT7-607-1P
8/0	CT8-607-1P



3/4 OVAL 2-PANEL

Height	Model
6/8	CT-949-2P
7/0	CT7-949-2P

Steel Exterior Door: 3-Panel Craftsman Flat Panel



Model Overview

PROJECT TYPE
New construction and replacement

MAINTENANCE LEVEL
Minimal

WARRANTY
10 Year Warranty

COLORS & FINISHES
1 Finish Option
26 Paint Options
11 Stain Options

CONSTRUCTION
Contours™
Fire Rated
Steel Construction
Steel Edge
Wood Edge

PANEL OPTIONS
Panel profiles

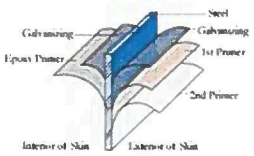
Steel Exterior Door: 3-Panel Craftsman Flat Panel

Colors & Finishes

Panels

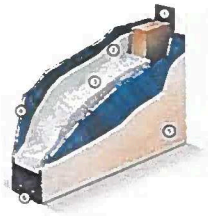
Construction & Framing

Energy & Sustainability



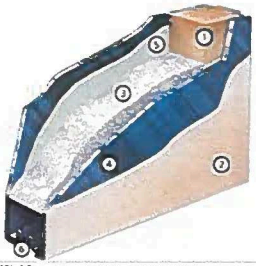
Steel Construction

JELD-WEN Steel exterior doors are durable and affordable. They include wood stiles and rails with mitred top corners to prevent water absorption. Galvanized steel facings are factory primed with neutral, low-sheen, baked-on enamel primer for easy finishing.



Steel Edge

(1) Epoxy primer on the back of the steel resists corrosion(2) Energy efficient core(3) Tough steel(4) Two coats of neutral, low-sheen, backed-on primer for easier finishing(5) Steel bottom rail



Wood Edge

(1) Laminated veneer lumber (LVL) lock stile and top rail for sturdy construction that resists warping and buckling(2) Two coats of neutral, low-sheen, baked-on enamel primer enables easier finishing(3) Energy efficient core(4) Galvanized steel resists rust and corrosion(5) Epoxy primer on the back of the steel skin prevents corrosion(6) Steel bottom rail

IKO
Proven Performance™

architectural

Stunning Looks with Dependability

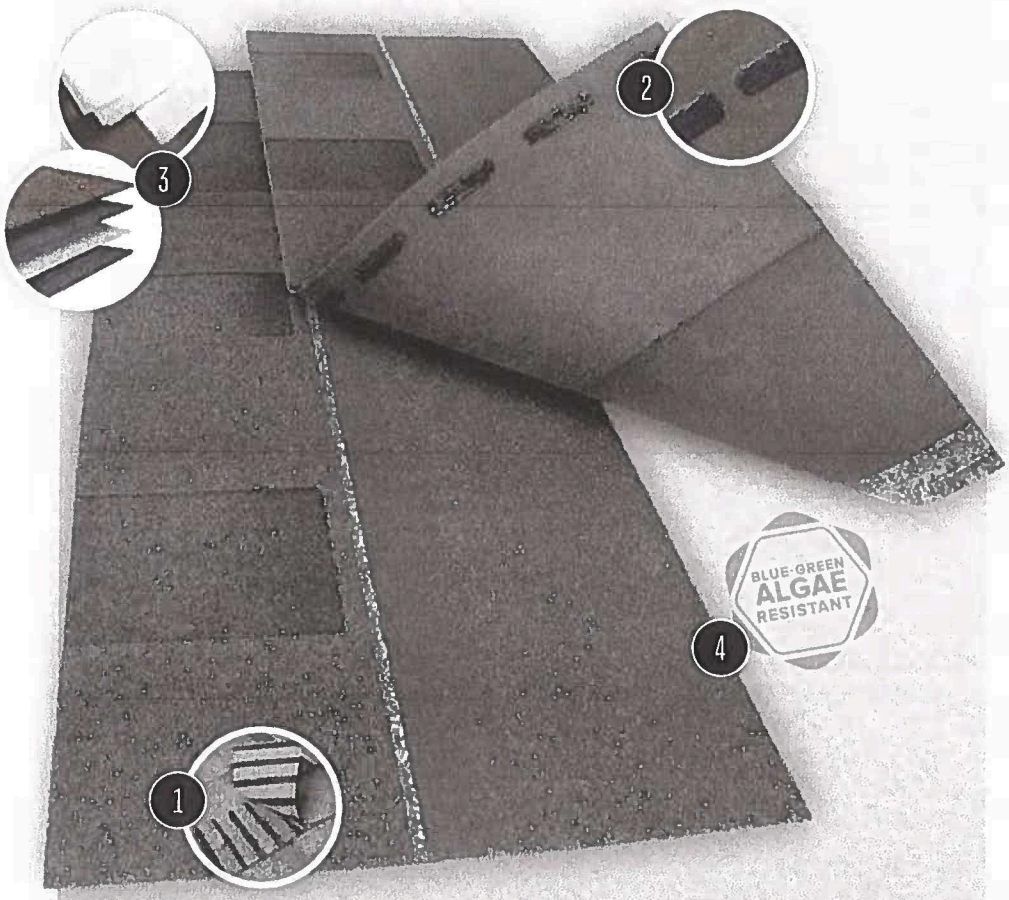
IKO Cambridge shingles have been a trusted choice for new construction and re-roofing projects for decades. Known for their reliable performance, they provide a high-quality solution and excellent value.

Special colorfast granules embedded in Cambridge shingles help inhibit the growth of blue-green algae that can cause unattractive black stains, streaks, and discoloration.

Color Featured: Dual Black

Roofing

What sets Cambridge Shingles Apart



1 Tough adhesive
We use five strips of our tough, construction-grade adhesive to laminate the shim to the tooth.

2 Stay-put bonding
IKO's proprietary **FastLock®** sealant strips get extra tacky when activated by the heat of the sun to maximize bonding and protect against wind uplift and blow-off.

3 Fiberglass mat core strength
Our fiberglass mat is coated top and bottom with weathering asphalt, then surfaced with colored granules for exceptional durability and structural integrity.

4 Built-in algae resistance
Algae-resistant granules help inhibit the growth of blue-green algae, which can cause unsightly black streaks, stains, or discoloration.

STANDARDS & SPECIFICATIONS[4,5]

Limited Warranty[1]	Limited Lifetime[1]	Length	40 7/8 in (1,038 mm)
Iron Clad Protection[1]	10 Years (U.S. ONLY)	Width	13 3/4 in (349 mm)
Limited Wind Warranty[1]	110 mph	Exposure	5 7/8 in (149 mm)
Limited High-Wind Warranty Upgrade[1,2]	130 mph	Coverage per Bundle	33 1/3 sq. ft (3.1 sq. m)
Limited Algae Resistance Warranty[1]	10 years (blue-green)	Shingle per Square	60

ASTM D3462 • ASTM D3018 • ASTM D3161 – Class F • ASTM D7158 - Class H • ASTM E108/UL 790 – Class A • FM 4473 – Class 3[6]

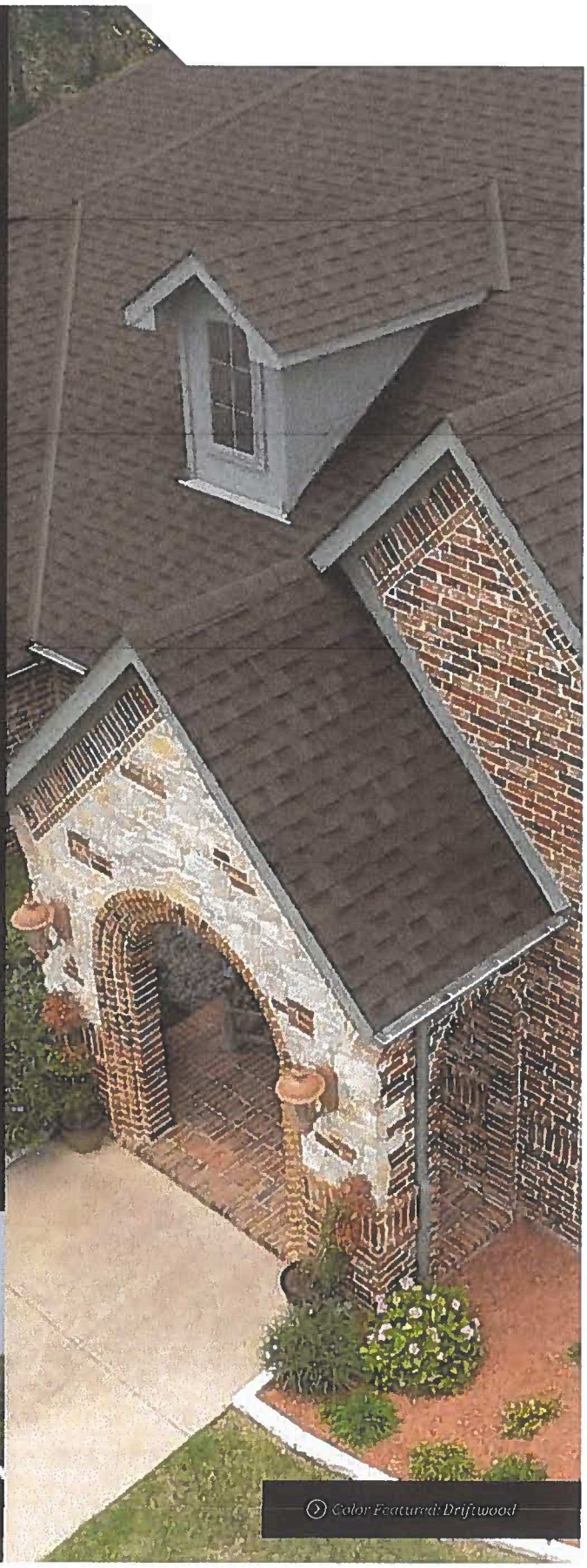
SEE IT ON A ROOF

Cambridge shingles aren't just nice to look at. They boast a number of features that keep your home and family covered:

- Heavy-duty construction from a fiberglass mat core.
- Class 3 impact resistance rating* against hail*.
- FastLock™ sealant, activated by the warmth of the sun to seal down and help protect against wind uplift.
- A wide array of stunning color blends to match your home's style.
- Blue-green algae resistance.
- Superior blow-off protection. Cambridge shingles are designed to help installers fasten them more accurately, helping prevent blow-off in high winds.

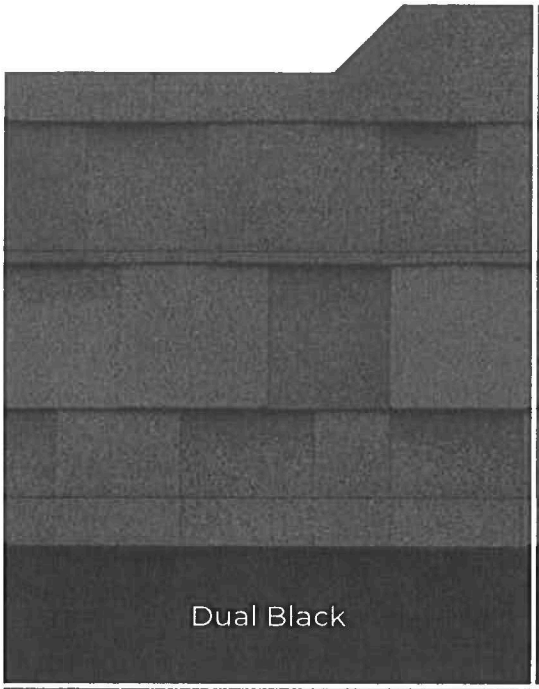
*The impact resistance ratings are solely for the purpose of enabling residential property owners to obtain a reduction in their residential insurance premium, if available. *This is not a guarantee of impact resistance against hail. Damage from hail is not covered under the limited warranty.

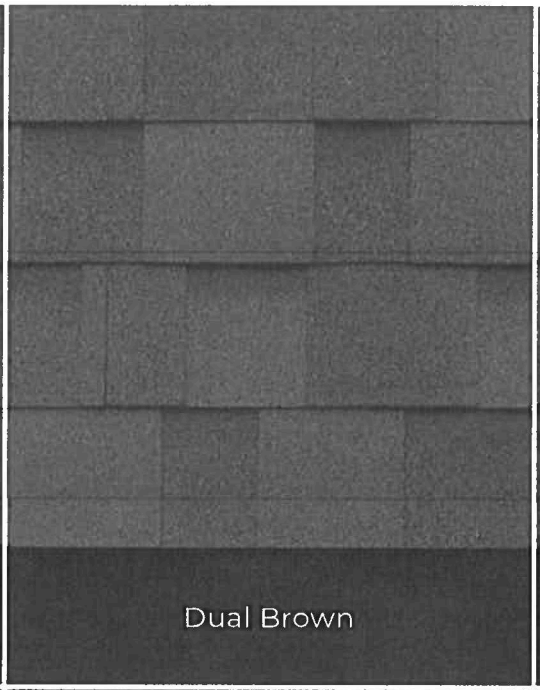
Color Featured: Dual Black

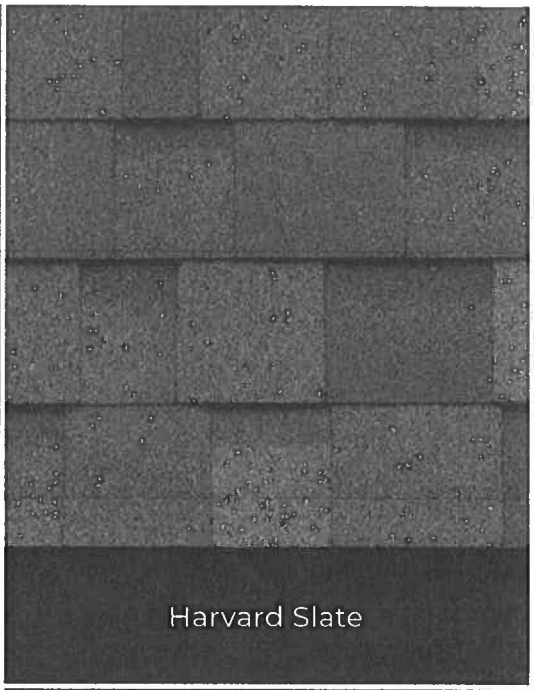


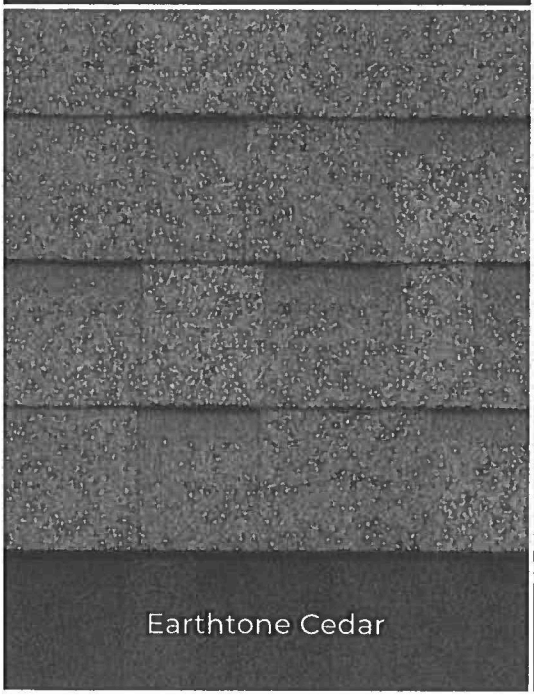
Color Featured: Driftwood

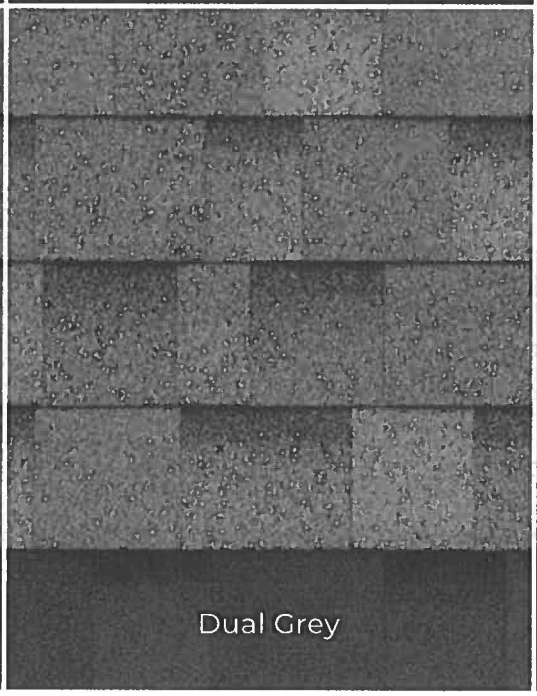
UNIQUE COLOR BLENDS | *Inspired by Nature*

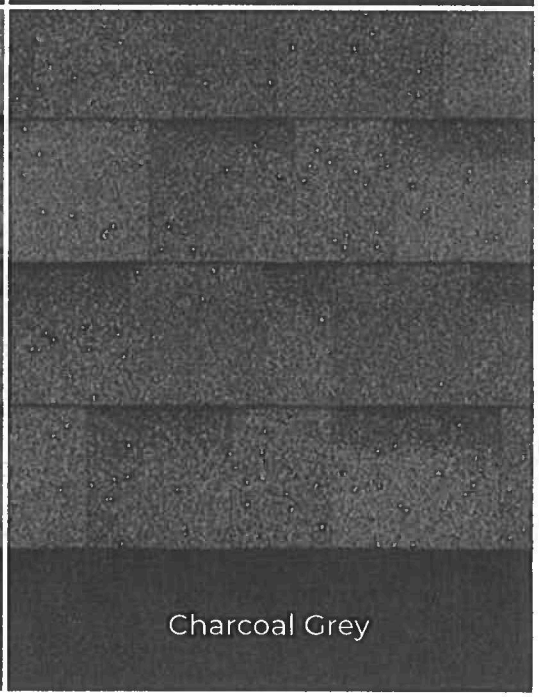












DUAL BLACK: Defined, timeless, exemplary
Perfect Pairings: Stone, brick, masonry, siding (especially red, white, or grey)
Metal Pairings: Copper, black, nickel, chrome, brass

EARTHTONE CEDAR: Woodsy, unexpected, relaxed, notable
Perfect Pairings: Stone, wood, brick, siding (especially white or various pastels)
Metal Pairings: Copper, black, nickel, brass, bronze

DUAL BROWN: Earthy, organic, rustic, laid-back, casual
Perfect Pairings: Log, beige stone, or brick (especially red) facings, brown trim
Metal Pairings: Copper, black, nickel, brass, bronze

DUAL GREY: Upscale, exclusive, from casual comfort to modern chic
Perfect Pairings: White or grey stone, brick or siding; black, white, or grey trim
Metal Pairings: Copper, black, nickel, chrome, brass

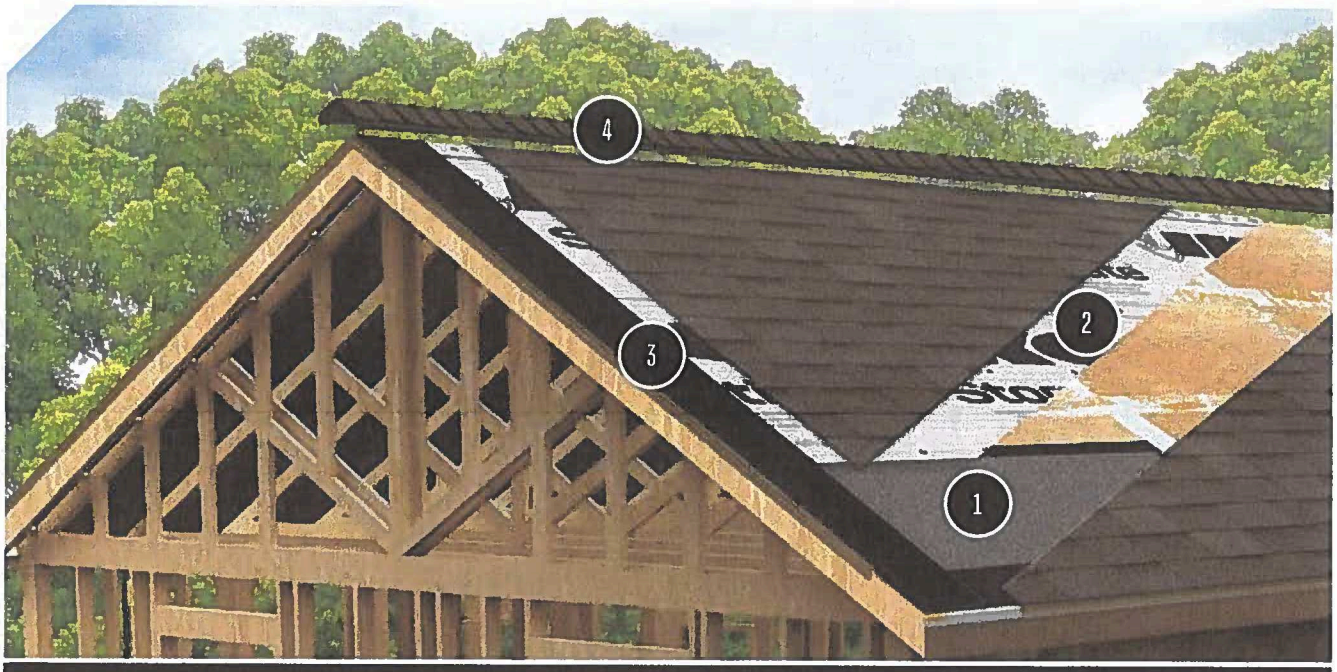
HARVARD SLATE: Historic, expressive, majestic, distinguished
Perfect Pairings: White or grey stone, brick or siding; black, white, or grey trim
Metal Pairings: Copper, black, nickel, chrome, brass

CHARCOAL GREY: Stylish, modern, classic
Perfect Pairings: White or grey stone, brick or siding; black, white, or grey trim
Metal Pairings: Copper, black, nickel, chrome, brass

PROFORMAX

INTEGRATED ROOFING ACCESSORIES

Shingles are your home's first line of defense, but they protect, perform and look their best installed with the **IKO Proformax Integrated Roofing Accessories** shown below.



PROFORMAX ROOFING COMPONENTS

1 DECK PROTECTION	2 SYNTHETIC UNDERLAYMENT	3 ROOF STARTERS	4 CAPPING SHINGLES
IKO GoldSeam™ IKO StormShield®	IKO Stormtite®	IKO Leading Edge Plus™ or IKO EdgeSeal®	IKO Hip & Ridge 12™ IKO Ultra-HP®

IMPORTANT! To ensure complete satisfaction, please view several full-size shingles and an actual roof installation prior to final color selection as the shingle swatches and photography shown online, in our brochures and in our ***ROOF*Viewer®** tool may not accurately reflect shingle color and do not fully represent the entire color blend range nor the impact of sunlight.

NOTE: Product and color availability may vary by region. Products with Miami Dade NOA and FBC product approval listings are available. Meets requirements of the Texas Department of Insurance. Please contact IKO for details [1]See Limited Warranty at IKO.com for complete terms, conditions, restrictions and application requirements. Shingles must be applied in accordance with application instructions and local building code requirements. [2]High-wind application is required. [3]"Lifetime" means the period of time commencing on the date of the completion of the installation of the shingles on the building, and continuing so long as the original Owner owns the building on which the shingles were installed. [4]All values shown are approximate. [5]Products are developed with reference to these standards. [6]This impact rating is solely for the purpose of enabling residential property owners to obtain a reduction in their residential insurance premium, if available. It is not to be construed as any type of express or implied warranty or guarantee of the impact performance of this shingle by the manufacturer, supplier or installer and damage from hail is not covered by the Limited Warranty. IKO recommends the use of its Class 4 impact resistance rated Hip and Ridge cap shingle in conjunction with the use of Class 4 impact resistance rated shingles, and the use of no less than its Class 3 impact resistance rated Hip and Ridge cap shingle in conjunction with the use of Class 3 impact resistance rated shingles. For further detail concerning the FM 4473 standards, visit the FM Approvals website.

The information in this literature is subject to change without notice. We assume no responsibility for errors that may appear in this literature. Find out more about our products now by talking to an IKO sales representative or contact us directly:

In the United States, call 1-888-IKO-ROOF (1-888-456-7663).

IKO.COM/NA

IKO Proven Performance™

© Copyright 03/25 - MP9L100

CITY OF BIDDEFORD
PLANNING DEPARTMENT

HISTORIC PRESERVATION COMMISSION
APPLICATION FOR A CERTIFICATE OF APPROPRIATENESS

Applicant's/Owner's Information:

Applicant's Name: T+T Leasing LLC

Applicant's Address: 109 Cascade Road, O.O.B, ME 04064

Applicant's Phone(s): 207.229.4979

Applicant's E-mail: Kevin@Atlanticdevelopers.biz

Applicant's Legal Interest in the Property:

- [x] Owner
- [ ] Purchase and Sale
- [ ] Tenant - Lease/Rental Agreement

Owner's Name: Same

Owner's Address:

Owner's Phone(s):

Owner's E-mail:

Representative(s) - Agent, Engineer, Architect, and/or Contractor Information:

Agent's Name: Kevin Beaulieu

Agent's Address: 109 Cascade Road. O.O.B. ME 04064

Agent's Phone(s): 207.229.4979

Agent's E-mail: Kevin@Atlanticdevelopers.biz

Attach separate pages where multiple representatives are involved.

CITY OF BIDDEFORD
PLANNING DEPARTMENT

Project Information:

Project Address: 74 Summer Street

Project Zone: _____ Property Map & Lot Number(s): _____

Existing Use of Property:

☒ Residential ☐ Commercial ☐ Mixed Use ☐ Industrial ☐ Institutional

COMMISSION Full Review Project Activities $275.00 Fee (check all that apply):

Alterations and Repair

- ☑ Removal and/or replacement of architectural detailing (for example porch spindles and columns, railings, windows and window moldings, and cornices)
- ☑ Installation or replacement of siding
- ☑ Porch replacement or construction of new porches
- ☑ Installation or replacement of either roofing or gutters when they are a significant and integral feature of the structure
- ☐ Alteration of accessory structures such as garages
- ☐ Other: _____

Additions and New Construction

- ☐ New Construction
- ☑ Building additions, including rooftop additions, dormers or decks
- ☐ Construction of accessory structures
- ☐ Installation of exterior access stairs or fire escapes
- ☐ Installation of antennas and satellite receiving dishes
- ☐ Installation of solar collectors
- ☐ Rooftop mechanicals (e.g., HVAC)

Other: _____

Moving and Demolition

- [ ] Moving of structures or objects on the same site or to another site

- [x] Any demolition or relocation of a landmark contributing and/or contributing structure within a district

- [ ] Other: _____

SUBCOMMITTEE Review Project Activities $50.00 Fee (check all that apply):

Alterations and Repair

- [ ] Masonry work, including repointing, sandblasting, chemical cleaning, painting where the masonry has never been painted, or conversely, removal of paint where the masonry historically has been painted

- [ ] Other: _____

Signage and Exterior Utilities

- [ ] Installation or alteration of any exterior sign, awning, or related lighting

- [ ] Exterior lighting where proposed in conjunction with commercial and institutional signage or awnings

- [ ] Exterior utilities, including mechanical, plumbing, and electrical, where placed on or near clearly visible facades

- [ ] Other: _____

Note: In cases where the project is minor in nature, the Planning Department may determine that even if the activity qualifies for full Commission review it would be more appropriate to have it delegated to Subcommittee review.

Note: Your project may also require a building permit. Please call the Code Enforcement Office (284-9236) to make this determination.

CITY OF BIDDEFORD
PLANNING DEPARTMENT

Submittal Information Checklist:

- [x] Required Application Fee: If full Commission review is required - $275.00
  If Subcommitee review is required – $50.00
- [x] Completed Application Form
- [ ] Description of Proposed Activity
- [x] Photographs of the building involved as well as adjacent buildings
- [x] Samples of materials proposed for use in the activity
- [x] Drawings (i.e., exterior elevations) and/or plans to illustrate the proposed activity for which the certificate is being applied for, including lettering styles (if applicable)

Signature of applicant: _____ Date: March 16, 25

Signature of property owner (Required): _____ Date: March 16, 25

BIDDEFORD HISTORIC PRESERVATION DESIGN GUIDELINES

A Handbook for the Preservation of Biddeford's Historic Resources

CITY OF BIDDEFORD

2025

Acknowledgements

City of Biddeford Mayor

Martin Grohman, Mayor

City of Biddeford Historic Preservation Commission (HPC)

Leah Schaffer, Chair

Erin Ware, Vice Chair

Shannon Chisholm, Regular Member

Julie Larry, Regular Member

Alison Tobey, Regular Member

Scott Joslin, Associate Member

City of Biddeford Planning & Development

George Gervais, Director of Economic and Community Development

David Galbraith, City Planner; Deputy Director of Planning & Development

Adi Iriqat, Assistant Planner

Brad Favreau, Sustainability and Economic Development Coordinator, Staff Liaison to the HPC

Mike Koerner, Risk Assessor/Rehab Coordinator

Lisa Shultz, Community Liaison, Housing Rehab Division

Christine Ohman, Special Projects Funding Coordinator

Jessica Wilson, Community Development & Grants Manager

Nan Whitten, Office Manager

Table of Contents

Chapter 1: Introduction to Historic Preservation

1.1 Introduction…….... 01

1.2 Purpose of Design Guidelines……... 02

1.3 The Secretary of the Interior's Standards for the Treatment of Historic Properties.. 03

1.4 Benefits of Historic Preservation……. 05

1.5 How to use this Document……..……..…… 08

1.6 Executive Summary……...…… 10

Chapter 2: Biddeford Historic Preservation Program

2.1 Introduction to the Biddeford Historic Preservation Commission……..… 11

HPC Membership, Powers, and Duties……..……. 12

Historic Preservation Commission Review Area……...…… 13

2.2 Certificate of Appropriateness……..…… 14

2.3 HPC Design Review Process…… 15

Appeals and Violations ……... 17

Chapter 3: District History and Character

3.1 A Brief History of Biddeford……..…… 18

3.2 Biddeford's Architectural Character……. 20

3.3 National Register Historic Districts and Individually Listed Resources……... 21

Biddeford Main Street Historic District……..…… 21

Biddeford / Saco Mills Historic District……..…… 23

National Register Individually Listed Resources……..…… 25

Chapter 4: Architectural Style Guide

4.1 Introduction..... 26

4.2 Building Forms and Types..... 27

4.3 Architectural Styles..... 36

4.4 Historic Integrity..... 45

4.5 Design Principles..... 49

Chapter 5: Design Guidelines for Contributing Structures

5.1 Overarching Design Guidelines for all Projects..... 53

Preserve/Retain Significant Features..... 53

Repair Rather than Replace..... 53

Make Appropriate Replacements..... 54

Restore Significant Features Where Damaged or Missing..... 54

Comply with Health and Safety Codes..... 56

Adaptive Reuse..... 57

5.2 Guidelines for Streetscape Elements..... 58

Driveways..... 59

Parking and Parking Lots..... 60

Perimeter Walls, Retaining Walls, and Fences..... 61

Sidewalks and Curbs..... 62

Street Fixtures and Furniture..... 63

Trees, Shrubs, and Landscaping..... 65

Vacant Lots and Open Spaces..... 67

Public Art…… 68

Outbuildings and Auxiliary Structures…… 69

5.3 Guidelines for Signage…… 70

General Guidelines…… 71

Types of Signage…… 73

5.4 Guidelines for Existing Buildings…… 78

Accessibility, Code Compliance, & Safety…… 79

Exterior Materials…… 81

Masonry…… 81

Siding…… 86

Decorative Architectural Features…… 89

Doors and Entrances…… 90

Windows…… 93

Energy and Sustainability…… 97

Storefronts…… 99

Awnings…… 101

Exterior Lighting…… 103

Porches…… 105

Decks and Patios…… 107

Roofs…… 108

Utilities…… 113

Paint and Color…… 117

5.5 Guidelines for New Construction…… 119

General Guidelines for New Construction…… 120

Landscape…… 122

Accessibility, Code Compliance, & Safety…… 123

Additions…… 125

Building Materials…… 127

Decorative Architectural Features…… 129

Doors and Entrances…… 130

Windows…… 131

Energy and Sustainability…… 132

Storefronts …… 133

Exterior Lighting …… 134

Roofs …… 135

Utilities …… 137

Color …… 139

Chapter 6. Guidelines for Demolition and Relocation

6.1 Demolition …… 140

Demolition Delay …… 141

Partial Demolition …… 142

Total Demolition …… 142

Demolition by Neglect …… 142

6.2 Relocation …… 143

Chapter 7. Replacement Materials

7.1 Replacement In-Kind vs. Substitute Materials 145

7.2 Use of Substitute Materials in Biddeford 147

7.3 Common Substitute Materials 148

Chapter 8. Best Practices for Non-Contributing Buildings

8.1 Introduction..... 157

8.2 New Construction and Additions..... 158

8.3 Site Design and Landscaping 158

8.4 Building Materials 159

8.5 Architectural Character 159

8.6 Doors and Windows 160

8.7 Porches 160

8.8 Outbuildings and Auxiliary Structures 161

Appendix A. Glossary 162

Appendix B. Biddeford Zoning 179

Appendix C. Energy Efficiency 180

Appendix D. Basic Maintenance 182

Appendix E. Selected Bibliography..... 186

Appendix F. Tax Credit Incentives 195

Chapter 1: Introduction to Historic Preservation

1.1 Introduction

Biddeford has a diverse and rich history, with its story best told by examples of the past – residences, churches, industrial buildings, gathering places – which show the struggles and triumphs of people who have lived there. These structures make Biddeford unique, and, when carefully preserved, they are an attraction to visitors and a source of community pride. The best of Biddeford's past, properly preserved, offers the greatest hope for enriching its future.

The National Register of Historic Places (NRHP) is the official list of the Nation's historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the National Park Service's NRHP is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources. Biddeford has two listed NRHP historic districts and seven individually listed resources that are located within Biddeford's Historic Preservation Commission Review Area (HPC Review Area).

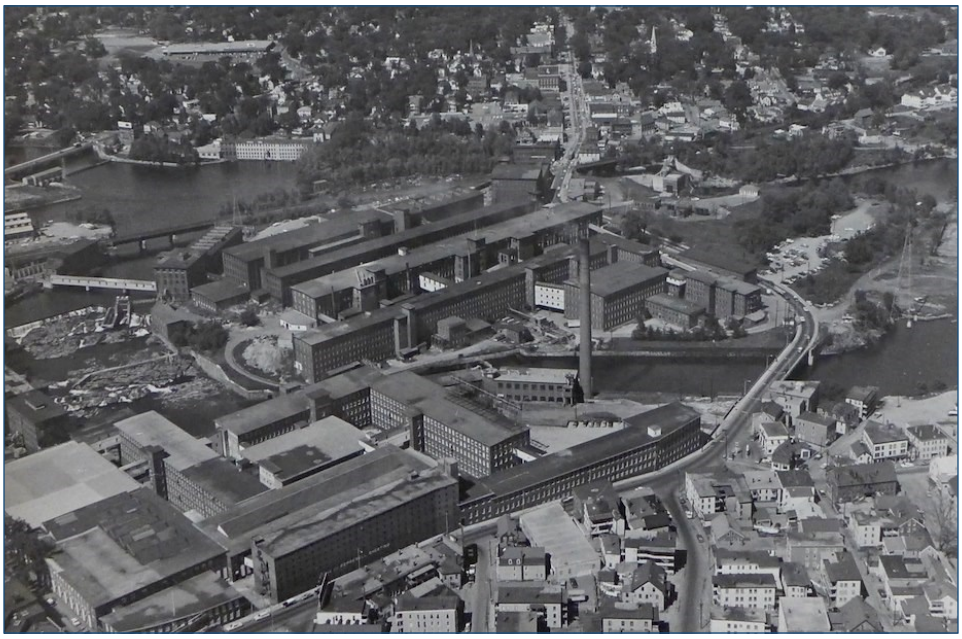


Figure 1: Aerial image of Biddeford's Biddeford/Saco Mills Historic District and Biddeford Main Street Historic District. Source: Biddeford Historical Society.

1.2 Purpose of Design Guidelines and Best Practices

The purpose of design guidelines and best practices for historic buildings is to promote the preservation of the historic character of the built environment while ensuring that new construction and additions are compatible with their historic surroundings.

The City of Biddeford's set of design guidelines has been created to assist owners and tenants of historic buildings as well as architects, engineers, contractors and others to plan and implement projects that preserve and enhance the character of the Historic Preservation Commission Review Area (HPC Review Area). This document also provides a clear framework for ensuring that changes made to the exterior of buildings within the historic district are made appropriately and consistently and do not negatively impact neighboring properties or the overall character of the neighborhood. As a Certified Local Government (CLG) community, Biddeford must, by Ordinance, establish written guidelines for the preservation of local landmarks and historic districts.

The guidelines and recommended treatments in this document are consistent with the Secretary of Interior's standards for the treatment of historic resources, and therefore will help inform the regulatory decisions by the Historic Preservation Commission (Commission or HPC) in design review and permitting actions. These guidelines also provide "best practices" for properties within the Review Area that are not contributing to a district but are historic in age. There is also a set of "best practices" for modern, non-contributing properties that property owners are encouraged but not mandated to follow.

Through voluntarily following the design guidelines and best practices detailed in this document, Biddeford residents and business owners can help ensure their decisions do not negatively impact surrounding properties or the overall character of the neighborhood and City. There is also a set of "best practices" for owners of non-contributing properties to follow .

1.3 The Secretary of the Interior's Standards for the Treatment of Historic Properties

These guidelines are based on the overarching guidance provided by the Secretary of the Interior's Standards for Rehabilitation and have been expanded and refined since their development in 1979. They are used by the National Park Service to determine if proposed rehabilitation of an historic building will be sensitive to its historic integrity. The standards are broad, as they are designed to apply to the rehabilitation of historic properties throughout the United States. The standards are as follows:

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.

2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.

3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.

4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.

5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.

6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.

7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.

8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.

9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

National Park Service. The Secretary of the Interior's Standards for Rehabilitation, 2022.

Figure 2: Bird's-eye view of Saco and Biddeford, Maine. Sketch by J.B. Bachelder and lithograph by J.H. Bufford & Co., circa 1850-1880. Source: Library of Congress.

1.4 Benefits of Historic Preservation

The preservation of historic buildings can play a role in the economic development of Biddeford by making it a more desirable place to live and work, and by encouraging place-making and place-keeping that can help draw in new visitors to our city. Besides preserving the outward historical appearance, historic preservation provides a number of social, economic, and environmental benefits.

Social and Economic

Historic resources are existing buildings, sites, and landscapes which are connected to the City's existing infrastructure. They were constructed with workmanship and materials which are often superior to new construction, including old growth lumber and forgotten construction techniques. As such, they typically have a longer lifespan (100 years +) when compared to new construction (30-40 years on average). Existing historic buildings are tied into existing infrastructure and utilize existing public investments including roads and sewers thereby reducing impact costs which apply to new construction. The rehabilitation of existing structures often compares very favorably to new construction for this reason.

Historic preservation is closely linked to development investment and tourism. Well preserved historic buildings and districts set Biddeford apart from communities filled with new construction, which tend to lack "personality" or individual distinction. Heritage tourism attracts engaged visitors who seek local businesses for their travel needs and entertainment purposes. "Nearly all expenditures of tourists fall into five categories: lodging; food and beverage; local transportation; retail purchases; and entertainment/admissions/ amusements" which are often directly linked to the small businesses of a town or city. Heritage tourism therefore stimulates the economy by encouraging localized spending.

Historic preservation can also help to stimulate the local economy by providing jobs. Rehabilitation projects provide more local jobs as compared to new construction, as a larger percentage of the project cost is for labor. The same cannot typically be said of new construction due to the widespread and common use of prefabrication, which effectively outsources work from beyond the local economy. Additionally, historic districts tend to attract more retail businesses and restaurants due to their unique atmospheres and walkability. Attracting businesses to commercial heavy districts like the Biddeford Main Street Historic District results in an increase in employment opportunities at a local level.

Studies have consistently shown that communities with preserved or revitalized historic neighborhoods have higher property values which prove more stable over time. Such neighborhoods improve the local municipal tax base and are indicators of a healthy community which can attract relocating existing businesses and new startups to the area.

For more information on Preservation & Economics visit: **https://forum.savingplaces.org/learn/fundamentals/economics**

Environmental

Historic preservation is inherently sustainable as it makes use of existing buildings and infrastructure to the greatest extent possible. Waste materials from demolition and construction projects comprise approximately 25% of the waste in American landfills. Historic buildings contain embodied energy, which is the energy associated with extracting, processing, manufacturing, transporting, and assembling building materials. Demolishing a historic building that could otherwise be utilized for a productive purpose wastes a significant amount of energy which had been in use for decades, while replacing it with new construction, often utilizing inferior materials, wastes even more energy.

Not only is the demolition of usable structures wasteful, but many historic resources feature unique regional energy saving features which can contribute to overall sustainability. Inherent energy efficient features in historic buildings can include operable windows, clerestories, skylights, interior courtyards, rooftop ventilators, cupolas, thick masonry walls, and other features that can provide natural light and ventilation and reduce the need for energy consumption using mechanical systems and electric lighting. When necessary, existing historic buildings can also be retrofitted to increase energy efficiency.

The Research & Policy Lab of the National Trust for Historic Preservation conducted a study which demonstrated that when compared a historic building and a newly constructed "green gizmo" structure vary greatly in their environmental impact. One significant finding was that it takes 10-80 years of operating savings of a "green gizmo building to recoup the negative climate change impacts of the [building's] construction. Almost every building typology in every region of the country demonstrated a better environmental outcome through adaptive reuse than with demolition and new construction."

For more information on Sustainability and Historic Preservation visit: **http://www.wbdg.org/design-objectives/historic-preservation/sustainable-historic-preservation**

Other Benefits

In addition to social, economic, and environmental benefits, historic preservation helps a community to maintain a distinct sense of place. The preservation of historic buildings and districts helps to maintain a physical connection to community heritage and promote heritage tourism, attracting visitors and recreational activities to the area. Urban revitalization is also linked to the retention of historic buildings in downtown areas as these rehabilitated spaces attract more businesses and restaurants resulting in increased foot-traffic.

Preservation of the historic character of a neighborhood or district promotes beauty and can improve the overall quality of life for its inhabitants. Historic districts encourage better quality design for new buildings, additions, and renovations. Living and/or working in an attractive environment can provide psychological benefits to residents.

Figure 3: The former mill buildings in Biddeford have been revitalized through a combination of historic tax credits, financing, and community support. The revitalization includes the conversion of historic mills into apartments, hotels, shops, and businesses.

Figure 4: Restoring a historic theater like Biddeford's City Theater can revitalize a downtown area by creating a sense of community pride and acting as a major draw for entertainment and activity, thereby improving the overall vitality of the downtown district.

1.5 How to Use This Document

The following document provides design criteria for changes to buildings located within the HPC Review Area. These design guidelines are meant to provide a reference point for building owners, architects, designers, and other interested parties when planning exterior alterations to properties within the HPC Review Area. This document provides clear examples of what types of changes are appropriate to preserve a building's historic character and includes guidelines for how an applicant should approach alterations. These guidelines are based on the guidance outlined by the Secretary of the Interior's Standards for Rehabilitation, a set of overarching guidelines developed by the National Park Service which set forth standards of treatment when rehabilitating or altering historic properties. This document provides guidance on maintaining, repairing, and, when necessary, replacing historic features on properties within the HPC Review Area. The HPC will refer to this document during their review of a project. It is expected that applicants have referred to this document prior to submitting an application for review. Should property-specific questions arise, an applicant should contact the City's Economic Development Coordinator.

Chapter 1 introduces Historic Preservation and Design Guidelines and provides information on the benefits of preservation to a community.

Chapter 2 provides an overview of the Biddeford Historic Preservation Commission (HPC or Commission) and its role in the Design Review Process.

Chapter 3 contains background information on the history and architectural character of Biddeford as well as an introduction to the City's National Register Historic Districts and individual properties listed on the National Register of Historic Places.

Chapter 4 presents an Architectural Style Guide specific to the building types and styles found within Biddeford as well as architectural design principles which will aid in understanding the Design Guidelines. This chapter should be used to determine the building type, building form, architectural style, and associated features of a historic property.

Chapter 5 contains the set of Design Guidelines for planning a successful project pertaining to contributing structures within Biddeford's HPC Review Area and is broken down into five sections:

- **Overarching Design Guidelines** provide general standards that should be considered when planning a new project, such as the importance of first trying to repair historic materials and if they need to be replaced, how to make an appropriate replacement.
- **Streetscape Elements** provide guidance on elements that make up a public space, including parking lots, fences, sidewalks, streetlights, trees, landscaping, and public art.

Signage includes guidance on a variety of signage found on commercial and residential buildings.

Existing Buildings contain guidance on appropriate exterior alterations to existing buildings.

New Construction provides guidance on compatible new construction within the HPC Review Area, including additions to existing buildings.

Chapter 6 presents Standards for the demolition or relocation of structures and buildings in the HPC Review Area.

Chapter 7 provides information about appropriate substitute materials in Biddeford's HPC Review Area. References to substitute materials can also be found throughout **Chapter 5**.

Chapter 8 contains guidelines for exterior alterations of non-contributing/modern residences within the HPC Review Area.

Appendix A contains a complete glossary that supports the verbiage found in this document.

Appendix B provides more information on the zoning information of the Historic Preservation Commission Review Area.

Appendix C provides general information on embodied energy and the energy and cost efficiency in the maintenance of historic buildings vs. their demolition.

Appendix D contains a maintenance guide for the recommended ordinary maintenance of historic buildings.

Appendix E provides general architectural and historic preservation references, Maine focused references, and technical references provided by the National Park Service.

Appendix F presents information on Federal and State Tax Credit Incentives to help a property owner financially propose a project.

1.6 Executive Summary

This document presents a set of design guidelines aimed at preserving and enhancing the historic character of the City of Biddeford, ensuring that any future development and alterations align with the city's rich heritage. The city boasts a diverse history reflected in its architecture, from historic residences and churches to industrial buildings and community spaces, which collectively narrate the story of its people and their triumphs. These buildings are a source of local pride and a significant attraction for visitors.

The purpose of these design guidelines is to provide a framework for maintaining and altering historic structures while ensuring that new construction or additions complement the existing historic fabric. The guidelines are based on the best practices outlined by the Secretary of the Interior's Standards for Rehabilitation, ensuring that all changes respect the integrity and character of the city's historic environment.

The document includes clear, actionable guidance for property owners, architects, and developers on how to approach exterior alterations, including recommendations on materials, styles, and design elements. It covers properties within the Historic Preservation Commission Review Area, offering specific criteria for repairs, maintenance, and new development to ensure compatibility with the historic surroundings.

By following these guidelines, Biddeford will preserve its cultural and architectural heritage, foster sustainable growth, and enhance the quality of life for residents and visitors alike, securing a vibrant future built upon the foundation of its past.

Figure 5: Main Street, Biddeford. 1945. Source: Biddeford Historical Society.

Chapter 2. Biddeford Historic Preservation Program

2.1 Introduction to the Biddeford Historic Preservation Commission (HPC)

Before the advent of a national historic preservation movement in the mid-to-late 20th century, many historically significant buildings were lost to careless redevelopment. Nationally, historic preservation as a cause gained much momentum and support after the thoughtless demolition of New York City's Pennsylvania Station in 1963, which was replaced by an underground rail station and Madison Square Garden.

Maine experienced a similar loss in the demolition of Union Station on St. John Street in Portland in 1961. The iconic building was replaced with a nondescript strip shopping center and parking lot, producing a great outcry from the City of Portland. Both cities lost great landmarks in the name of progress. Biddeford itself lost many Mill District buildings when the Maine Energy Recovery Company facility was built on Lincoln Street in the 1980s.

The current Historic Preservation Ordinance for the City of Biddeford, in place since 2013, was created to ensure that no more significant buildings are lost to insensitive alterations or development. The Biddeford Historic Preservation Commission (Commission or HPC) was created through this Ordinance to further promote the educational, cultural, economic and general welfare of the City of Biddeford by providing a legal framework within which the residents of the City can protect the historic and architectural heritage of historically significant areas, landmarks and sites while accepting compatible new construction.

The Commission is comprised of members of the community who have expressed an interest in the preservation of Biddeford. All members are residents of the City of Biddeford and have a special interest, experience, property investment, or education in history or architecture.

Further information on past projects and initiatives completed through the Biddeford Historic Preservation program can be found at the following link:

https://www.biddefordmaine.org/2208/Biddeford-Historic-Preservation-Program

HPC Membership, Powers, and Duties

The Board consists of seven members, five voting members and two associate members. Each member is nominated by the Mayor and confirmed by the City Council for a three-year term. The Mayor has the discretion of appointing members and associate members to the Commission with terms expiring after two years but less than three years for the purpose of staggering appointments throughout the calendar year.

The Code of Ordinances of the City of Biddeford grants the Historic Preservation Commission the authority to review all construction projects in the three Main Street Revitalization District (MSRD) land use zones to ensure compliance with preservation practices (see a map of this area on the following page). The HPC adheres to the standards set by the U.S. Department of the Interior's Standards of Rehabilitation while also taking into consideration the City's Code of Ordinances.

The Historic Preservation Commission has the following responsibilities:

- Issue Certificates of Appropriateness for eligible activities identified in the City's Historic Preservation Ordinance.
- Conduct or administer an ongoing survey to identify historically and architecturally significant areas, sites, structures, and landmarks.
- Make recommendations for the designation of landmarks or new or expanded districts to the Planning Board.
- Advise the City Council, Planning Board, and City Departments regarding the protection of historic landmarks and districts.
- Review and make recommendations regarding all National Register proposals for properties and districts within the City.
- Assist in the development of relevant sections of the City's Comprehensive Plan pertaining to historic resources and historic preservation.
- Educate and inform the citizens and property owners in Biddeford concerning the historic and architectural heritage of the City.

The current HPC members and their contact information can be found through the following link: **https://www.biddefordmaine.org/2855/Historic-Preservation-Commission**.

Historic Preservation Commission Review Area

The HPC considers projects taking place within the MSRD-1, most of MSRD-2, and MSRD-3 Land Use Zones shown on the map below. See **Appendix C. Biddeford Zoning** for more information on MSRD zoning. The HPC Review Area encompasses two National Register Historic Districts, multiple individually listed National Register properties, and a large residential area.

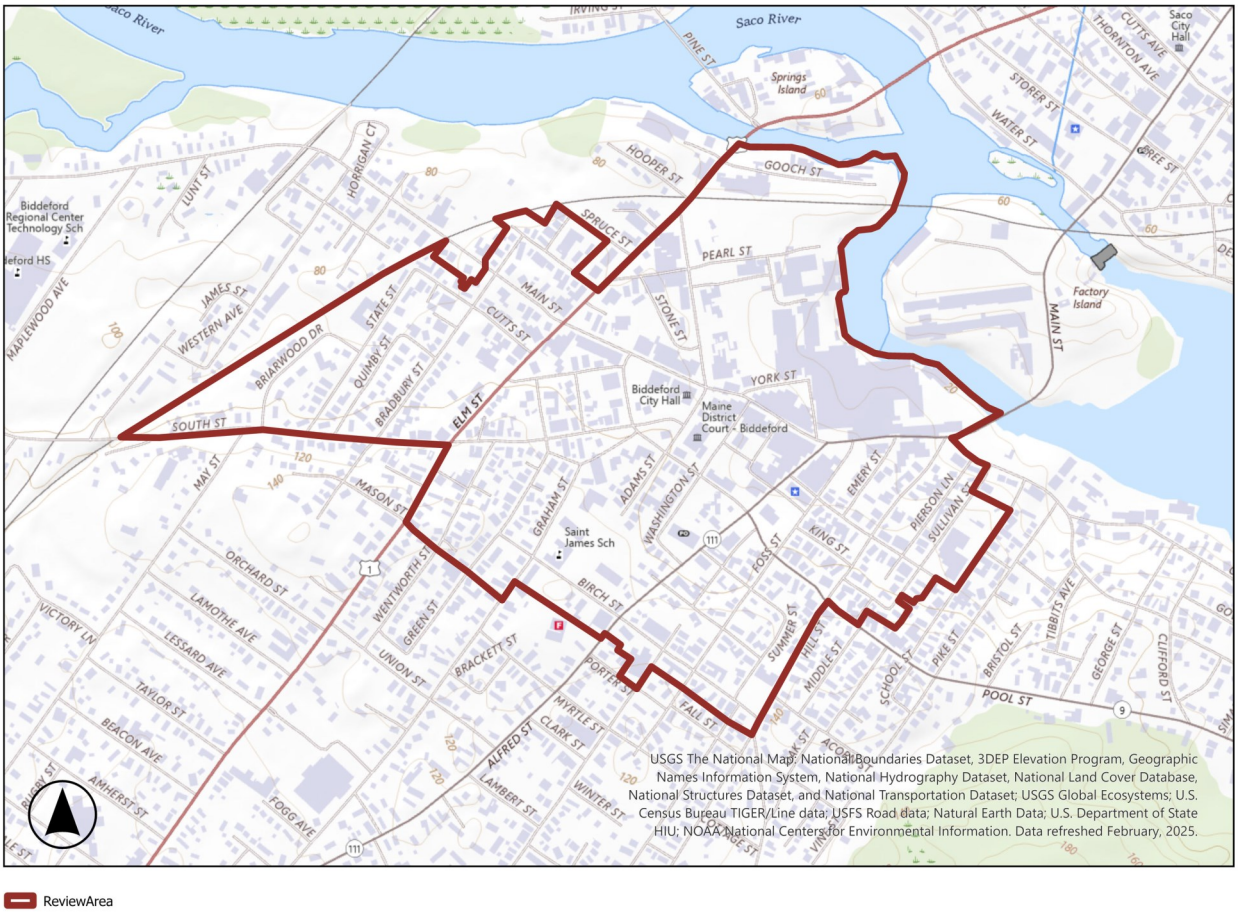


Figure 6: Map of the Historic Preservation Commission Review Area.

2.2 Certificate of Appropriateness

The City of Biddeford's Historic Preservation Ordinance requires that, in most cases, a Certificate of Appropriateness (COA) must be issued prior to alterations to buildings and structures in the MSRD 1, MSRD2, and MSRD 3 Zones. A COA is a certificate issued by the Commission or its designee evidencing approval of specific plans for alteration of a structure or construction on a site in accordance with the Biddeford Code of Ordinances and Design Guidelines.

Physical applications for COAs can be obtained either in the Code Enforcement Department or the Planning and Development Department. A fillable form is also available online and can be accessed through scanning the adjacent QR code.

Certificate of Appropriateness forms include the following:

a) The applicant's name and address and his or her interest in the property;

b) The owner's name and address, if different from the applicant's;

c) If applicable, the contractor's and/or architect's name and address;

d) The address or location of the subject property;

e) The existing use and zoning of the property;

f) A brief description of the proposed activity for which a certificate of appropriateness is sought.

The submission of any or all the following information alongside a completed COA application is recommended and may even be asked for by the HPC depending on the project:

a) Drawings, (e.g. exterior elevations, floor plans, detail drawings), sketches, diagrams and/or illustrations – at scale – that illustrate the proposed activity for which the COA is being sought;

b) Samples of materials proposed for use in the activity;

c) Photographs of other recently completed projects by the applicant in a similar fashion to which the certificate is being applied for; and

d) Photographs of the building involved as well as adjacent buildings.

If there are any questions about the COA process, please contact the Biddeford Planning and Development Department.

2.3 Design Review Process

Depending on the scale of activity, a Certificate of Appropriateness (COA) application is reviewed by either the Commission or its delegated authority Subcommittee. Completed applications are due 14 days prior to the HPC's regularly scheduled meetings, which are on the second Wednesday of every month. All meetings begin at 4 PM in the City Hall Council Chambers unless otherwise stated on the Agenda.

Historic Preservation Commission Review

COAs from the Historic Preservation Commission are required for the following proposed projects:

a) Any change to the exterior appearance or to an exterior architectural feature of any building or structure in an historic district that requires a building permit or a sign permit from the Code Enforcement Department and for any change to the exterior appearance or to an exterior architectural feature of an historic landmark that requires either a building permit or a sign permit from the Code Enforcement Department;

b) New construction of a principal or accessory building or structure visible from a public street where such a building or structure will be located in an historic district;

c) Demolition of an historic landmark or a building or exterior architectural feature in an historic district;

d) Moving of an historic landmark or any building in an historic district; and/or

e) Any change, except for minor repair, in siding materials, roofing materials, door and window sash and integral decorative elements, such as, but not limited to, cornices, brackets, window architraves, doorway pediments, railings, balusters, columns, cupolas, and cresting roof decorations.

f) Improvement projects and objects on contributing properties, such as lighting, sidewalks, raised walkways, handicapped access ramps, paving, or curbing, located beyond the right-of-way of any public street or way, but visible from the street, and located within an historic district or affecting any historic site or landmark.

More information can be found at **www.biddefordmaine.org**

Subcommittee Review

In order to process COAs more efficiently, a subcommittee consisting of the City Planner or designee and the Chair of the Historic Preservation Commission will review applications for the following proposed projects:

a) Minor alterations, which are defined as incidental changes or additions to a building or site features which will neither result in substantial changes to any significant historic features nor obscure such features;

b) Temporary alterations, which are defined as either a one-time occurrence that does not exceed 30 days or as an annual occurrence that does not exceed one thirty-day period each year; .and/or

c) The installation or alteration of any exterior sign.

City Of Biddeford Code of Ordinances , Art. XV, Sec. 10

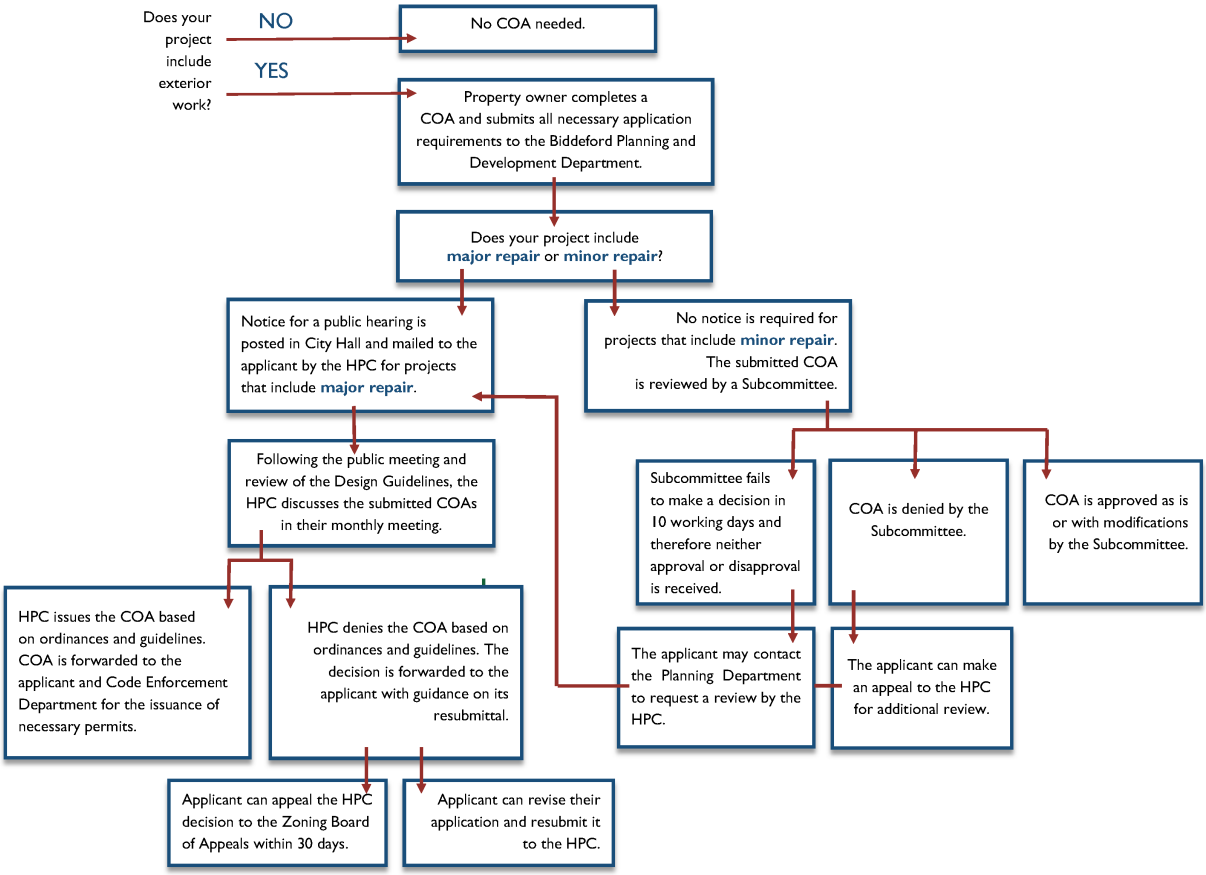


Figure 7: Flow chart outlining the Design Review Process in Biddeford.

Appeals

Any Certificate of Appropriateness issuance, either approved or denied, may be appealed within 30 days of issuance.

Historic Preservation Commission issuances should be appealed to the Zoning Board of Appeals.

Subcommittee issuances should be appealed to the Historic Preservation Commission as an appellate review.

Violations

The "Code Enforcement Officer" is the executive official in charge of the Office of Building Official created through the City of Biddeford Code of Ordinances. The Code Enforcement Officer is responsible for enforcing all laws relating to the construction, alteration, removal, and demolition of buildings and structures, and to enforce the provisions of this ordinance.

If the Code Enforcement Officer finds that any provisions of the Code of Ordinances has been violated, they shall notify the person(s) responsible for said violation by certified mail. This notice will indicate the nature of the violation(s), state regulations regarding fines, and order the action necessary to correct it.

If following an investigation, he feels the ordinance is being violated, it shall be their duty to start legal action on behalf of the City. They shall order discontinuance of illegal use of land, buildings or structures or additions, alterations or structural changes; or discontinuance of any illegal activity. Fines and civil penalties will follow.

City of Biddeford Code of Ordinances, Art. XIII, Sec. 5

Chapter 3. District History and Character

3.1 A Brief History of Biddeford

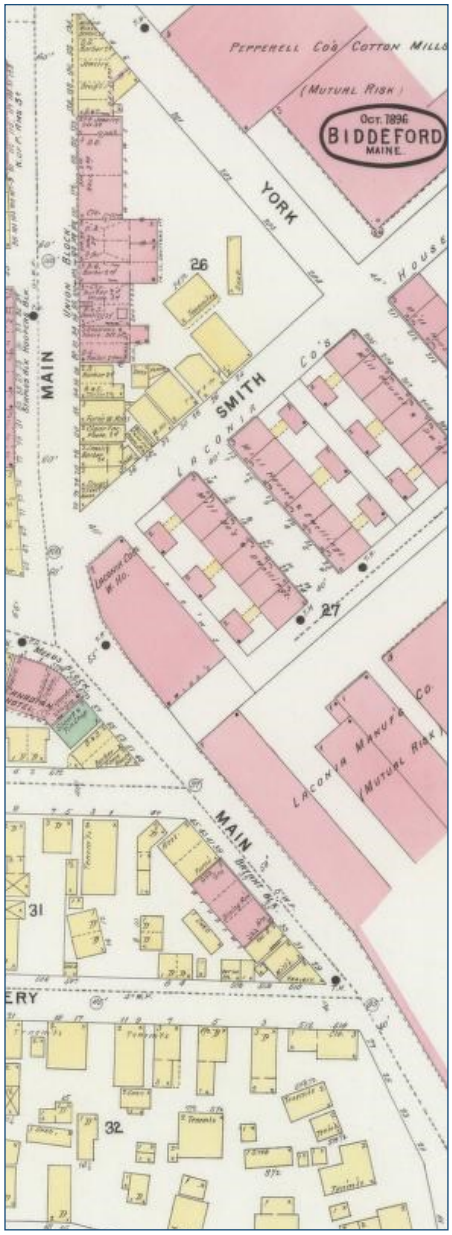


Figure 8: This 1896 fire insurance map, published by the Sanborn Company, illustrates Biddeford along Main Street in that year.

Biddeford, located along the Saco River, was first inhabited by the Abenaki tribe. Biddeford's location along the river was ideal for easy transportation and provided abundant fishing for the tribe. The earliest European settlement in the area began around 1616 on the tip of a narrow peninsula at the mouth of the Saco River, several miles southeast of the current downtown of Biddeford. The Biddeford Pool area was permanently settled in 1626, soon followed by additional settlements further up the Saco River. For the next 100 years, Biddeford grew slowly as an important stop on the "Kings Highway" linking Falmouth (Portland) and Boston. By the time of the American Revolution, Biddeford was a thriving small community of about 1,000 people with an economy based largely on farming and forestry.

Beginning in the mid-19th century, textile mills became the dominant force in the city's economy and began to dramatically reshape the community. Biddeford slowly developed into a mill town making shoes and boots in addition to lumber, grain, and textile mills. Thanks to the city's advantageous position near major markets, railroads and abundant hydropower, Biddeford grew to become one of the largest textile manufacturing cities in the country by the end of the 19th century. The textile industry employed thousands of people and was an economic engine for the city and the region. Migrants from Canada and Europe flocked to Biddeford to find work in the mills and start a new life in the United States. Immigrants from the Middle East also arrived in Biddeford in the 1920s to work in the mills, many recruited arrived as textile designers. The growth of the mills also lead to the growth of Biddeford's

downtown, as a number of business and shops emerged to cater to the large workforce in the mills.

However, after World War II, the textile industry in New England began to decline as manufacturing moved to other states or overseas. Biddeford's once thriving mills began closing in the 1950's and the city's traditional urban core began to struggle as development and investment moved into the suburbs. In the 1980's, the community began to see a resurgence as a new investment which led to a focus on the redevelopment of the former textile mills. Although this development helped bring some business back to the city, it also resulted in the loss of many Mill District buildings in the 1980s.

Biddeford's late 20th and early 21st century historic preservation program has since made strides in protecting and effectively adaptively reusing many of the historic mill buildings. Biddeford's economy today is a diverse mix of manufacturing, technology, and serviced-based companies and institutions, many of whom conduct business in the City's business and industrial areas.

Figure 9: Inside the Pepperell Mills in Biddeford, circa 1890. Source: Biddeford Historical Society.

Figure 10: Two performing groups on the stage of the Old City Theater. Source: Biddeford Historical Society.

Figure 11: Alfred Street, Biddeford, near Bacon Street looking toward Main Street. February 17, 1945. Source: Biddeford Historical Society.

3.2 Biddeford's Architectural Character

Biddeford has a very dense set of extant mill buildings that border a strong commercial core that together largely defines the City's character.

The portion of Main Street that lies between Elm and Water streets in downtown Biddeford served as the primary commercial business district for the region from the mid-19th century into the mid-20th century. The buildings retain most of their original design features and comprise a visually cohesive grouping of commercial buildings constructed between 1846 and 1952. The development of this district in the city reflects local industrial history and commercial development trends, and also represents an important era in social clubs and fraternal organizations in Biddeford. The predominantly brick-clad, two- to four-story buildings tend to be vernacular, but design details and the few high style buildings within the district were visibly influenced by the typical styles of the mid-19th to early-20th centuries. Stylistic influences within the Biddeford Main Street Historic District include Greek Revival, Italianate, Romanesque Revival, Classical Revival, and Egyptian Revival.

The Biddeford / Saco Mills Historic District is significant for its architecture and association with industrial history between 1832 and 1958. The mill buildings are visibly distinct from the commercial buildings of the Biddeford Main Street Historic District; therefore, the boundaries of the two districts abut each other but do not overlap. The buildings of the Mill District are typically large brick mills along the Saco River or lower Main Street and smaller brick Greek Revival offices fronting upper Main Street.

These economic and growth cycles are also evident in the residential buildings surrounding the two districts within Biddeford's Historic Preservation Commission Review Area. The immediate residential buildings are typically two- to three- story frame structures constructed in the mid- to late-1800s, a large number constructed as worker housing. These residences also exhibit an evolution in their vernacular styles, from the earliest simple gabled central hall plan houses through the transition of the small gable-front homes, to the gradual inclusion of a small projecting bay, these smaller homes reflect historic influences and gradual changes in taste and means.

Figure 12: Streetscape of industrial buildings in the Biddeford/Saco Mills Historic District.

Figure 13: Streetscape of commercial buildings in the Biddeford Main Street Historic District..

3.3 National Register of Historic Places: Historic Districts & Individually Listed Resources

Biddeford Main Street Historic District

The Biddeford Main Street Historic District consists of 62 buildings, three parks, and one monument along Main Street, Jefferson Street, Adams Street, Franklin Street, Washington Street, Alfred Street, Elm Street, and Water Street in downtown Biddeford, York County, Maine (59 buildings contributing as of 2024). Biddeford's Main Street is a concentration of predominantly attached commercial buildings that served as the central business district for the City of Biddeford and the surrounding area beginning around 1846. The buildings form a cohesive grouping that conveys the significance of the district as the commercial and social center of the City of Biddeford from 1846 through 1952.

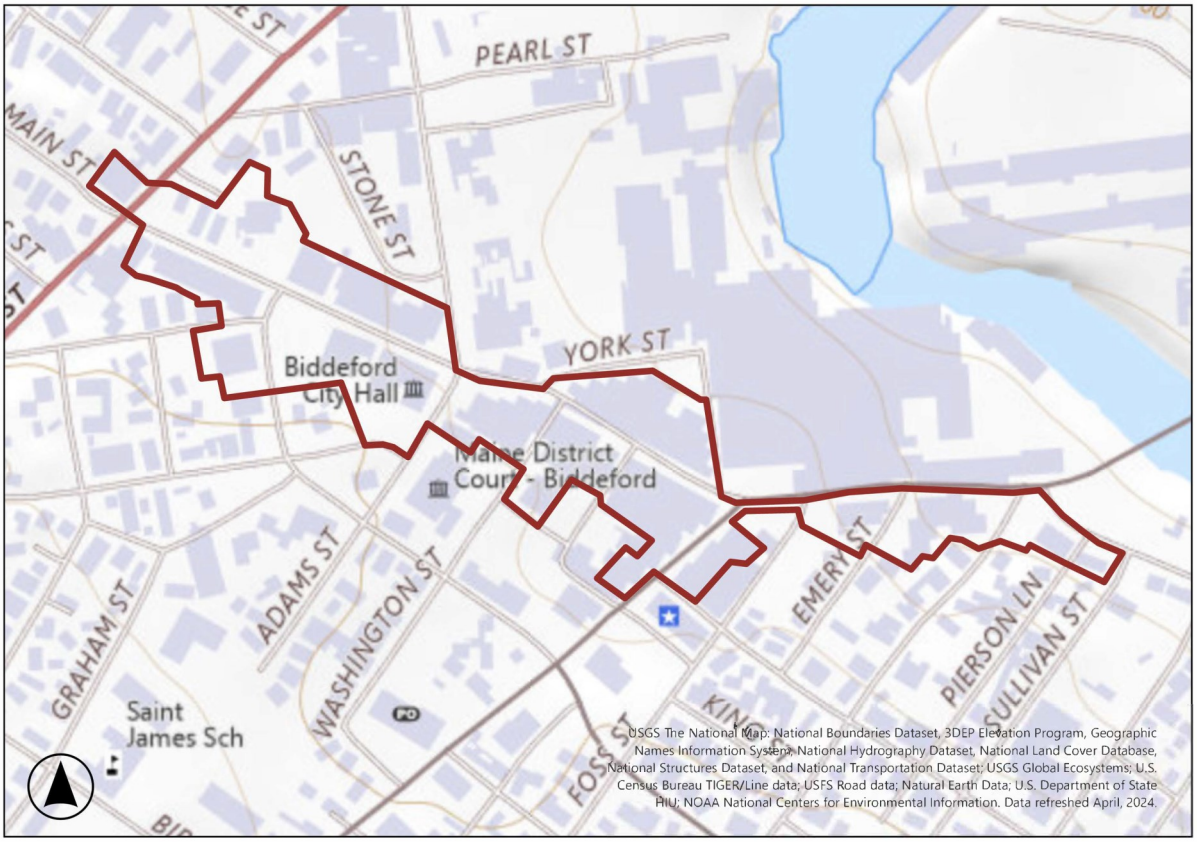


Figure 14: Map of the Biddeford Main Street Historic District.

The district includes mainly two- to four-story brick or frame buildings with first-floor storefronts and upper-story office or residential uses. The most prominent stylistic influence is Italianate, although Greek Revival, Romanesque Revival, Art Deco, and Classical Revival are also represented. Common details include segmental arch windows and pressed metal cornices with decorative brackets. The storefronts are visually separated from the upper stories and usually have display windows and recessed entrances. The civic and religious buildings follow many of the same stylistic principles, with notable details that discern them from the commercial buildings, such as the tower on City Hall. Several of the commercial buildings are distinguished by materials, such as the Marble Block, or through design, such as the Egyptian Revival J.K. Paquin Building.

Figure 15: Italianate commercial building located at 215 Main Street.

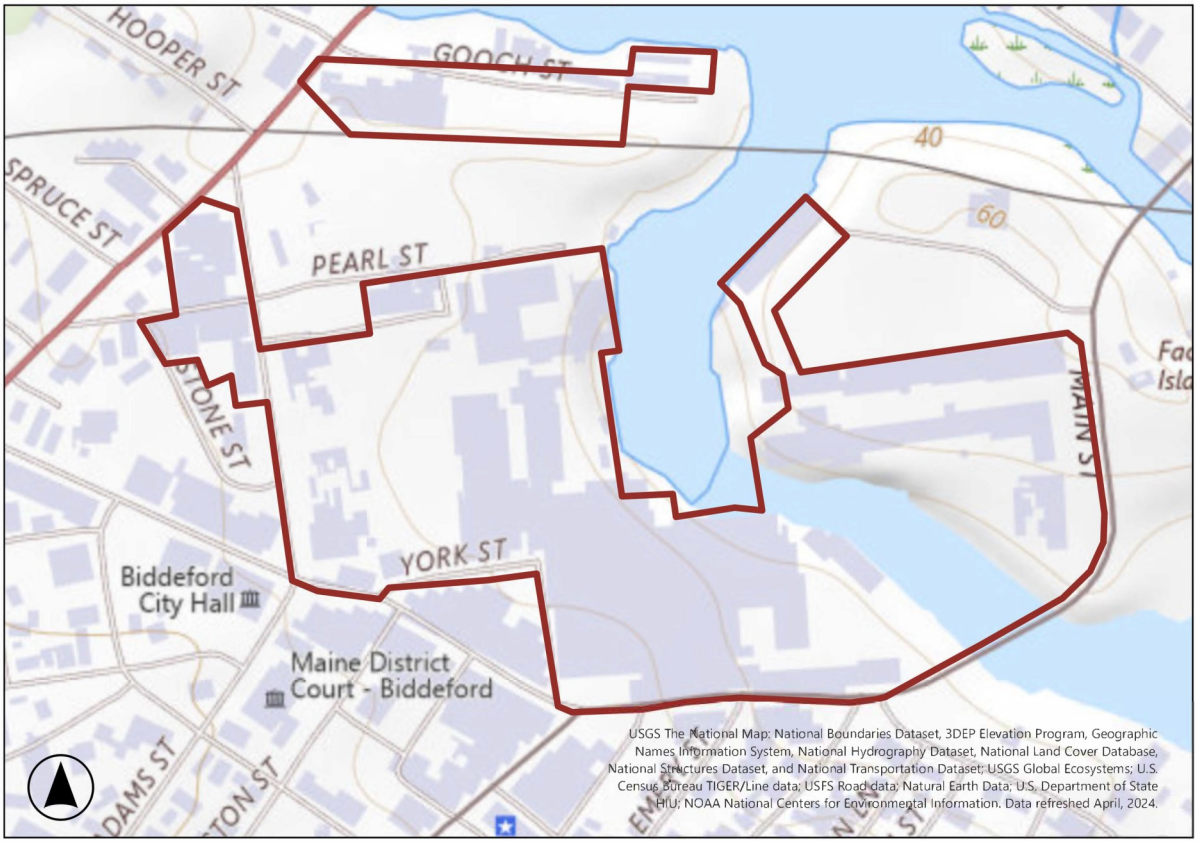
Figure 16: Biddeford's City Theater located at 205 Main Street.

Figure 17: Historic Greek Revival former hotel located at 193 Main Street.

Biddeford / Saco Mills Historic District

The Biddeford/Saco Mills Historic District is a cohesive collection of historic manufacturing buildings situated on roughly 38 acres of land flanking the Saco River. The district includes 13 properties in the city of Biddeford and the entirety of, or portions of six properties within the Saco city limits and is located adjacent to the downtown commercial areas of both cities. The river, which separates the two municipalities, runs through the district roughly north to south, with Biddeford on the west bank and Saco to the east. The properties in Saco are located on a small island in the river, historically known as Cutts Island then Factory Island, but now referred to as Saco Island. There are 39 contributing resources as of 2024 within the district limits.

The Biddeford / Saco Mills Historic District is significant for its associations with the development of the Biddeford / Saco region from a remote seventeenth-century maritime settlement to a major industrial center in the nineteenth century. Buildings that make up the district are representative of the industrial development that fueled growth and expansion



Biddeford / Saco Mills Historic District Boundary

Figure 18: Map of the Biddeford / Saco Mills Historic District.

of Biddeford and Saco in the nineteenth century. The Biddeford / Saco district is also important as a cohesive collection of well-preserved industrial building types that represent the development of industrial architecture in the nineteenth and early twentieth centuries.

While there is a uniformity to the district, with the buildings sharing a common design model, some of the principal manufacturing structures are distinguished by detailing of their stair towers. The towers feature such elements as cupolas, clock faces, belvederes, corbelled brickwork, arched windows, and decorative stonework. Structures in the district represent a full range of building types, from large multi-story manufacturing buildings to more modest mill offices, warehouses, and outbuildings. In many locations, particularly on the Biddeford side of the river, the mill buildings are linked by utilitarian enclosed bridges from the late nineteenth and early twentieth centuries. While uses of the various structures have changed over the years, the building exteriors are quite intact, with alterations typically limited to window and door modifications and small additions. Nearly all buildings are constructed of red brick and trimmed with rough-cut granite.

Figure 19: Aerial view of the Biddeford / Saco Mills Historic District, which is located along the Saco River.

Figure 20: Wooden enclosed bridges are can be found throughout the Biddeford / Saco Mills Historic District. The bridges connect the former mill buildings.

National Register Individually Listed Resources

The following is a list of individual properties listed on the NRHP within Biddeford's HPC Review Area.

- **Biddeford City Hall** – including City Theater (205 Main St)
- **Dudley Block** (28-34 Water St)
- **Emery School** (116 Hill St)
- **St. Joseph's School** (41 Birch St)
- **Summer Street Block** (1-11 Summer St)
- **U.S. Post Office** (35 Washington St)
- **St. Andre's Parish** (73, 77 Bacon St; 39, 41 Sullivan St) – is a National Register District that consists of four contributing resources.

Figure 21: Biddeford's City Hall located at 205 Main Street.

Figure 22: St. Andre's Church located at 73 Bacon St.

Chapter 4. Architectural Style Guide

4.1 Introduction

Historic buildings are frequently characterized according to their architectural style. Architectural style is defined by hallmark forms, shapes, proportions, materials, and ornamentation that make up a building's overall character. Architectural styles have changed throughout history as certain design movements became popular and others faded out of fashion. Understanding your property's architectural style, and the character-defining features that contribute to that style, will help you to understand which features are critical to the preservation of its historic character. Few structures display all the characteristics of a particular style, and many buildings exhibit eclectic details from a mix of styles. Architectural styles are grouped into two categories: vernacular and high style. Before proceeding, it is helpful to understand the following terms as they relate to historic architecture. The following has been adapted from *A Field Guide to American Houses* by Virginia Savage McAlester.

"**Building type**" describes a structure's function and form. Some building types are closely associated with a particular architectural style, while others are used in many architectural styles.

The term "**vernacular**" refers to buildings constructed according to traditional methods of construction within a specific locality or for a particular group of people. Often created by carpenter-builders and designers, vernacular buildings combined vernacular forms, pattern book designs and the builder's own ideas. Influenced by local climate, building traditions, and contemporary architectural styles, these builders created local variations in historic architectural styles.

"**High style**" refers to buildings constructed according to the doctrines of a specific, readily identifiable, national, or regional architectural style. Often designed by professional architects and builders, or derived from architectural guidebooks, high style buildings vary widely in size, form, and detailing/ornamentation. Designers of high style buildings were often strongly influenced by contemporary trends, fashions, and academic principles. While there are some examples of high style architecture in Biddeford's HPC Review Area and two historic districts, most buildings are vernacular.

The following section provides a guide to assist in identifying architectural styles and evaluating a property's historic significance. Before proceeding, it is helpful to understand the following terms as they relate to historic architecture.

4.2 Building Types and Forms

Please refer to **Appendix A. Glossary** for the definitions of additional architecture- and preservation-related terms.

A building's type is defined by the function of the property. The following are types found within Biddeford's historic districts, local landmarks and overall Historic Preservation Review Area:

a) **Commercial buildings** are buildings that are used for business purposes, such as stores, offices, restaurants, and banks. The majority of historic buildings in the Biddeford Main Street Historic District are commercial building types.

b) **Residential buildings** include single-family homes and multi-family homes, such as apartments and duplexes. The majority of historic buildings outside of Biddeford's two historic districts that are located within the Historic Preservation Commission Review Area are residential building types.

c) **Industrial buildings** are buildings used for the production and manufacture of products, including product storage facilities such as warehouses. The majority of historic buildings in the Biddeford / Saco Mill Historic District are industrial building types.

Other building types that are in Biddeford that are on the National Register include Religious buildings such as churches, Municipal properties such as Biddeford's City Hall, and educational properties such as St. Joseph's School.

Figure 23: From left to right, examples of typical commercial, residential, and industrial buildings found in the Biddeford HPC Review Area.

Commercial Buildings

One-Part Commercial Block (1850s-1970s)

This building type is a single story and was typically constructed in urban settings to house retail shops, banks, or restaurants. These buildings tend to be wider than they are tall and feature large windows to display the goods provided inside. One-part commercial block type buildings often feature recessed entrances, and decorative cornices or parapets on the façade. This type is not as common in Biddeford but is still represented.

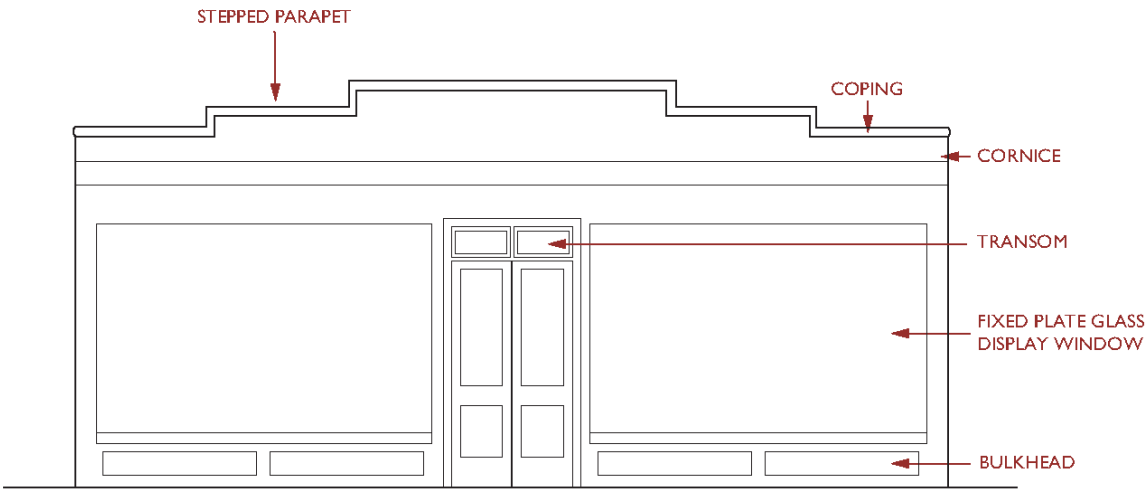


Figure 24: One-Part Commercial Block diagram.

Commercial Buildings (cont.)

Two-Part Commercial Block (1850s-1950s)

This building type is common throughout the United States. These buildings are two to four stories in height and divided into two distinct parts based on interior uses. Public spaces such as storefronts, lobbies, or restaurants, are located at ground level, with private spaces, such as apartments or offices on the upper stories.

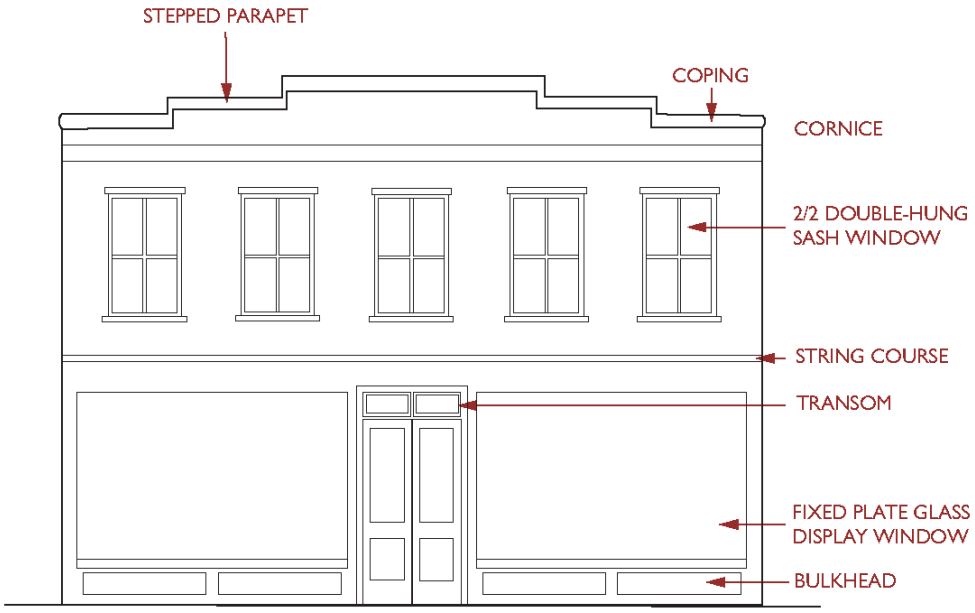


Figure 25: Two-Part Commercial Block diagram.

Commercial Buildings (cont.)

Vernacular Storefront (1850s-1950s)

The vernacular commercial storefront of the late 19th and early 20th centuries commonly appears as the first-floor level of the one- and two-part commercial block building types. These storefronts feature large windows for the display of goods and a recessed main entrance which may be centered or aligned to one side of the building. The majority of Biddeford's historic commercial buildings feature vernacular storefronts.

Figure 26: Vernacular Storefront diagram.

Commercial Buildings (cont.)

Temple Front (1820s-1940s)

Temple front buildings have facades which mimic the temples of Greek and Roman antiquity. Rather than having been developed for commercial use as the other building types listed here, the temple front was most often used on religious, civic, and institutional buildings. A common exception is bank buildings, which, prior to the mid-19th century often had little in common with other commercial buildings in terms of appearance.

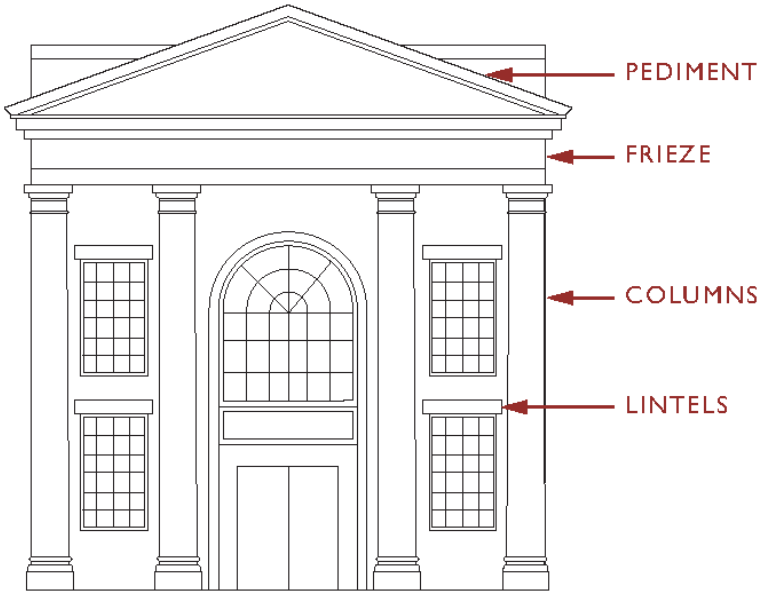


Figure 27: Temple Front diagram.

Residential Buildings

Single Pile

The Single Pile house, also called an "I-House," is traditionally three bays wide, one room deep, and two stories tall with a side- or front-gabled roof. It has a symmetrical façade, often with end chimneys and a front porch. On the interior, it typically has a central hall flanked by rooms. It is a common type of vernacular home, and many were constructed in the region during the 19th century. These homes were often enlarged with rear ell additions, and the front porch was often updated to suit changing architectural fashions. Gothic Revival, Queen Anne, and Italianate variations are common.

Double Pile

The Double Pile house, like the I-House, is typically three to five bays wide and two stories tall with a rectilinear shape and side-gable roofline. The Double Pile house is defined by its two-room depth. It follows one of the most common domestic floor plans found in the United States, the "Hall and Parlor" plan, in which a central hall with staircase is flanked by pairs of rooms on each side. The double pile form is most closely associated with the Georgian and Federal styles but was also commonly ornamented with Greek Revival, Gothic Revival, Italianate, Colonial Revival, and Classical Revival style details. It is also commonly found in its simple vernacular form with little stylistic detail.

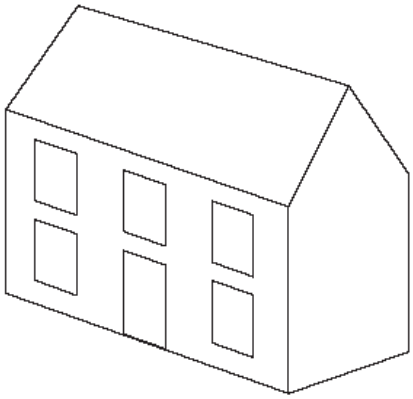


Figure 28: Single Pile diagram.

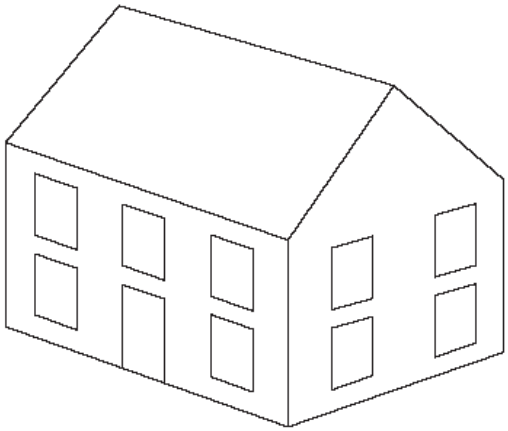


Figure 29: Double Pile diagram.

Residential Buildings (cont.)

Cape Cod

The Cape Cod house is a common vernacular, early New England folk-house form. The Cape Cod style is traditionally five bays wide, two bays deep, and one-and-a-half stories tall with a side-gabled, steep roof. It has a symmetrical façade with a central chimney. This style can also feature partial-width front porches over the centered front door or dormers on the roof. It was also a popular building form because it was typically inexpensive to build and the simple form made it is easier to add on and configure the house.

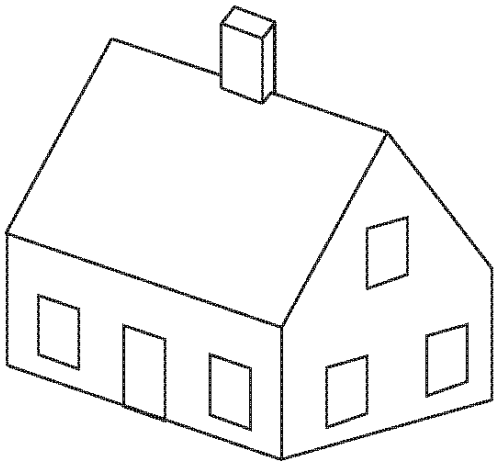


Figure 30: Cape Cod diagram.

Residential Buildings (cont.)

Gable-Front

The Gable-front house is another common vernacular form. Characterized by its simple, front-gabled roof, the Gable-front house type is typically rectangular or square in form. The narrow form of the gable-front type was well suited to narrow lots and the type is commonly found in urban neighborhoods and towns. Like other vernacular forms, this type may be found unornamented or with applied ornamentation from a variety of architectural styles.

Gable-Ell

The Gable-Ell house is typically two stories and is characterized by a gable-front central mass with an intersecting wing (the "ell") placed perpendicularly, creating an L shaped plan. The long side of the ell is typically oriented towards the street, and a porch is often located at the juncture of the two wings. Like the other building types mentioned, the gabled ell house was often ornamented with Victorian-era details, and the porch was commonly updated to reflect changing tastes and architectural fashions.

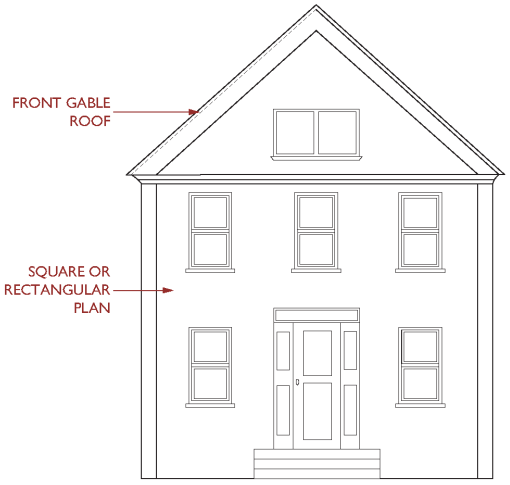


Figure 31: Gable-Front diagram.

Figure 32: Gable-Ell diagram.

Residential Buildings (cont.)

American Foursquare

The American Foursquare is characterized by its boxy appearance, square or rectangular plan, and hipped or pyramidal roof. They are two-and-a-half stories high, and many have hipped or shed dormers. Dormers were typically centered over the front façade or placed on all four sides of the hipped roof. The form was ubiquitously popular on farms, in suburbs, and in more urban areas with larger lot sizes. These houses were popularized by their appearance in pattern books. Prefabricated versions were also available for purchase. These houses commonly incorporated Craftsman style elements but can be found with stylistic details from a variety of architectural styles, including Mediterranean Revival style barrel tile roofs or Colonial Revival style porches.

Figure 33: American Foursquare diagram.

4.3 Architectural Styles

Historic neighborhoods and commercial districts derive their distinctive feel from their own unique combination of architectural styles, building materials, and other landscape and design elements. Identifying architectural styles can help building owners understand the historic character of their own building as well as how it fits within the overall setting. Although Biddeford was first settled in the 17th century and reorganized as the town of Biddeford in the early 18th century, the majority of the remaining buildings and infrastructure within Biddeford's historic districts were constructed between the mid-19th and mid-20th centuries.

These buildings reflect influences from major architectural styles which were popular in the 19th through the 20th century. The earliest of these is the Greek Revival style, which was followed by other revival styles rooted in classical architectural traditions, which gradually gave way to the more ornate "Victorian" styles.

While the word "Victorian" is commonly used to describe an architectural style featuring heavy ornamentation, steeply pitched roofs and a proliferation of turned woodwork and polychrome finishes, the word actually refers to a period of time, the Victorian Era, which spanned the 1830's through the early 1900's and in which several architectural styles were popular. The Italianate, Queen Anne, Renaissance Revival, and Second Empire styles are all styles which fall under the "Victorian" umbrella.

The following section describes historic architectural styles commonly found in Biddeford's historic districts and Historic Preservation Commission Review Area.

Figure 34: Biddeford's HPC Review Area and historic districts contain buildings with characteristics from a number of architectural styles, pictured February 17, 1945. Source: Biddeford Historical Society.

Vernacular (1835 - present)

Vernacular is the term given to indigenous forms of residential and commercial building construction. Vernacular buildings are not architect-designed but most likely built by the property owner themselves. Some refer to vernacular buildings built after mill-sawn lumber was available as National Style. Buildings continued to be built according to the earlier traditional folk forms, but with widely available lumber some new shape innovations occurred. Some may have details taken from high styles such as Greek Revival or Colonial Revival, or later high style modifications. Commercial vernacular buildings may borrow from Italianate or Classical architectural features.

Vernacular residences can be multi-family buildings that are designed as a central hall, side hall, double decker, and triple decker structure. Although many vernacular buildings may not have a distinct architectural style, they have an identifiable building type and form.

Figure 35: Example of triple decker vernacular multi-family residence.

Figure 36: Many industrial mill buildings were constructed with a vernacular style.

Figure 37: This is an example of one of the most vernacular multi-family building forms found within the HPC Review Area.

Greek Revival Style (1825 - 1860)

The Greek Revival style is based upon interpretations of classical Greek models, relying on order and symmetry with an emphasis on clear shapes, clean building lines, and a lack of adornment. This style is adaptable to wood, brick and stone construction and popular in many regions of the nation. This style could be adapted to commercial, residential, and industrial buildings.

Common character-defining features of the Greek Revival style include overall symmetry, pedimented gable-front roofs, and projected front entrances and/or porches. Pronounced lintels over windows and doors, moldings and cornices featuring dentils and modillions, and dormers are also common features. The main building form may have a lower wing.

Figure 38: Large commercial building constructed in a Greek Revival style.

Figure 39: An office building in the Biddeford / Saco Mill Historic District that features some Greek Revival elements.

Figure 40: Residence with Greek Revival elements such as general symmetry, pronounced lintels over windows and doors, and a decorative cornice with a gable return.

Gothic Revival Style (1840 - 1880)

The Gothic Revival style emerged from the Picturesque/Romantic Movement and was popularized in the pattern books of Andrew Jackson Downing (1815 - 1852). It was the earliest of the Victorian styles to challenge classical norms. The Romantic Movement lauded the art, literature, and architecture of Christian medieval times which is reflected in the style. The architectural movement abandoned the symmetry and order of Classicism in favor of asymmetry and variety in texture and color.

The Gothic Revival style became popular in America in the mid-nineteenth century (circa 1830-1860), reaching its peak in the 1830s and 1840s. Residential examples of the style could be symmetrical or asymmetrical and have a variety of ornamentation abstracted from Gothic traditions. These houses often gave a sense of the Gothic style while incorporating local traditions and forms.

Civic and religious examples of Gothic Revival tended to follow High Gothic examples and were more authentic. High Gothic architecture was a period of Gothic architecture in the 13th century that was characterized by large, highly decorated cathedrals. The popularity of Gothic Revival houses faded in the late nineteenth century. The Gothic Revival style remained popular for civic, religious, and educational buildings well into the twentieth century.

Figure 41: Vernacular example of a Gothic Revival style residence.

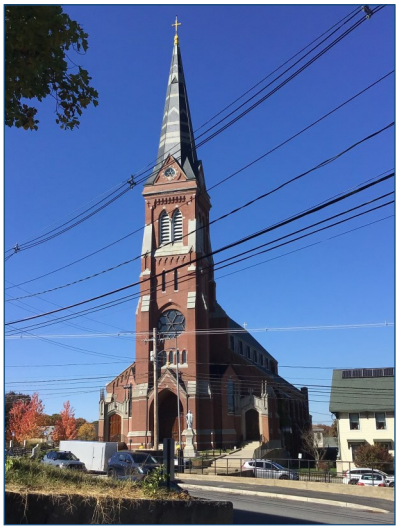


Figure 42: St. Joseph's Catholic Church is an example of a high style Gothic Revival religious building,

Italianate Style (1850 - 1880)

The Italianate style was highly popular from the 1850's through the 1880's and is a romanticized interpretation of Italian villas found in the Tuscany, Umbria, and Lombardy regions. Its use continued into the early 20th century.

The style is typified by flat or low-pitched roofs with over-hanging eaves, bracketed cornices, squared towers, and narrow window openings with round or segmental arches, decorative hoods and protruding sills. Italianate homes have rectangular, box-shaped plans with low pitched hipped roofs and overhanging eaves. Most Italianate homes are symmetrical in design, and some display box towers or center gables on the façade. Windows are typically two-over-two or one-over-one. The style emphasizes verticality in building proportions.

Figure 43: Italianate style residence that features quoins at the corners and prominent hoods over the windows.

Figure 44: Italianate features found on a commercial building within the Biddeford Main Street Historic District.

Figure 45: Stair tower on one of the mill buildings within the Biddeford / Saco Mill Historic District that features Italianate elements in the roof.

Second Empire Style (1860 - 1900)

The Second Empire style was inspired by the buildings of Paris, which had been redesigned dramatically during the country's Second Empire period which spanned 1852-1870 and coincided with the reign of Napoleon III. The style is similar in both form and detail to the Italianate and was particularly popular in the United States during the building boom following the Civil War. The style was adapted to both symmetrical and asymmetrical floorplans and was used in both commercial and residential buildings.

The signature feature of the Second Empire style is the mansard roof, whose nearly vertical pitch allowed for more usable attic space than more steeply pitched roof types. Other hallmarks of the style include polychrome patterned slate shingles, prominent cornices, roof cresting, and rounded dormers. Mansard roofs were often used in buildings with eclectic details from a mix of styles, including the Italianate and Queen Anne.

Figure 46: A vernacular example of Second Empire style residence.

Figure 47: Example of a Second Empire style multi-family residence.

Figure 48: Historic photo of a high-style Second Empire style residence. Source: Biddeford Historical Society.

Queen Anne Style (1880 - 1910)

The Queen Anne style was the dominant style of domestic buildings spanning the 1880's through the 1900's features a merged a variety of classical and medieval ornamentation.

The Queen Anne style was successfully adapted to residential, commercial, and institutional uses. Queen Anne buildings are typically asymmetrical in plan, and feature turrets, window bays, towers, complex rooflines, decorated chimneys, and large and ornate porches. A variety of materials with contrasting textures, including brick, wood stone, slate, and tile were often combined to create a picturesque effect.

Figure 49: Queen Anne style residences are typically constructed larger in size and so many have later been converted to multi-family homes.

Figure 50: Queen Anne style buildings were typically constructed as residences.

Shingle Style (1880 - 1910)

The Shingle style was made popular by the rise of the New England school of architecture, which eschewed the highly ornamented patterns of the Eastlake style in Queen Anne architecture. In the Shingle style, English influence was combined with the renewed interest in Colonial American architecture which followed the 1876 celebration of the Centennial. The plain, shingled surfaces of colonial buildings were adopted, and their massing emulated.

The Shingle style features wall cladding and roofing of continuous wood shingles; uninterrupted shingle walls (no corner boards); an asymmetrical façade; irregular, steeply pitched roof lines; roofs with intersecting cross gables and multi-level eaves; and extensive porches.

Figure 51: Shingle style carriage barn outbuilding that retains wood clapboard siding, a variety of shingles, and multi-light double-hung wood windows.

Art Deco Style (1920 - 1930)

The Art Deco style emerged in the 1920s and was popular throughout the 1930s. The style reflected a rejection of historic styles and emphasized modernity. It features highly stylized ornament based on geometric forms. Stylized floral motifs and repetitive geometric forms incorporating sharp angles and segments of circles, zigzags, chevrons and diamond patterns are typical and often are applied as decorative moldings or masonry patterns, often in low-relief, and concentrated around doors, windows, and parapets. The style emphasized verticality and Art Deco buildings often feature rounded or angular corner windows and building entrances embellished with geometric motifs. Surface finishes emphasized modernity and smooth concrete, shiny steel, glazed tiles, mirrors, and glass were common.

Figure 52: Art Deco style commercial building located within the Biddeford Main Street Historic District.

4.4 Historic Integrity

There are seven aspects of integrity which contribute to a historic property's overall significance: location, design, setting, materials, workmanship, feeling, and association. These aspects are used in assessing historic properties' eligibility for listing in the NRHP but are also used by the HPC in assessing whether a property contributes to the district as a whole, and in turn, in evaluating the appropriateness of proposed projects. Understanding your property's level of integrity will help determine the most appropriate approach to treatments and alterations.

The following is an overview of the seven aspects of integrity:

Location is the place where the historic property was constructed or the place where the historic event occurred.

Design is the combination of elements that create the form, plan, space, structure, and style of a property.

Setting is the physical environment of a historic property.

Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.

Feeling is a property's expression of the aesthetic or historic sense of a particular period of time.

Association is the direct link between an important historic event or person and a historic property.

For more information, on how to evaluate the integrity of your property, consult the linked NRHP Bulletin: **https://www.nps.gov/subjects/nationalregister/upload/NRB-15_web508.pdf**

Figure 53: Before (left) and after (right) example of how a loss of architectural interest found in the original decorative siding, porch railing, and window shutters damages the character of a historic building.

High Integrity

A property with high integrity is one where the original design and historic materials remain largely intact. Preservation of the historic appearance is the preferred approach for treating properties with high integrity, however, rehabilitation may also be appropriate when some original features need repair or replacement.

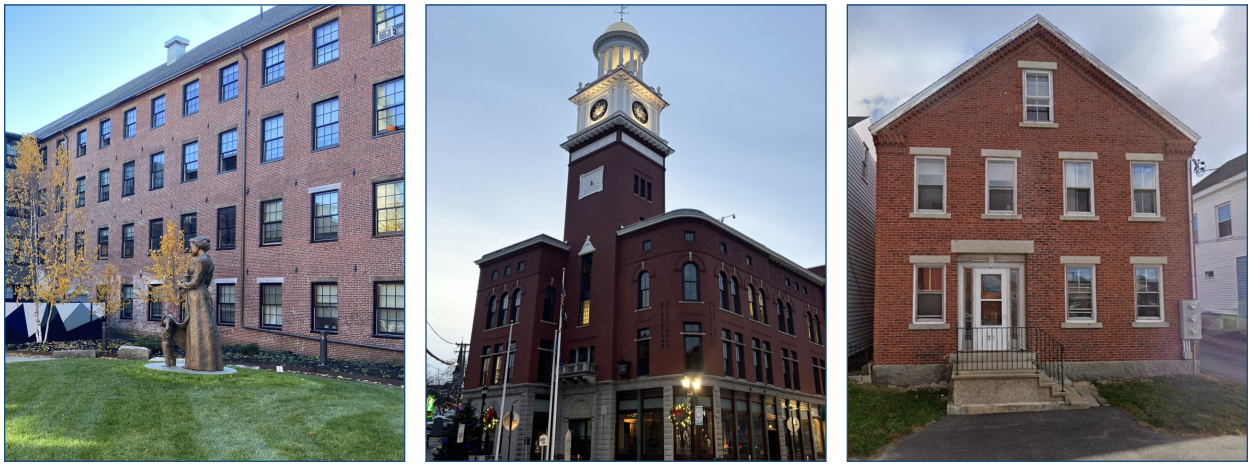


Figure 54: These examples of properties with high historic integrity have all retained their form, materials, and stylistic details.

Moderate Integrity

A property with moderate integrity is one that has only been partially altered but retains many of its historic features. A good example of a property with moderate integrity would be a commercial property where the first-floor storefront was modernized in later periods, but the historic appearance of the upper floors remains intact. Another example would be a residence whose roof and siding have been replaced with modern materials but whose windows, doors, and other architectural details remain in place.

Several approaches may be appropriate for treating properties with moderate integrity. This may include restoring the property to its historic appearance based on historic photographs or other documentary evidence or maintaining the appearance of the existing historic fabric while updating materials and features which have already been replaced with new features that are compatible with the building's overall design.

Figure 55: These examples of properties with moderate historic integrity have all retained their form, but some materials and stylistic details have been lost or changed.

Low Integrity

In a property with low integrity, the building's form may be the only recognizable historic feature, as most materials and details have been lost, altered, covered, or replaced. An example would be a historic Foursquare whose roof, siding, porch, windows, doors, and siding have all been replaced with modern materials.

Options for rehabilitating properties with low integrity might include maintaining the building "as-is," for example, replacing existing composite windows with new composite windows; restoring the property to its original historic appearance, if the budget allows and sufficient documentary evidence is available; or creating a new design for the building which is compatible with the surrounding properties in terms of mass, scale, and design.

Figure 56: These examples of properties with low historic integrity have lost most of their original historic features, including materials and design elements. When low integrity buildings are rehabilitated, the historic appearance may be restored, or a new design that is compatible with the surrounding district may be utilized.

4.5 Design Principles

The following design principles correspond to specific characteristics which contribute to the feeling and integrity of individual buildings, sites, and districts. Any work within a historic district should adhere to these design principles in order to retain the integrity of the contributing resources.

Alignment

When buildings on the same street are constructed with the same setback distance, they are aligned to one another. Elements such as cornices, rooflines, windows, and doors can be aligned vertically or horizontally and can be aligned based on the top, middle, or bottom of the element. You may not notice when things are aligned but it would likely be noticeable when they are not.

Setback

Setback describes the distance between a building and its property line. For the purposes of this document, it generally refers to the setback from the street-adjacent property boundary. For example, many residential properties are set back approximately 25 feet from the property line, creating an open space between the front of the house and the street, forming a front yard. Many commercial properties, however, have little to no setback.

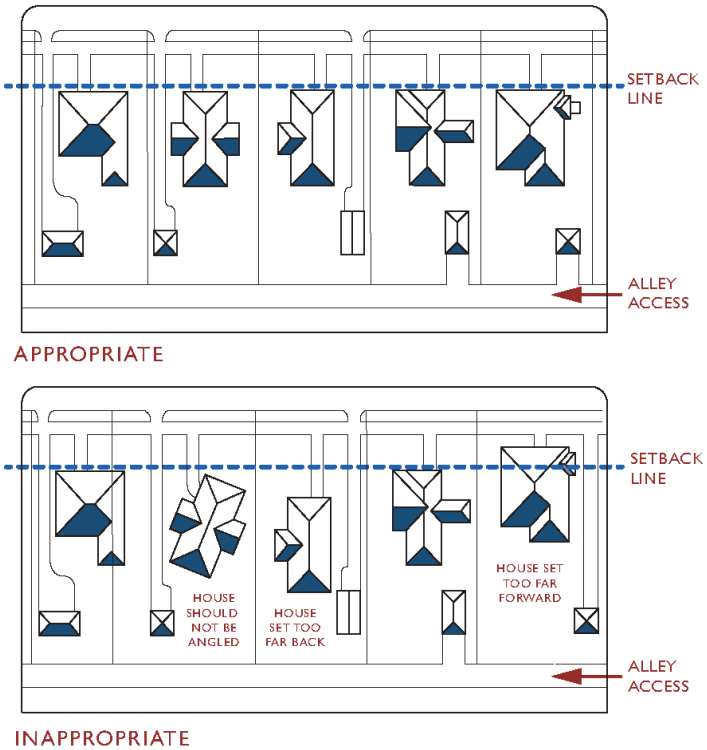


Figure 57: Diagram representing alignment, setback, and orientation within a residential neighborhood.

Orientation

Orientation refers to the direction that a building faces in relation to the street. Most buildings are oriented so that the main entrance on the primary façade faces the street.

Massing

Massing is the large-scale units that comprise a building. These masses define the overall shape and form of a building. Massing is a central part of its architectural design and can be altered through additions or demolition of parts. Alterations of a building's massing can adversely affect its overall form and diminish its historic integrity.

Proportion

Proportion refers to the visual effect of the relationship between architectural elements and the building as a whole. Proportions may be expressed as mathematical ratios drawn from classical architectural theory, which may be used to determine the placement and size of architectural features including windows, doors, columns, etc.

Scale

Scale is the size of a building in relation to the surrounding buildings. Scale can be expressed through the size of a building itself (the height and width, number of stories, etc.) as well as through the size of building elements (the doors, windows, columns, staircases, etc.). Most buildings are described as being "human in scale," however, many civic buildings are "monumental" in scale. Buildings that are "human in scale" have features, such as windows and doors, sized to comfortably support human use, while buildings that are "monumental" in scale typically have over-sized features designed to impart a symbolic sense of importance.

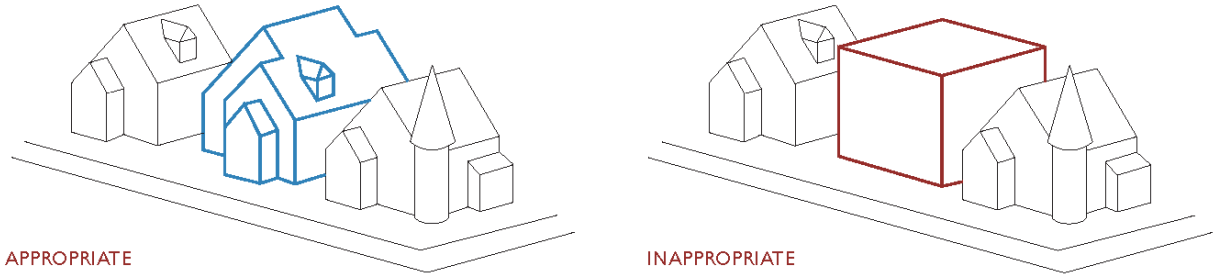


Figure 58: Diagram demonstrating appropriate and inappropriate massing of new construction.

Height

A building's height is determined by the number of stories, as well as the shape of the roof and the presence or absence of projecting features such as chimneys or towers. The relationship of the height of buildings to their neighbors along a street contributes to the overall street rhythm. While it may be appropriate in some cases to increase the height of an existing building, the overall rhythm of the streetscape should be considered and respected.

Rhythm

Rhythm is the repetition of architectural forms along a streetscape. Width, height, spacing, setback, and orientation, as well as the placement of architectural features such as cornice lines, windows, and doorways contribute to the rhythm of the street. Demolition of existing historic structures, or the construction of new buildings which are incongruous with height, spacing, or other rhythm-defining elements can disrupt the historic rhythm of the street and alter the overall character of the historic district.

Figure 59: Diagram demonstrating appropriate and inappropriate height and rhythm of new construction within a historic district.

Style

A building's architectural style is defined by its overall appearance and common features which refer to particular trends that were in use in the region and time period in which the building was designed and constructed. Each architectural style combines qualities of massing, scale, proportion, rhythm, detail, and ornamentation.

Symmetry

Symmetry refers to a façade arrangement in which both sides are equal in proportion and arrangement of architectural features. "Asymmetry" by contrast refers to a façade arrangement in which elements are arranged with emphasis on one side of the façade. The use of symmetry or asymmetry in architectural design can be associated with particular architectural styles. A building's symmetry or asymmetry should be maintained.

Unity

Unity refers to the effect created when all of the buildings in a district or area conform to a particular defined range of overarching building characteristics, including height, alignment, scale, massing, and spacing. New construction can disrupt unity when it is not consistent with the existing neighborhood.

Chapter 5. Design Guidelines for Contributing Structures

5.1 Overarching Design Guidelines for all Projects

Guideline 5.1.1. Preserve/Retain Significant Features

Every historic building from each style of architecture has a set of distinctive details that contribute to the overall character of the building.

a) Avoid the removal of historic architectural features and materials. Historic architectural features include large scale characteristics including the building's overall shape, roof form, and fenestration patterns, as well as small-scale features like moldings, brackets, ornaments, and other examples of skilled craftsmanship.

b) Retain existing historic building materials, including brick and stone masonry, wood shingles and siding, stucco, etc., to the greatest extent possible. Avoid removing historic materials that are in serviceable condition.

c) Materials or additions that were added after the building's initial construction – for example a porch, or a kitchen addition – may have since achieved historic significance in their own right and should be preserved.

d) Historic outbuildings, including sheds and garages, should be maintained and preserved. Avoid removing or drastically altering historic outbuildings.

Guideline 5.1.2. Repair Rather than Replace

Where possible, repair historic materials and features rather than replacing them.

a) Repair rather than replace historic features wherever possible.

b) Use the recommended technical procedures for cleaning, refinishing, and repairing historic materials found in **Appendix D. Selected Bibliography.** Some cleaning methods, including chemical and abrasive methods, and repair techniques can cause or exacerbate damage to historic materials of the building, particularly masonry. Always use the gentlest methods available.

Guideline 5.1.3. Make Appropriate Replacements

When a historic element is deteriorated to the point that replacement is required, the replacement should replicate the element as closely as possible.

a) Replace as little historic material as possible. This may include patching, splicing, or piecing-in replacement materials such as individual roofing tiles, shingles, or siding, masonry patches, or dutchman repairs for stone or wood elements. A dutchman repair refers to any new or salvaged material (stone of wood) fitted into the existing facade material. This new material is chosen and installed to match existing.

b) Match the historic feature's size, shape, profile, texture, and color to the greatest extent possible. The new materials should match the old when possible. In some cases, replacement with features recreated in synthetic materials may be appropriate (for additional information on substituting historic materials, see **Chapter 7. Replacement Materials**).

c) Avoid changing the character of historic features. For example, original horizontal board siding should not be replaced by vertically oriented siding or shingles, even of the same material. Avoid adding architectural features representative of other architectural styles to an existing historic building.

d) Substitute materials should only be used if they do not cause damage or change the character of the historic resource. The new material should match the form, color, and texture of the historic feature (for additional information on substituting historic materials, see **Chapter 7. Replacement Materials**).

Guideline 5.1.4. Restore Significant Features

Whenever feasible, historic materials and details should be restored. It is appropriate to restore previously damaged or altered historic features to their historic appearance. Restoration should be based on physical evidence and/or documentation of the building's historic appearance.

a) Remove non-historic materials that cover all or part of the façade. This may include inappropriate siding, cladding, or wrapping on façade elements such as cornices or storefronts.

b) Restore or replace underlying historic materials with new elements that closely replicate the historic appearance.

c) Take care to remove non-historic materials in a way that does not damage underlying historic materials.

d) Replace missing features (such as cornices, storefronts, etc.) with historically appropriate replacement features. The design of replacement features should be based on its historical appearance and substantiated by documentary, physical, or pictorial evidence. This may be accomplished by locating historic photographs which show the original appearance of the element, replicating existing but incomplete elements, or by reproducing elements visible on neighboring buildings of the same style and date range.

e) Where no evidence of the feature's original appearance exists, utilize a simple design consistent with the scale, massing, and style of the building and surrounding area.

f) Historic additions that are in keeping with the overall design of the building and are over 50 years old have achieved significance in their own right and should be retained or restored.

g) Recent additions that are not historically significant may be removed via a process that does not damage the visible significant features of the historic resource.

Figure 60: Porch flooring and steps replaced with compatible substitute material similar in visual qualities.

Figure 61: Appropriate dutchman replacement on masonry.

Guideline 5.1.5. Comply with Health and Safety Codes

It is important that all buildings comply with local and state safety codes, including providing handicapped access to residents or visitors, as needed. This can be achieved without compromising the significance or integrity of historic buildings.

a) Compliance with health and safety codes and handicapped access requirements must be carried out with minimum impact on the historic character of buildings.

b) When permitted by law, fire escapes or fire towers shall be placed at the rear of buildings as a secondary means of egress.

c) Provide barrier-free access that promotes independence for the disabled to the highest degree practicable, while preserving significant historic features.

d) Construction of ramps, lifts, fire escapes, and similar accessibility features should be constructed in an area that is hidden from public view, such as on a rear or side elevation, when possible.

e) Ramps should have little to no visual impact or should be designed to be as unobtrusive as possible.

f) Install ramps and other accessibility features in a manner that is reversible where practical and does not permanently impact the historic building.

g) Access ramps shall be in scale and visually compatible in design and materials with the building.

Guideline 5.1.6. Adaptive Reuse

According to the first Secretary of Interior's Standards for Rehabilitation, "A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment."

Reuse of historic buildings is encouraged and adaptations of a property to a new use should retain the building's historic character and significant features while conforming to existing zoning codes. For example, conversion of a single-family residence to a multi-unit apartment may require the addition of new exterior entrances. These should be designed sensitively and positioned on a non-visible façade whenever possible.

After consulting the Biddeford Code of Ordinances for permitted uses in your project area, a meeting with City staff in the early planning stages of adaptive reuse projects is recommended to determine which characteristics are the most significant to the building and to minimize adverse impacts to the structure and the surrounding area is preferable. Adaptive reuse projects should take into account the following criteria:

a) Adhere to Biddeford's zoning code for permitted uses.

b) It is preferable to retain a building's historic use whenever possible.

c) Retain the building's historic character when adapting to a new use. A residential building converted to a commercial use should retain the building's residential character, and vice versa.

Figure 62: Example of an appropriate adaptive reuse project within the HPC Review Area.

5.2 Guidelines for Streetscape Elements

The character of Biddeford's historic streetscape varies throughout the HPC Review Area. Streets, sidewalks, parking lots, benches, trash receptacles, public signs, kiosks and other items of street furniture are the context for the buildings in Biddeford's historic commercial areas. In the city's historic residential areas, trees, shrubs, major plantings, walls, fences, driveways, and auxiliary structures such as carriage houses, garages, and sheds are the context for the historic homes.

Biddeford's historic street layout, sidewalks, street furniture and landscape elements are character-defining features which play a large role in the historic "feel" of the district. Biddeford's historic streetscape elements should be maintained, and the design of new features within the landscape should be in keeping with its historic character.

Figure 63: Streetscape elements, like trees, signs, lights, furniture, and plantings, contribute to the character of the historic districts.

Driveways

Most of the driveways in Biddeford's HPC Review Area are located in the residential areas. Typically, driveways connect the street to a garage or parking area at the side or rear of the house. Most are constructed of concrete, asphalt, or crushed stone.

Guideline 5.2.1. Preserve Historic Driveways

a) Maintain historic driveways in their original location.

b) Maintain and preserve historic driveway surface materials.

c) When deteriorated, repair or replace historic paving materials with the same or compatible material. Replacement driveways should match the dimension, texture and finish of the original, when the original is a character-defining feature. Where driveways are not prominent or significantly visible, a substitute paving material in keeping with the materials found in and the character of the surrounding district may be presented to the Commission for consideration.

Guideline 5.2.2. New Driveways

a) Locate new driveways so that minimum alterations are required to character-defining landscape and features such as walls, fences, and buildings, and should respect the predominant alignments and locations of driveways in the neighborhood.

b) New driveways should be finished in a material that is compatible with the existing private walkways and the architectural character of the building and the fabric of the overall neighborhood.

c) New or replacement driveway aprons throughout the historic districts may be constructed of concrete.

Figure 64: Example of a typical paved residential driveway that leads to a side garage.

Parking and Parking Lots

Public and private parking lots in the commercial areas of Biddeford's historic district are important to the economic vitality of its businesses. They provide both long- and short-term parking for workers, residents, and visitors. Many are appropriately located in or near the commercial core of the Biddeford Main Street Historic District. While a few are well designed and landscaped, most are very utilitarian in nature and thus do not contribute to the appearance of the historic districts. Few surface parking lots are present in residential areas. Those that are present are usually associated with religious, educational, and the occasional commercial building.

Guideline 5.2.3. Universal Guidance for Parking Lots

a) Provide adequate lighting on all parking lots.

b) Clearly mark entries and exits to the parking lots and provide directional signs at appropriate locations.

Guideline 5.2.4. New Parking Lots

a) Locate new parking lots in the rear of existing buildings, so that they are not visible from a primary public right-of-way.

b) Avoid adding new surface parking lots that front on major streets.

c) Provide a minimum 3-foot-wide landscape street front edge for all new parking lots, where possible. Landscaping should be 42 inches in height to screen automobiles from immediate view but allow visual access.

d) Provide a low brick wall, fence or some other form of compatible screening to separate the sidewalk or street from parking lots where a 3-foot-wide landscaping buffer is not possible.

e) Provide adequate hose bibs to ensure available water for landscape maintenance in all parking lots.

Figure 65: Left to right, example of a commercial parking lot and a parking lot in a residential area.

Perimeter Walls, Retaining Walls, and Fences

A number of historic perimeter walls, retaining walls, and fence types can be found throughout the HPC Review Area. These include brick walls; wood fences including picket, straight board and board-and-batten; and cast-iron fences. Fences and perimeter walls are typically located at the front property lines or around the rear yard in residential areas. They help to define public from private space, as well as significantly contribute to the character of the districts. Some lots incorporate stone retaining walls due to the topography of Biddeford sloping toward the Saco River.

Guideline 5.2.5. Universal Guidance for Perimeter Walls and Fences

a) Retain existing historic perimeter walls and fences.

b) Repair or restore damaged or deteriorated historic perimeter walls and fences. Where repair is not possible due to the severity of the deterioration, replace historic walls or fences in-kind using the same material as the original and matching in size, shape, height, profile, texture, and color. If use of the same material is not feasible, the substitute material should approximate the original as closely as possible.

Guideline 5.2.6. New Perimeter Walls and Fences

a) New walls and fences should be consistent with the setback of the subject building and adjacent properties.

b) New walls and fences must adhere to the height, material, and replacement requirements outlined in Biddeford's zoning ordinances.

c) New fences and perimeter walls should be appropriate to the character of the districts and HPC Review Area. Concrete block and stucco finishes are not likely to be approved, particularly in locations visible from the public right-of-way. Simple, unobtrusive fences in traditional designs in powder coated steel or aluminum or wood picket fences are most appropriate. Vinyl fences will not be approved.

Figure 66: Example of fencing and a retaining wall along the front of a residence.

Figure 67: Historic fences and retaining walls should be maintained or replaced in-kind as needed.

Sidewalks and Curbs

Guideline 5.2.7. Universal Guidance for Sidewalks and Curbs

a) Preserve and maintain historic sidewalk surface materials in both the residential and commercial areas. Removing historic sidewalk and walkway materials in good condition is not recommended.

b) Historic private walkways should be maintained in their original location. When deteriorated, repair or replacement should be in the same or compatible material matching the dimension, texture and finish of the original.

c) Provide accessible curb cuts at appropriate locations throughout the districts for ADA accessibility. New or replacement curb cuts and ramps may be constructed of concrete.

Guideline 5.2.8. New Sidewalks and Curbs

a) New sidewalk surface materials in the commercial areas should be compatible with the historic character of the surrounding area and compatible with surrounding sidewalk materials.

b) New private walkways should be designed to be compatible with the historic walkways and buildings on the property.

Figure 68: Sidewalk and curb found in the commercial area.

Figure 69: Intersection within a residential street.

Street Fixtures and Furniture

"Street fixtures" and "street furniture" are terms used to describe elements such as benches, trash receptacles, parking meters, parking kiosks, telephone and electrical poles, fire hydrants, mailboxes, streetlights, bulletin boards, and the like found in the residential and commercials areas of the historic districts. Along with the sidewalks, streets, parking lots, driveways, and landscaping, they contribute to the context of the historic district by reinforcing the character of the area. Historic street furniture should be retained to the greatest extent possible, and new street furniture should be compatible with the feeling and appearance of the district.

Street furniture should be safe, conveniently located, well designed, and as maintenance-free as possible. The type, design, and location of street furniture should reflect the character of the neighborhood in which they are located – street furniture in the commercial areas should reinforce its commercial character, while street furniture in the residential areas should reinforce its residential character.

Guideline 5.2.9. Universal Guidance for Street Fixtures and Furniture

a) Whenever possible, preserve historic street furniture.

b) Maintain historic street furniture by cleaning, repainting, and protecting as needed.

Figure 70: Historic lights and other street furniture can be unifying elements throughout a district.

Figure 71: Street furniture located along a residential street.

Guideline 5.2.10. New Street Furniture

a) Street furniture provided by the city should be uniform in appearance and consistent in placement (ex: along the curb side of the sidewalk or adjacent to buildings).

b) New street furniture must not impede pedestrian traffic.

c) New benches should be made of wood, metal, or synthetic materials.

d) Locate trash receptacles in areas where people are likely to congregate. Trash receptacles should include removable inner containers.

Guideline 5.2.11. New Street Fixtures

a) Maintain historic light fixture, or existing light fixtures that are complimentary to the character of the historic district.

b) Use consistent lighting styles throughout the district.

c) Avoid the addition of streetlights in styles that are inconsistent with the decorative lighting fixtures found throughout the HPC Review Area except where required by health and safety or traffic codes.

Figure 72: Street furniture located along the Biddeford / Saco Mills Historic District.

Trees, Shrubs, and Landscaping

Landscaped areas are important to defining the character of the historic districts. The front yards of residential buildings, yards around educational buildings, and the addition of trees and shrubs withing the commercial district are major visual elements within the streetscape.

Many of the existing landscapes in the residential areas reflect popular designs of the late nineteenth and early-twentieth centuries. For example, during the second half of the nineteenth century, the Victorian Garden style of landscape was popular. It emphasized informal, natural forms and groupings of plants. Front yards were often separated from the sidewalk or street by a low stone or brick wall or wood or cast-iron fence, and shrubs, trees and flowerbeds were often located along property lines. Cast stone, concrete, and cast -iron lawn ornaments were popular features, as were plantings of flowers or shrubs along a building's foundations. In contrast to the almost exclusive use of native plant material prior to 1850, the Victorian Garden style often contained exotic plants imported from Europe, South American or the Western United States.

During the latter part of the nineteenth century, the design of rear yards was usually more utilitarian than the design of front yards. They served as the location for carriage houses, sheds, privies and other auxiliary buildings. Sometimes a small kitchen garden was located there. Often a large portion was planted with grass as an open lawn.

Early twentieth century residential landscapes typically consisted of isolated trees and foundation plantings of flowers and shrubs. Shrubs, wood fences and stone or brick walls were used to separate the property from the sidewalk or street. Rear and side yards contained garages, sheds and other auxiliary buildings.

Figure 73: Front yards of residential properties tend to be the most visible landscaping areas.

Guideline 5.2.12. Preserve Historic Landscaping

a) Whenever possible, existing historic landscaping should be maintained and preserved. If replacement of shrubs or plantings becomes necessary, the same or similar types of plantings should be used.

b) Landscaping at the front yards of residential properties should generally reflect the period of the home.

Guideline 5.2.13. Universal Guidance for Trees and Street Plantings

a) Preserve existing shade trees.

b) New shade trees should be located where they will not obscure important historic features or damage historic buildings with roots or branches.

c) Stormwater management features and rain gardens should be unobtrusive and compatible with the surrounding district.

Guideline 5.2.14. Universal Guidance for Planters and Window Boxes

a) The use of planter boxes and other landscaping features is encouraged. The design should be compatible with the character of the building and surrounding district.

b) Window boxes should be appropriately scaled and proportioned to suit the building. Appropriate materials should be used.

c) Avoid covering or removing character-defining features of windows, such as trim and sills, when installing window boxes.

For Reference

Preservation Brief 36: Protecting Cultural Landscapes: Planning, Treatment, and Management of Historic Landscapes.

Vacant Lots and Open Spaces

Guideline 5.2.15. Universal Guidance for Vacant Lots

a) It is appropriate to convert vacant lots to public parklets or gardens, or to utilize existing lots for new construction or surface parking lots in keeping with the applicable sections of these guidelines (see **Parking and Parking Lots** in **Chapter 5.4** for Guidelines on New Construction).

Guideline 5.2.16. Universal Guidance for Open Spaces

a) Preserve historic open spaces such as parks and yards.

b) The addition of new open spaces, such as landscaped parks or recreational areas, should utilize existing vacant lots. Do not demolish sound historic buildings to create new open space.

Figure 74: Open space in the Biddeford / Saco Mills Historic District that was appropriately converted into a landscaped recreational area.

Public Art

"Public art" is a term which describes art in any media which is created for the general public and is publicly accessible. It commonly includes murals and sculpture, but may also include publicly accessible works in a variety of media, including temporary installations and performances. The following guidelines apply to permanent and temporary physical works of art installed within view of the public right-of-way. Painted signs and advertisements are not considered murals and shall conform to the district's sign guidelines.

Guideline 5.2.17. Universal Guidance for Sculpture

a) Historic objects such as statues, sculptures, and fountains should be preserved. Exceptions may be made when public sculptures no longer reflect the values of the community or retention of a historic public sculpture or statue is not in the public's interest.

b) New sculptures should be designed and sited to avoid competing with or obscuring historic features of the district.

c) Sculptures should be designed to harmonize with the overall layout of the site for which it is proposed. Sculptures should be appropriate in design and character to the overall setting.

Guideline 5.2.18. Universal Guidance for Murals

a) Murals may be permissible on side elevations and will be reviewed on a case-by-case basis.

b) Any exterior building artwork including murals shall be composed in an alternate material that can then be applied to the exterior surface without permanent damage to the original surface of the building.

c) Murals should not compete with or overwhelm existing architectural features such as windows, moldings, entryway, or other detailing.

d) Murals should be located and sized to engage and encourage pedestrian interaction.

Figure 75: Mural on the side elevation of a previously painted masonry building.

Figure 76: Mural painted on siding within the HPC Review Area.

Outbuildings and Auxiliary Structures

Garden sheds, carriage houses, garages and other small auxiliary buildings are primarily associated with residential buildings. When appropriately designed and located, small auxiliary buildings contribute to the overall character of a property and the districts.

Guideline 5.2.19. Preserve Historic Outbuildings

a) Original auxiliary buildings should be maintained and preserved in accordance with the appropriate sections of these guidelines (roofs, masonry, siding, etc.).

b) When portions of a historic outbuilding require repair or replacement, those elements should be replaced in-kind or using substitute materials that replicate the historic appearance.

c) Avoid replacing reparable historic outbuildings with new, prefabricated buildings.

For Reference

Preservation Brief 20: The Preservation of Historic Barns.

Guideline 5.2.20. New Outbuildings and Auxiliary Structures

a) Locate new auxiliary buildings to limit visibility from public rights-of-way when possible.

b) If it is not possible to locate new buildings so that they are not visible from the primary public right-of-way, use landscaping or appropriate fencing to screen these features from view.

c) New outbuildings should be designed to be compatible with the architectural style, scale, form, and materials of the main building on the property.

Figure 77: Appropriate rear garage outbuilding designed with a compatible architectural style.

Figure 78: Garage outbuilding obscured in the rear yard.

5.3 Guidelines for Signage

Business signs are among the most important contemporary elements of commercial buildings in Biddeford's HPC Review Area and historic districts. Well-designed signs contribute to the appearance of a building as well as attract customers and clients. Business signs that are poorly designed detract from the appearance of a building and the image of a business. Common problems with poorly designed business signs include excessive size, illegible graphics and typeface, poor color selection, and improper location.

A permit issued by the Code Enforcement Department in accordance with the provisions of the Biddeford Code of Ordinance is required to erect, alter, enlarge, or replace a sign in Biddeford. Review of new signs by the HPC Subcommittee is required before a permit can be issued by Code Enforcement. All sign permit applications shall include a drawing showing dimensions, types of materials to be used, and type and intensity of illumination (if applicable). If the applicant for a sign permit is not the owner of the property on which the sign is to be located, the owner's approval must be obtained prior to submission of a permit application.

The most common types of business signs are signboard signs, wall signs, hanging signs, display window and entry signs, awning signs, directory signs and sandwich board signs.

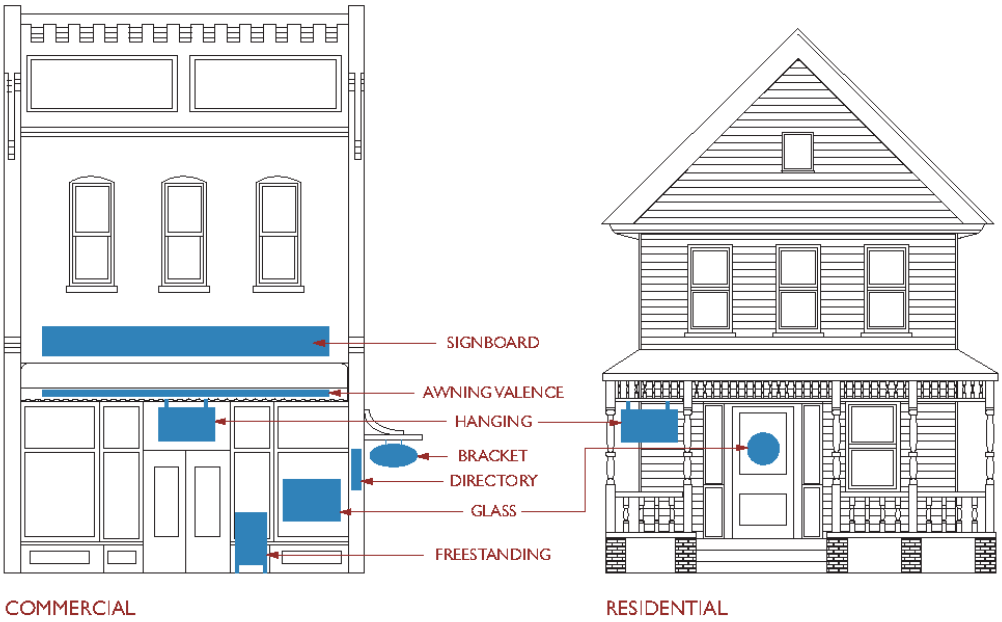


Figure 79: Types of signage and their locations on commercial and residential properties.

General Guidelines

Guideline 5.3.1. Universal Guidance for Signage

a) Avoid covering or obscuring architectural features.

b) Mount signs in a way that does not damage historic fabric. For example, connections for wall-mounted signs should be through a mortar joint rather than a masonry unit.

c) Integrate signs to the overall building composition. Locate signs in a way that emphasizes architectural features of the building. Use the shapes and sizes of signs to reinforce the directional expression or visual façade divisions.

d) Limit the overall number of signs to avoid a cluttered appearance that competes with the building's historic character.

e) Signs should be placed in locations on building that are traditionally used for signs.

Guideline 5.3.2. Preserve Historic Signs

Keeping a historic sign is encouraged, even if the business or product promoted is no longer the occupant. Preserved historic signs can have strong recognition value and can become community landmarks.

a) Where possible, preserve historic signs. For example, a painted sign from a building's previous use, located on a side elevation. Historic signs may be valued independently, apart from the buildings or sites to which they are attached.

b) For historic signs for businesses or products no longer on site, coordinate the placement of updated signage in a way that appropriately advertises the current business removing or covering the historic sign.

For Reference

Preservation Brief 25: The Preservation of Historic Signs.

Guideline 5.3.3. Universal Guidance on Lighting for Signs

a) Internally illuminated signs, particularly box or cabinet signs in which the entire surface is illuminated, and neon signs, are generally not appropriate for the character of the district.

b) Halo lighting, in which individual letters contain lighting to illuminate the wall behind them, are appropriate for wall signs.

c) Indirect lighting should be utilized. Gooseneck lamps or similar fixtures which direct light at a signboard are generally appropriate.

d) Lighting sources and associated conduit for signs should generally be concealed from view.

e) Excessively bright or flashing lights and animated signs are not appropriate for residential or commercial portions of the district.

Figure 80: Example of preserved historic signage and new modern signage on a historic commercial building.

Types of Signage

Guideline 5.3.4. Universal Guidance on Signs for Awnings and Canopies

a) Business names and logos may also be located on the slopes, returns and valances of awnings. To be legible, the sign or logo should be in a color contrasting to the background or be outlined in a contrasting color. Awning signs may be silkscreened or sewn onto the awning material.

b) The limiting measurements for awning signage is delineated through calculating the square footage of the smallest plane that will wholly contain the sign.

c) Awnings and canopies projecting over the public right-of-way with or without signs shall project no further than 5'-0" feet from the building or two-thirds of the width of the sidewalk, whichever is less, and have a minimum vertical clearance of 10'-0".

Guideline 5.3.5. Universal Guidance for Hanging and Bracket Signs

Small hanging signs, located above the entry to ground or upper floor businesses, are an effective means of communicating to pedestrians. They may be constructed of wood, metal or other appropriate material. For legibility, hanging signs should be located at least 25 feet apart.

a) Utilize existing sign brackets where possible.

b) Mount hanging and projecting signs to a masonry building with connections through the mortar joints rather than through brick or stone units to the greatest extent possible.

c) The bracket itself should contribute to the overall design of the hanging sign and may be decorative in character. Avoid overly ornate styles that are not compatible with the historic features of the building.

d) Hanging signs should be mounted perpendicular to the façade and should project no further than 5'-0" feet from the building or two-thirds of the width of the sidewalk, whichever is less, and have a minimum vertical clearance of 10'-0".

e) The limiting measurements for hanging or bracket signage is delineated through calculating the square footage of the smallest plane that will wholly contain the sign.

f) Avoid nationally or regionally distributed commercial or vacuum formed signs that are not compatible with the character of the building.

g) Avoid internally lit signs, or those that use flashing or moving illumination

h) Illumination of hanging signs should be external and be shielded to protect pedestrians and motorists from glare.

Guideline 5.3.6. Universal Guidance for Signboards

Many historic commercial properties, particularly two-part commercial block buildings, were designed with a signboard area on the wall above the storefront.

a) Signboard signs should be mounted flush on the signboard. They may be centered over the entry to the business or centered in the signboard area.

b) Signboard signs should contain only the name of the business and its logo or symbol if appropriate.

c) The limiting measurements for signboard signage is delineated through calculating the square footage of the smallest plane that will wholly contain the sign.

d) Avoid lettering which projects more than 3" from the face of the signboard.

e) Avoid signboard signs that extend outside the signboard area.

f) Avoid national or regionally distributed signs that are not compatible with the character of the building.

g) Vacuum-formed signs, internally lighted signs, or flashing or moving illumination should not be used.

Figure 81: Hanging bracket signs are among the most common sign type found in historic commercial districts.

Figure 82: Signage found on a one-part commercial building.

Guideline 5.3.7. Universal Guidance for Menu Boards

a) Menu boards may be mounted to the building, near the entrance or display windows.

b) Free-standing menu board signs may be appropriate depending on the style of the building and their proposed locations. Freestanding signs must not block pedestrian traffic and should not obscure historic architectural features.

Guideline 5.3.8. Universal Guidance for Directory Signage

a) Directory signage, or signage for multi-tenant buildings, give the names and locations of multiple tenants in a building and should be part of an overall signage design scheme for a building.

b) Directory signs should be designed to complement the design of the entry and façade to which they are attached. They are usually located near the front entry and within the lobby.

c) Directory signs should be attached flush to the building in such a manner so as not to cover or destroy character defining elements of an entry or façade.

d) The limiting measurements for directory signage is delineated through calculating the square footage of the smallest plane that will wholly contain the sign.

Figure 83: Menu board signage at the front of a storefront, appropriately located out of the public right-of-way.

Figure 84: Wall signs are appropriate where a wide expanse of wall is available and oriented to vehicular traffic.

Guideline 5.3.9. Universal Guidance for Wall Signs

Walls signs are located on the front, side or rear walls of a building. They may be made of metal, wood or other appropriate materials and attached to the wall.

a) Wall signs mounted above a storefront cornice or signboard area should not cover upper floor windows, window surrounds or decorative features of the front façade. On one-story buildings, signs should not cover the cornice or project above it.

b) Wall signs should generally be mounted above the storefront, within a sign band or on the façade between the storefront cornice and the second story windowsills.

c) Wall signs attached parallel to the structure surface are permitted, provided that they do not project more than 8" from the building.

d) The limiting measurements for wall signage is delineated through calculating the square footage of the smallest plane that will wholly contain the sign.

e) Wall signs should be an appropriate scale for the wall to which they are attached.

f) It is inappropriate to paint over existing historic signs (often referred to as "ghost signs").

Guideline 5.3.10. Universal Guidance for Free-standing Signage

Freestanding sandwich board signs can be an effective means of communication. They may be made of wood or metal and contain both permanent information such as the name of a business, and changeable information, such as the daily menu for a restaurant or sale announcements for retail shops.

a) Sandwich board signs will not exceed 24 inches in width or 36 inches in overall height.

b) Sandwich board signs should be located so as not to impede pedestrian traffic and must be removed during a business's closed hours.

c) If the sign contains changeable information, the changeable portion should be securely attached to the sandwich board and be weatherproof.

d) The signage shall not be affixed to any building or structure, including but not limited to fences, poles and other signs, as well as other fixed objects such as trees.

e) No more than one temporary sign per establishment for each street frontage having a public entrance shall be allowed.

Guideline 5.3.11. Universal Guidance for Signage on Glass

Display windows and glass entry doors are often used as locations for permanent business signs. Display windows are also typically used for temporary signs announcing sales or other special events.

a) Window decal signs should be placed in locations traditionally used for such signs. The transom, along the bottom of display windows, and on glass entry doors are appropriate examples.

b) Signs on display windows and entry doors should be located and designed so they do not obscure visibility into the ground floor.

c) Permanent signs on display windows (including those on doors) should occupy no more than 20% of the total glass area to which they are displayed.

d) Of the allowable 20% of the window area, up to 4 square feet may be illuminated, including unshielded neon.

e) Signs advertising business information related to hours of operation, open/closed, and/or vacancy/no vacancy are not included in the allowable window sign area so long as they are in the aggregate no larger than 10 square feet in area. Any such signage above 10 square feet in area counts towards the allowable window sign area.

f) Permanent display window and entry door signs may be painted, of gold leaf, or of computer directed laser-cut letters. They may also be attached to Plexiglas, glass or other transparent material and hung inside the display window.

Figure 85: Permanent window decal signage is appropriate when they are appropriately placed to not obscure visibility into the ground floor.

5.4 Guidelines for Existing Buildings

Biddeford's HPC Review Area contains commercial, residential, religious, educational, and institutional buildings. Preserving Biddeford's historic building stock along is integral to maintaining its historic character. Each of Biddeford's historic buildings is a character-defining feature of the district as a whole.

All elements of individual buildings – façades, form, roof shape, porches, materials, doors, windows, and architectural details – contribute to their character. The front façades of buildings are the most visible and typically are of primary concern to the Commission when changes are proposed. Side or rear façades that can be seen from a primary public right-of-way are also of a concern when changes are proposed.

In most cases, buildings have been altered over time. In all likelihood, they will continue to be altered to meet the changing needs of owners and tenants. Biddeford's Historic Preservation Ordinance allows changes to accommodate building users but mandates appropriate changes that do not significantly alter the historic character of a building. Before considering any change to a building, it is first necessary to evaluate the materials, forms, features, details, and other aspects of a building that are most important to defining its character so these features may be preserved and the character of your historic building, and the surrounding district, may be maintained.

For Reference

Preservation Brief 35: Understanding Old Buildings: The Process of Architectural Investigation.

Figure 86: This Gothic Revival style church, the former parish of the Roman Catholic Diocese of Portland, is part of the St. Andre's HD and was founded in 1860.

Accessibility, Code Compliance, & Safety

The Americans with Disabilities Act (ADA) requires public buildings and spaces to be accessible for Americans with impaired mobility. A common problem that must be addressed when rehabilitating a historic structure is providing appropriate access to and from raised entrances and upper floors. Most local building codes require two separate means of egress from commercial buildings. In addition, the ADA, as well as basic real estate marketing, often dictate the need for elevators in buildings that historically did not offer this amenity.

For Reference

Preservation Brief 32: Making Historic Properties Accessible.

Preservation Brief 51: Building Codes for Historic and Existing Buildings: Planning and Maximizing their Application.

Guideline 5.4.1. Ramps

a) Ramps should be constructed of materials that blend in with the surrounding built environment. Ramp structures can be faced with brick, stone, or other materials as appropriate.

b) Access ramps should be fabricated to avoid damaging or altering the contributing structure. Ramp design should be compatible with the style and materials of the existing porch and structure.

c) Where possible, ramps should be installed on the side or rear elevation of a building.

d) Avoid removing historic features in doorways, including stairs, porches, and railings to accommodate ramps. Consider building over or next to these features.

Figure 87: Appropriate ramp on the front façade of a public building.

Figure 88: Inappropriate ramp installation on the front façade of a residential building.

Guideline 5.4.2. Railings

a) Railings should be constructed with complimentary materials to the historic structure.

b) Match new railings with the style and features of the historic design.

c) New handrails height should meet current building code, ADA and life safety standards.

Guideline 5.4.3. Elevators

a) When necessary, an exterior elevator tower should be located on a secondary elevation and not be highly visible from public spaces.

b) An exterior elevator tower may be appropriate on the front façade if efforts to install the tower on a secondary elevation are not viable.

Guideline 5.4.4. Fires Escapes and Exterior Stairs

a) Locate fire escapes and exterior stairs in the rear or on side elevations that are not visible, or minimally visible, from public rights-of-way.

b) Fire escapes and exterior stairs should not damage architectural features. Avoid placing these units where architecture features would need to be removed to accommodate them.

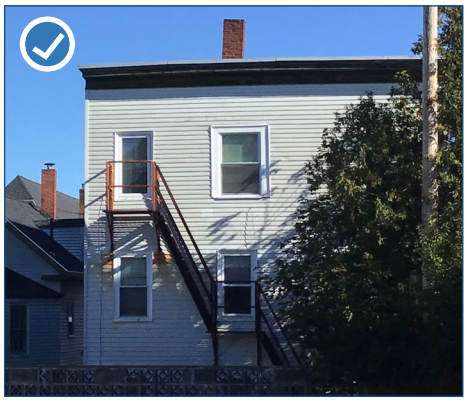


Figure 89: Appropriate fire escape obscured on a side elevation in a residential area.

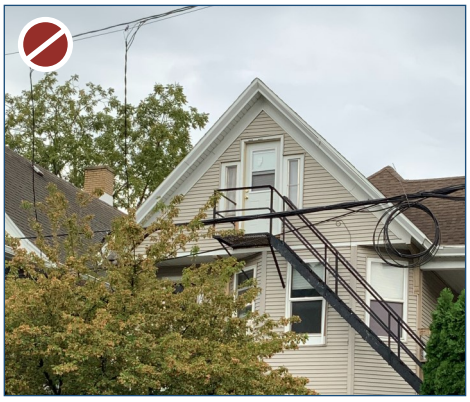


Figure 90: Inappropriate fire escape on the front façade of a residence.

Exterior Materials

The majority of the materials used for walls in Biddeford's HPC Review Area are unpainted brick. Examples of other surface types within the districts and the rest of the include unpainted stone, painted brick, and a number of siding and cladding types.

For Reference

Preservation Brief 47: Maintaining the Exterior of Small and Medium Size Historic Buildings.

Masonry

Brick is a common façade material for all types of buildings in Biddeford's historic districts. The molds used to manufacture brick give it its texture, shape and size. The type of clay and the temperature at which it is fired in the kiln gives brick its color. The way bricks are laid in the wall (called coursing) and the width, profile, texture, and color of the mortar and mortar joints contribute to the character of brick walls. Prior to the 1860's, most bricks were hand-made in wood molds. Fired in kilns that used wood or charcoal as fuel, the finished product was somewhat soft with an uneven appearance. These soft bricks were frequently painted for protection and to achieve a more uniform look. By the 1880's gas kilns, which could produce much higher temperatures, were in widespread use. Gas kilns produced a harder brick that was non-porous and could be left unpainted. Not all bricks produced by gas-fired kilns were of the same hardness. The softer, more porous bricks from the cooler, central portion of the kiln were reserved for use in party walls, or rear and side walls, while the hard-fired brick was used for primary elevations.

Stone and brick are among the most durable of building materials, but they are susceptible to erosion from environmental and chemical factors. Stone and brick should not be painted, as the resulting surface is neither as attractive nor as durable as the original, unpainted version. Painting brick results in added maintenance requirements as the coating will need to be reapplied as it wears. Once masonry has been painted, it is very difficult to restore it to its original appearance.

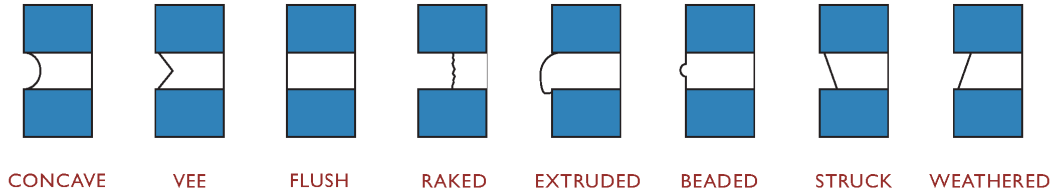


Figure 91: Diagram of types of mortar joints.

Most historic brick walls and foundations in Biddeford are laid in running bond, although Flemish courses are also represented. Most mortar joints in Biddeford's brick walls and foundations are 1/4" to 1/2" in width. Common mortar joint profiles include concave, flush, struck, and weathered. Most mortar was naturally a gray-white color, although some mortar used in historic brick walls and foundations was tinted, often red, by adding brick dust or pigments to the mortar mix.

Guideline 5.4.5. Universal Guidance on Masonry

a) Maintain and repair character-defining brick, stone, and stucco.

b) If replacement of all or some masonry material is necessary, use materials that match the original in size, texture, color, and profile.

c) If a masonry wall has historically been painted, it should continue to be painted. Avoid painting or staining historically unpainted surfaces. Avoid applying waterproof coatings to masonry walls that change their appearance or that cause moisture to be trapped inside of a brick or other masonry cavity.

d) Remove modern covering materials such as metal and vinyl siding applied over original masonry.

e) Avoid covering original masonry walls.

f) Avoid removing original masonry features.

g) Avoid depositing rock salt where it may come into contact with historic masonry. Dissolved salts can penetrate porous masonry causing staining and accelerated deterioration.

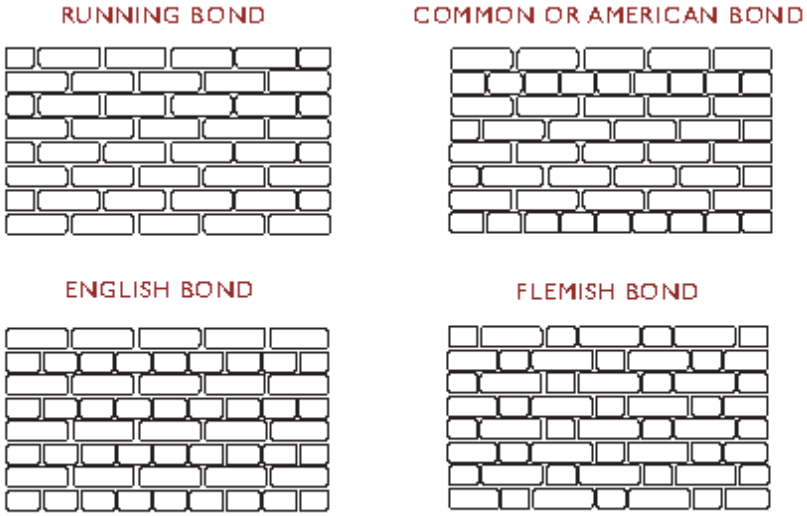


Figure 92: Diagram of typical brick bonds.

Guideline 5.4.6. Universal Guidance for Stucco

Stucco is a non-structural cement-based material used for exterior walls of some historic buildings in Biddeford. Historically stucco was applied in three coats to wood or masonry structural walls. It can be finished in various textures and colored by adding stone dust to the wet mixture or by painting after it cures.

a) Stucco surfaces are generally most appropriate for rear or side elevations.

b) Existing historic stucco surfaces should be maintained, repaired, and replaced in-kind when needed.

For Reference

Preservation Brief 22: The Preservation and Repair of Historic Stucco.

Guideline 5.4.7. Universal Guidance on Painting Masonry

a) Historically unpainted masonry surfaces should not be painted or stained. Hard fire brick and stone masonry should not be painted. Painting such surfaces can damage the porous materials or result in bubbled and peeling paint as water trapped in the masonry comes to the surface.

b) In some cases, paint or other coatings may be used to protect very soft or damaged masonry surfaces. Some early bricks, for instance, were historically painted for this reason. Brick that has been previously sandblasted, removing its protective "fire skin" may benefit from application of a coating to limit water from entering the porous material and causing further damage. Maintain paint coatings on historically painted masonry surfaces, including historic painted signs.

Guideline 5.4.8. Cleaning Historic Masonry

a) If a masonry wall requires cleaning, it should be done using the gentlest effective means possible. Utilize low-pressure water washing and soft natural bristle brushes with appropriate masonry cleaners.

b) Avoid sandblasting or grit blasting using other inappropriate and destructive methods to clean masonry.

For Reference

Preservation Brief 01: Assessing Cleaning and Water-Repellent Treatments for Historic Masonry Buildings.

Preservation Brief 06: Dangers of Abrasive Cleaning to Historic Buildings.

Preservation Brief 38: Removing Graffiti from Historic Masonry.

Guideline 5.4.9. Repointing Masonry

Mortar joints may require repair in areas where the mortar is cracked or missing. Most often, the mortar joint can simply be re-pointed by removing the deteriorated mortar and infilling with new mortar.

a) Repoint only where there is evidence of deterioration or water infiltration. This includes loose or disintegrating mortar, cracks, loose bricks, etc.

b) Use traditional repointing techniques, and/or those recommended by historic preservation specialists. This includes hand raking to remove deteriorated mortar. Avoid the use of electric saws to remove mortar from joints. Do not use "scrub coating" methods to repoint – mortar should not be deposited on the brick face.

c) Do not apply stucco to brick or stone surfaces to avoid repointing.

d) Use traditional materials for repointing. New mortar should match the historic mortar in terms of hardness, strength, color, and aggregate size. Do not use synthetic caulking materials. For buildings constructed prior to 1900, a very low Portland cement mortar mix should be used.

e) Match the historic joint's width and profile, including tooling finishes.

For Reference

Preservation Brief 02: Repointing Mortar Joints in Historic Masonry Buildings.

Guideline 5.4.10. Sensitive Replacement of Masonry Units

When the structural integrity of a wall has weakened from movement or the surface deterioration of masonry units is extremely severe, the replacement of masonry units may be necessary. Replacement masonry units should match the size, color, and texture of the damaged or missing units. Replacement mortar should be softer than the bricks, and no harder than the original mortar.

a) If a masonry feature, such as a window hood or brick corbel is missing, it should be replaced based on documentary or photographic evidence.

b) If no evidence of the design of the feature exists, a new design compatible or consistent with the overall character of the building should be used.

c) Where replacement of all or part of a brick or stone masonry wall is required, match the replacement units to the historic units. The new brick or stone should be the same size, type, and color as the original or should match as closely as possible.

d) Mortar should be appropriate to the historic walls. New mortar should match the historic mortar in terms of hardness, strength, color, and aggregate size.

Figure 93: Appropriate brick and mortar pairing within Biddeford.

Figure 94: Inappropriate modern mortar replacement on a historic building resulting in damaged bricks.

Siding

Wood is a very common façade material used for historic residences and is less common in historic commercial areas, which are primarily masonry. Most of the wood-sided buildings in Biddeford use clapboards – tapered horizontal boards with four, six, and sometimes eight inches of exposure. Other types of wood siding that can be found in the HPC Review Area include beveled siding and wood shingles.

Some historic wood façades have been covered with asbestos, metal, vinyl and other inappropriate materials. They obscure the original material, often damage historic details and ornamentation, and can cause moisture to be trapped inside walls.

Guideline 5.4.11. Universal Guidance on Wood Siding

a) Maintain existing wood façades using appropriate paint or other protective coatings.

b) Repair minor deterioration using an appropriate wood consolidant or filler.

c) Remove metal, vinyl, asbestos shingles and other inappropriate materials from façades and repair damaged wood as necessary.

For Reference

Preservation Brief 06: Dangers of Abrasive Cleaning to Historic Buildings.

Preservation Brief 10: Exterior Paint Problems on Historic Woodwork.

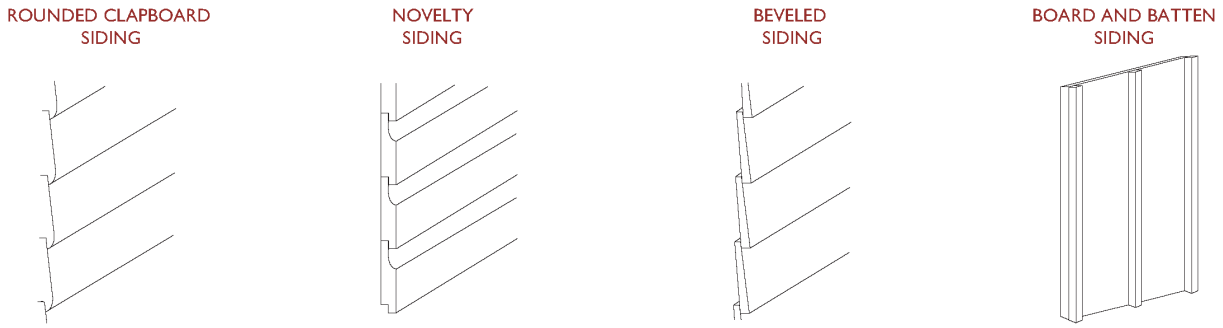


Figure 95: Diagram of typical wood siding types.

Guideline 5.4.12. Sensitive Replacement of Siding

a) If the deterioration is severe, replace only the affected areas with wood siding that matches the existing in size, shape, profile, and texture.

b) Avoid replacing original wood siding with a different type of wood siding; for example, replacing 4-inch horizontal wood board siding with wood shingles.

c) Avoid applying replacement material that will damage underlying materials, trap moisture, or compromise the structural capacity of the façade.

d) Avoid applying replacement material so that it damages or destroys other character-defining elements including trim and ornamental pieces.

Guideline 5.4.13. Substitute Materials for Siding

The use of alternate materials for siding on historic buildings will be evaluated on a case-by-case basis. The Commission will consider the significance and character of the subject building, as well as the surrounding street context in determining whether the use of alternate siding at a particular building site is appropriate. See **Chapter 7** for additional information on Substitute Materials.

The Commission may recommend that exterior siding be removed down to the original wood siding before new siding is installed.

Synthetic siding includes siding made from materials not found in nature, such as vinyl, asphalt, or asbestos. While metal siding is not synthetic, it was not available during the 19th and early 20th centuries and is generally not appropriate for buildings within the historic district.

a) Contributing buildings with original wood siding are to continue with wood siding.

b) If a contributing building was previously covered with asbestos, metal, or vinyl siding, these materials may remain. If the later additional material is removed, it is preferred to repair and use the original wood siding. On a case-by-case basis, deteriorating original wood can be examined, and an alternate material may be considered.

c) If the existing siding is not historically appropriate, consider replacing all of the siding with an appropriate alternative.

Guideline 5.4.14. Appropriate Alternatives to Vinyl or Aluminum Siding

Cementitious or fiber cement siding can be an appropriate alternative to vinyl or aluminum siding.

a) Use smooth finished boards matching the original profile and reveal as closely as possible. Although many of these boards come in a wood-grain texture, this is not historically appropriate. Historic wood siding was planed and sanded smooth prior to painting, and a smooth plank creates a more appropriate finish.

b) Although fiber cement replacement siding may be approved when replacing existing synthetic siding, it is generally not appropriate to replace wood siding with fiber cement or other synthetic siding, however, severely deteriorated siding will be considered on a case-by-case basis.

c) Siding joints and seams are to be lapped toward the rear of the building, and joints must be staggered randomly to avoid a "stair step" appearance. Joints will be avoided in areas with spans of less than 12 feet in length.

d) Maintain existing trim details at window and door surrounds. If necessary, "pad out" existing window trim to maintain the existing detail, depth, and appearance.

e) Use of aluminum- or vinyl-wrapped wood for trim or fascia is not appropriate and will not be approved.

f) Avoid applying replacement material so that it damages or destroys other character-defining elements including trim and ornamental pieces.

Figure 96: Appropriate replacement siding on a historic residence.

Figure 97: Inappropriate siding replacement that has resulted in a loss of historic integrity for the residence.

Decorative Architectural Features

Most of the historic commercial buildings in Biddeford have character-defining details and ornamentation on their front façades. Historic residential, religious, educational, and governmental buildings often have elaborate details and ornamentation on all four elevations, and sometimes on roofs. Details and ornamentation on Biddeford's historic buildings are constructed of a wide range of materials, including wood, brick, stone, terra cotta and metal.

Guideline 5.4.15. Universal Guidance on Details and Ornamentation

a) Maintain historic details and ornamentation. Keep painted surfaces, including wood and metal, painted. Numerous coats of paint that obscure details and ornamentation should be removed prior to repainting

b) Repair deteriorated details and ornamentation. Where the deterioration is so severe that replacement is necessary, only the deteriorated elements should be replaced. Replacements should match the original in material size, profile, texture and other defining characteristics as closely as possible.

c) If a substitute material is used, it should be visually, physically, and chemically compatible with surrounding original material.

d) Missing details and ornamentation should be replaced. Their design should be based on documentary evidence. Do not add conjectural features or historically incorrect details or ornamentation to a building.

e) Avoid removing or covering details or ornamentation.

For Reference

Preservation Brief 17: Architectural Character—Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character.

Figure 98: Architectural features on the front façade of a historic commercial building.

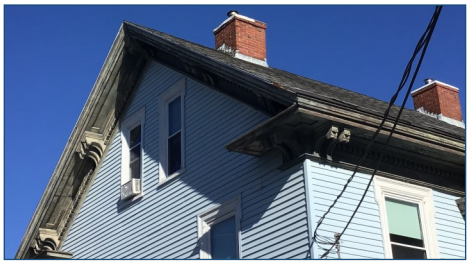


Figure 99: Preserved architectural features on the on a historic residential building.

Doors and Entrances

Main entry doors are usually designed to symbolically "greet" a customer, client or visitor. Main entry doors of residential buildings usually have a warm, welcoming appearance, while those on commercial buildings may indicate the prominence of the business. Side and rear doors of both residential and commercial buildings are usually more utilitarian in design.

Historically, residential doors were made of wood with raised or recessed panels. Those located on front façades may incorporate plain, colored, stained, beveled, or etched glass panels. Fanlights, transoms, and sidelights often surround residential entry doors.

The main entries of commercial buildings were often constructed of wood frame with a large, inset pane of glass. A transom window, often operable, is typically located above the doors. Main entry doors designed as part of a storefront were often recessed to provide protection from the weather and allow more room for the display of products within the recessed entry.

Guideline 5.4.16. Universal Guidance on Maintaining Historic Doors

a) Maintain doors and entrances in their original location. Avoid relocating or removing historic doors by blocking-in existing door openings, especially on the front façade.

b) Maintain and repair doors, frames, sills, hardware, transoms, fanlights and sidelights on doors located on front façades and side and rear façades visible from a primary public right-of-way.

c) Avoid adding details, surrounds, canopies, or ornamentation that have no historical basis and are not compatible with the character of the original door.

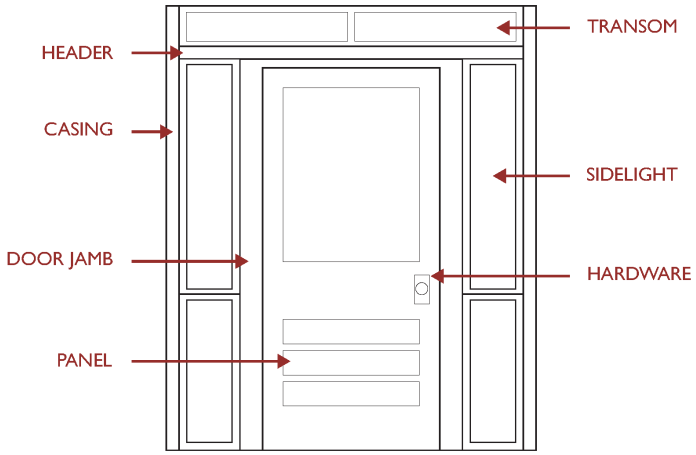


Figure 100: Diagram of typical door parts.

Guideline 5.4.17. Universal Guidance on Screen, Storm, and Garage Doors

a) Maintain historic screen doors. Painted surfaces to protect the underlying wood or metal.

b) Screen doors are usually appropriate on residential buildings but are not typically found on commercial properties.

c) Install new screen doors in a design that is compatible with the design of the door. Wood is the preferred material for screen doors on front façades.

d) Metal screen and storm doors may be used. Full light storm doors are preferred when used on the front facade.

e) Garage doors should be consistent with the architecture of the house and garage.

Guideline 5.4.18. Sensitive Replacement of Doors

a) Replace historic doors and surrounds in-kind, where repair is not possible. The replacement door should duplicate the original as closely as possible.

b) Replacement doors should be compatible with the overall character of the façade in which they are located.

c) Doors located on the front façade of historic properties are typically solid wood. Replacement doors for front façades should be wood. Alternative materials, provided they are smooth and painted, may be used for doors located on the sides or rear of the property. See **Chapter 7** for additional information on Substitute Materials.

d) If the location of the door to be replaced is not under a protective cover, then an alternate material may be considered for increased durability. The design must be compatible with the architectural style of the property and should mimic the appearance of the original door.

Figure 101: Appropriate and compatible storm door that does not obscure the historic door.

Figure 102: Inappropriate storm door over historic door.

Guideline 5.4.19. Restore Missing or Inappropriately Altered Doors

a) Replace inappropriately designed, non-original doors or surrounds with an appropriately designed door or surround based on documentary or photographic evidence. If no such evidence exists, the design of the replacement door or surround should be complimentary to the character of the façade in which it is located. A simple design is often best.

b) Avoid using inappropriately detailed replacement doors, such as solid doors for the main entries to commercial buildings, or ones that are not compatible with the character of a residential building.

Guideline 5.4.20. Adding New Doors

a) Avoid adding a new door to a front façade.

b) Install additional doors, when needed, at the side or rear of the property. Avoid converting historic windows to door openings, especially where visible from the public-right-of-way.

Figure 103: Appropriately preserved historic wood door.

Figure 104: Inappropriate replacement of a historic door (right door).

Windows

A window is composed of a number of elements, each of which is important to its character. Until the late nineteenth century, window surrounds in residential and commercial buildings were almost always made of wood or brick with little detail or ornamentation. In the latter part of that century, elaborate surrounds of scrolled wood, pressed metal and patterned brick were found on many residential and the front façades of commercial buildings. In the nineteenth century, the upper floor windows of commercial buildings were normally double-hung, with the sash sometimes subdivided into 2, 4 or even 6 lights (panes of glass) each.

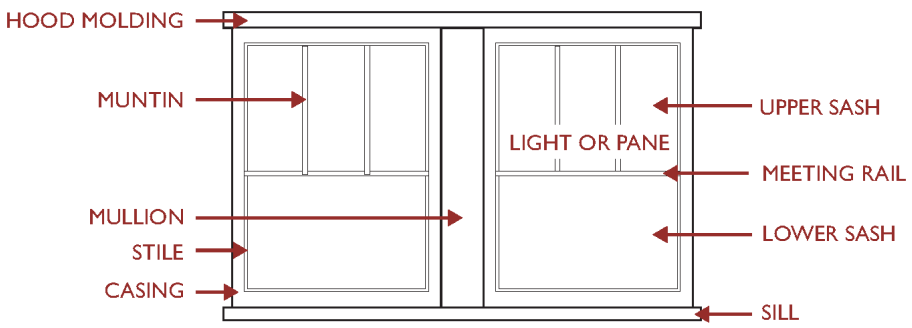


Figure 105: Diagram of typical window parts.

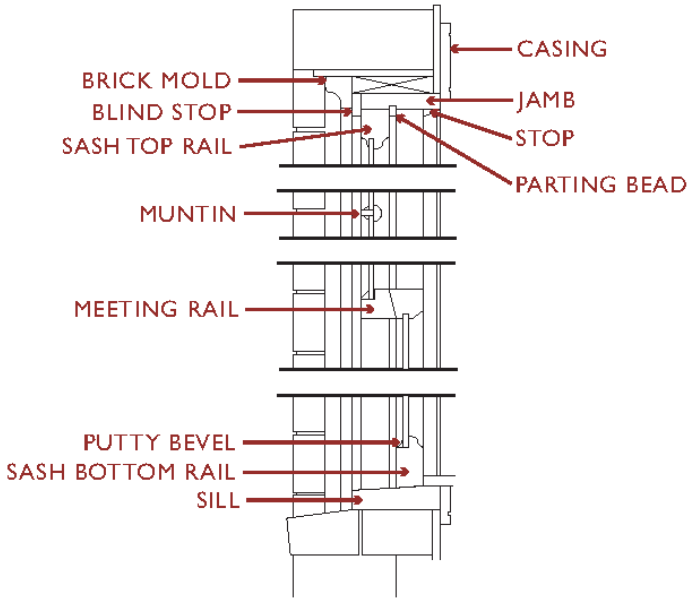


Figure 106: Diagram of typical wood window section.

Guideline 5.4.21. Universal Guidance on Maintaining Windows

a) Maintain the historic shape, size, alignment, pattern, and details of existing historic windows. Where altered, consider restoring to its historic appearance based on physical or documentary evidence.

b) Do not infill window openings or cover existing historic windows.

c) Consider reopening windows that are presently blocked or boarded over.

d) Repair damaged or deteriorated windows. This may include replacing broken panes, sanding and repainting, or oiling operable components such as locks and chains.

e) Replace missing window elements, such as hardware or trim, in-kind.

f) Do not cover or wrap window trim or sills. Metal and vinyl coverings retain moisture and accelerate deterioration of wood and masonry elements.

g) Repair drafty windows by replacing weather stripping and ensuring that the window is well-fitted to the window opening. Add storm windows to provide a thermal break, if needed. Storm windows are a cost-effective alternative to replacing historic windows.

For Reference

Preservation Brief 09: The Repair of Historic Wooden Windows.

Preservation Brief 13: The Repair and Thermal Upgrading of Historic Steel Windows.

Preservation Brief 33: The Preservation and Repair of Stained and Leaded Glass.

Guideline 5.4.22. Universal Guidance on Shutters

a) Shutters are appropriate for windows on some residential buildings, and in some cases, on the upper stories of commercial properties.

b) Restore or replace missing original shutters with appropriate replacement units based on physical or documentary evidence.

c) Shutters, even when non-operable, should be sized to cover the window if closed, and shall maintain accompanying, historically appropriate hardware (except for hinges).

d) Paintable, smooth-finished, composite materials and wood are appropriate materials for replacement shutters. Vinyl is not appropriate.

Guideline 5.4.23. Universal Guidance on Storm Windows

a) Detachable wood screens and storm windows were often used in residential and upper floor commercial windows through the first half of the twentieth century. Historic screens and storm windows should be maintained and preserved.

b) New storm windows and screens should appropriately fit the window to which they are attached. Avoid installing over or undersized storm windows or screens. Install these units to avoid damaging or obscuring historic window surrounds or trim.

c) Storm windows must have clear, untinted glass.

Guideline 5.4.24. Universal Guidance on Sills, Lintels, and Frames

a) Retain original sills, frames, lintels, and associated window trim and ornamentation.

b) Do not wrap sills or frames in any materials (sheet metal, vinyl, etc.).

c) Avoid adding details, surrounds, shutters, ornamentation and other features that have no historical basis and are not compatible with the character of the original window.

d) When historic sills, lintels, surrounds, or trim requires replacement, it should be made in-kind using the same or similar material and replicating the form, profile, color, and texture of the original unit.

Figure 107: Appropriate storm windows compatible with the existing windows.

Figure 108: Inappropriate storm windows that obscure the original windows.

Guideline 5.4.25. Sensitive Replacement of Windows

a) Replace windows that cannot be repaired in-kind. Replacement windows must match the original windows in size, proportion, design, and style. The number of windowpanes and the muntin and mullion profiles should match the historic window.

b) Replacement units for historic divided light (multi-pane) windows must have the appearance of a true divided light. Simulated divided light windows with three dimensional muntins are usually appropriate. "Snap-in" or "between-the-glass" vinyl muntins do not simulate a historic appearance and will not be approved for windows within the historic district.

c) Maintain the window type. For example, replacing a double-hung window with a casement window is not preferred.

d) Maintain the historic window opening size and surrounding trim. Altering the window opening to accommodate larger or smaller windows is not preferred.

e) Where inappropriate replacements were previously installed, and the original window appearance is unknown, neighboring buildings may provide clues to appropriate configurations. In general, a style of window that is in keeping with the architectural style of the building is most appropriate. Where the style of window cannot be determined, a one-over-one window configuration is usually most appropriate.

f) Windows constructed of hollow core or extruded vinyl components should not be used. Other alternative materials, including fiberglass composite or aluminum-clad, may be appropriate in some circumstances. See **Chapter 7** for additional information on substitute materials.

g) Certain rare or unique windows should not be replaced or altered. This determination will be made by the HPC.

Figure 109: Original wood window in good condition but needing basic maintenance.

Figure 110: Inappropriate replacement windows that don't fit in the historic casing.

Energy and Sustainability

Property owners are encouraged to actively reduce energy use and to generate renewable energy where possible, but they should do so without compromising the integrity of their historic building or the historic district. Take a holistic planning approach that considers the entire building, its existing systems, and its site and environmental considerations as well as the potential impact on historic materials and features and on the district as a whole.

Before committing to a system that requires the installation of new equipment onto the exterior of your historic building, it is recommended that a property owner obtain an energy audit from a certified energy efficiency contractor. This will inform the property owner where a building is losing energy and provide a prioritized list of recommended retrofits.

See **Appendix C** for additional information on the advantages of Energy Efficiency.

Guideline 5.4.26. Maintain Historic Windows for Energy Efficiency

a) When historic windows are too deteriorated to repair, install compatible and energy-efficient replacement windows that match the historic windows. They should also be durable, repairable, and recyclable.

b) Replace missing windows with new, energy efficient windows matching the remainder of the historic windows on the building.

c) Retrofit historic windows with high-performance glazing or clear film if the historic character can be maintained.

d) For industrial buildings, retrofit historic steel windows and curtain-wall system to improve thermal performance. Maintain the historic character. Exterior or interior storm windows may be used.

For Reference

Preservation Brief 03: Improving Energy Efficiency in Historic Buildings.

Preservation Brief 13: The Repair and Thermal Upgrading of Historic Steel Windows.

Guideline 5.4.27. Universal Guidance on Weatherization and Insulation

a) Caulk gaps in the exterior envelope such as around doors and windows.

b) Install and maintain weatherstripping at windows and doors to eliminate drafts.

c) Insulate unfinished spaces, such as attics, basements, and crawlspaces. Use appropriate materials for the space and ensure that it is adequately ventilated.

Guideline 5.4.28. Universal Guidance on HVAC systems

a) Retain and maintain existing functional, efficient HVAC systems.

b) Upgrade existing systems to increase efficiency when the existing system has reached the end of its useful life.

c) Increase efficiency of HVAC systems by installing programmable thermostats, ceiling fans, and louvers and vents where appropriate.

d) Place equipment on non-visible rooftop locations, in the rear of buildings, or in other locations that are not visible from the street.

Guideline 5.4.29. Universal Guidance for Site Features

a) Add natural sustainable features to the site, such as shade trees, where possible. Locate shade trees where they will not grow to damage historic buildings.

b) Avoid paving up to the building foundation, which can create a heat island effect. Use permeable materials or landscaping with native plants to help control stormwater and reduce heat transmission to the building interior.

c) Avoid removing existing shade trees or vegetation.

d) Use permeable paving where appropriate to manage stormwater.

e) Items such as solar panels, batteries, electric vehicle charging equipment, etc., shall not be located in front yards and/or shall be screened from view.

Guideline 5.4.30. Maximize Daylight

a) Retain historic features that provide natural light to the building interior, such as glass doors and transom, clearstories, and roof monitors.

b) Reopen historic windows that have been blocked to provide additional light and ventilation.

c) Add skylights or dormers on non-visible elevations.

Storefronts

Storefronts are one of the most important elements of the front façades of commercial buildings in Biddeford. They help attract customers and clients to a business by providing an inviting appearance and allowing views into the ground floor. Traditional storefronts are composed of a storefront cornice, signboard area, display windows, and framing elements consisting of storefront piers, and bulkheads. Many of Biddeford's storefronts were designed to have transom windows and canvas awnings.

The storefront design has evolved over the past 150 years to reflect changes in how retail businesses are operated and the evolution of construction materials and methods.

For guidance on storefront signages, see **Chapter 5.3**.

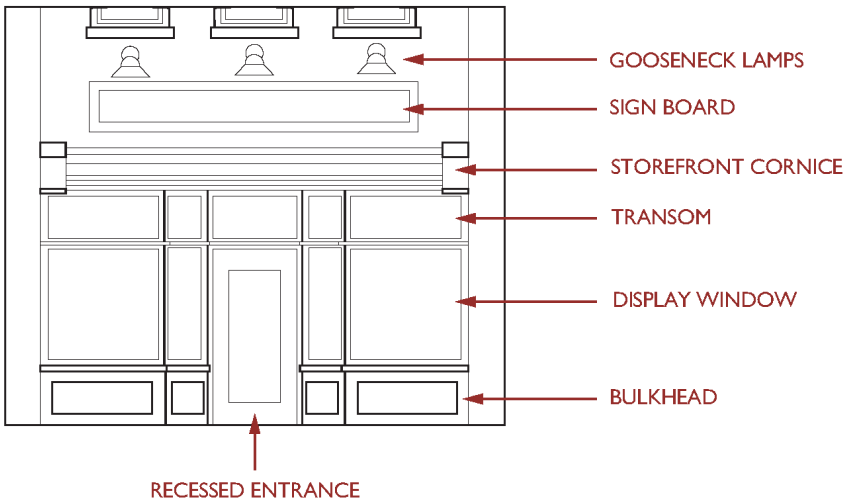


Figure 111: Diagram of typical storefront features.

Figure 112: Vernacular storefront located along Biddeford's Main Street.

Guideline 5.4.31. Universal Guidance on Historic Storefronts

a) Maintain original storefronts. Repair, rather than replace, deteriorated elements.

b) Make necessary replacements in-kind. When replacement is necessary, the new unit should match the original element as closely as possible in size, shape, profile, color, and material.

c) If using the original material is not economically or technically feasible, an alternative material that resembles the original in size, shape, profile, color, and other characteristics may be used. Avoid using inappropriate materials such as vinyl and aluminum siding, bare anodized aluminum, mirrored or tinted glass, artificial stone, and the like for a new storefront.

d) Missing storefront elements should be replaced. The design of the replacement should be based on documentary or photographic evidence. If none exists, the replacement element should be designed to be compatible in size, shape, profile, color, and character of the storefront.

e) If the use of the ground floor requires more privacy than allowed by the display windows, install privacy curtains or blinds. Avoid blocking in or otherwise removing or reducing storefront windows.

f) If storefront security systems are to be added, choose an electronic system that does not alter the appearance of the storefront.

g) Avoid adding details and ornamentation to existing storefronts that creates a false sense of history, or is incompatible with the overall design of the storefront.

For Reference

Preservation Brief 11: Rehabilitating Historic Storefronts.

Guideline 5.4.32. New Storefronts

a) A new storefront should be designed to fit within the existing storefront piers and cornice line. It should not be recessed behind the framing elements.

b) Design new storefronts to be compatible in scale, proportion, and details with the overall character of the front façade. Where possible, restore the original storefront based on documentary evidence.

c) Entrances in new storefronts should usually be recessed.

d) Avoid using inappropriate materials such as vinyl and aluminum siding, bare anodized aluminum, mirrored or tinted glass, artificial stone, and the like for a new storefront.

Awnings

Historically, awnings were found on storefronts and sometimes on the upper floor front façade windows of commercial buildings. They were used much less frequently on residential buildings. Awnings provide shelter from the sun, rain, and snow, and help improve the thermal efficiency of windows exposed to direct sunlight in summer. Many historic awnings were operable so they could be retracted, either at night or to allow sunlight to enter the building during the winter.

Awnings were historically made of steel frames and canvas duck. Today the frames are made of aluminum covered with a fabric such as canvas treated with a fire retardant.

For guidance on awning signage, see **Chapter 5.3**.

Guideline 5.4.33. Awnings for Residential Buildings

a) Awnings of canvas on metal or aluminum frames may be added to porches on a case-by-case basis.

b) Avoid awnings and frames that do not fit within the window opening to which they are attached.

c) Avoid awning shapes that do not complement the design of the storefront or window to which they are attached.

d) Avoid using metal, wood, fiberglass, plastic or other inappropriate materials for awnings.

e) Avoid installing an awning in such a manner that it destroys architectural details or ornamentation.

For Reference

Preservation Brief 44: The Use of Awnings on Historic Buildings: Repair, Replacement and New Design.

Guideline 5.4.34. Awnings for Commercial Buildings

a) Fit awning frames within the opening to which it is attached. Awnings for upper story windows should be fitted to conform to the size and shape of the window head and upper surround.

b) The shape of the awning (round, sloped, square, etc.) should compliment the design of the storefront or window to which it is attached. Simple sloped awnings are typically most appropriate for buildings within Biddeford's HPC Review Area.

c) Storefront and other ground floor awnings projecting over the public right-of-way with or without signs shall project no further than 5'-0" feet from the building or two -thirds of the width of the sidewalk, whichever is less, and have a minimum vertical clearance of 10'-0".

d) Awning colors should complement those of the façade to which it is attached. No more than two colors should be used. If a sign is included on the awning, no more than three colors should be used.

e) Use canvas duck or matt finished vinyl as the awning material.

f) Avoid installing an awning in such a manner that it destroys architectural details or ornamentation.

Figure 113: Sloped, retractable awnings within Biddeford's commercial area.

Figure 114: Dome awning within Biddeford's commercial area.

Exterior Lighting

Exterior light fixtures can be character-defining features of a property. Historically, lighting was confined to business signs, entries, and sometimes architectural features such as cornices. Public, religious, and institutional buildings were often fully illuminated to confirm their importance to the entire community.

Guideline 5.4.35. Universal Guidance on Historic Fixtures

a) Retain and maintain historic light fixtures.

b) Repair deteriorated or damaged light fixtures, keeping their historic appearance.

Guideline 5.4.36. Universal Guidance on Façade Illumination

Illuminating historic commercial buildings can help to draw attention to businesses as well as create a more inviting environment after dark. Historically, lighting was confined to business signs, entries and, sometimes, architectural features such as cornices. Public, religious, and institutional buildings were often fully illuminated, confirming their importance to the entire community. Exterior illumination on historic residential buildings was typically confined to porch lights, entry lights, and sometimes lighting at driveway and sidewalk entries.

a) Illuminate significant features and details such as cornices on commercial buildings.

b) Illuminate public, institutional, and religious buildings in such a manner so that their façades and features are highlighted.

c) Illuminate recessed entries of commercial buildings using recessed ceiling fixtures.

d) Illuminate doors, porch ceilings, and entries to driveways and sidewalks on residential properties.

e) The design, scale and materials of external fixtures should complement the design of the façade that they are illuminating.

f) Use unshielded floodlights to illuminate a building façade. Ensure that lighting remains on the property and does not shine onto neighboring properties.

For Reference

Preservation Brief 50: Lightning Protection for Historic Structures.

Guideline 5.4.37. Sensitive Replacement or New Appropriate Fixtures

a) Replace missing or damaged light fixtures with replacements that replicate the originals or other similar examples appropriate to the architectural character of the building.

b) Modern light fixtures may be appropriate as replacement or where light fixtures did not exist. They should be unobtrusive and not damage or obscure architectural features.

Figure 115: Typical gooseneck lighting within the commercial area of Biddeford.

Figure 116: Many residences have paired lights around the front door.

Porches

Many historic homes have front porches that are significant to a building's front façade. They were used for socializing outdoors and often contain many decorative elements. While partial-width and bracketed porches are the most common porches found within the HPC Review Area, full-width porches are also present.

Historic deck and porch materials typically include wood, brick, stone, and concrete. There are no appropriate substitutes available for brick, stone, and concrete and therefore these elements should be replaced in-kind. Porch elements such as columns, railings, balusters, floors, and ornaments are typically made from wood. Repairing and maintaining historic wood porches is the preferred approach, though alternative materials may be appropriate on a case-by-case basis. Porches are especially susceptible to deterioration and were historically altered to fit the changing needs and styles of the time. Front porches are held to a higher standard than side or rear porches.

For Reference

Preservation Brief 45: Preserving Historic Wooden Porches.

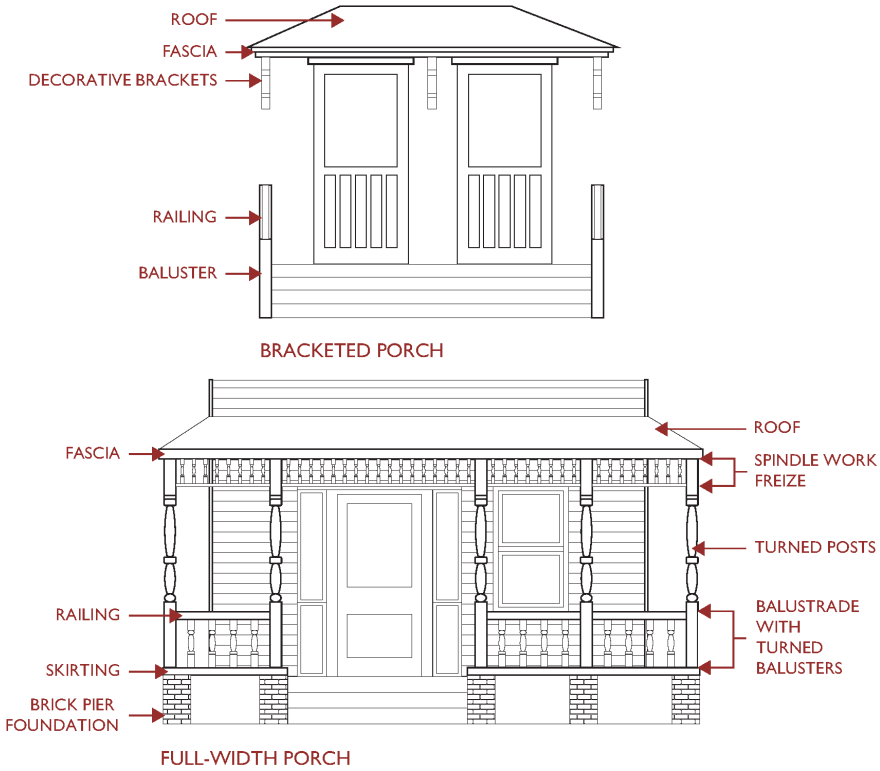


Figure 117: Diagram of typical porch parts of a full-width and bracketed porch.

Guideline 5.4.38. Universal Guidance on Historic Porches

a) Maintain and repair original porches, including steps, flooring, ceiling, columns, roof, details and ornamentation.

b) Avoid enclosing a porch located on the front façade or visible from a primary public right-of-way. If the porch is not visible from a primary public right-of-way, it may be enclosed if done in a manner that does not significantly alter the original character of the porch. Note: screening-in is not considered enclosing the porch.

c) It is appropriate to remove enclosures to reveal original porch and details.

d) Screen porches in such a way that original details are not altered or destroyed may be appropriate.

Guideline 5.4.39. Sensitive Replacement of Porches

a) Replace missing posts and railings where necessary to match size, shape, profile, proportion, and spacing to the historic feature.

b) Use wood for porch details and structural parts, including steps, decking, and foundations, unless it can be documented that other materials were historically used on the house or used at an early date.

c) Alternate materials may be allowable on a on side or rear porches if the new material, size, scale, and overall appearance matches the historic feature.

d) Front porches on contributing historic structures are held to a higher standard than side or rear porches.

Guideline 5.4.40. New Porches

a) Avoid adding a new porch to the front façade of a contributing building unless historical evidence exists to indicate a porch previously existed.

b) A new porch may be added to a side or rear façade if it is designed to be compatible with the overall character of the building.

Figure 118: Preserved bracketed front porch.

Figure 119: Inappropriately enclosed front porch.

Decks and Patios

Patios and decks are popular additions to historic properties. Unlike porches, decks are often open, outdoor platforms extending off the rear of a residential property. While terraces and patios may be more compatible with the character of a historic structure, decks are acceptable when they are of a compatible design and hidden from street view. Decks or patios may be later, non-historic alterations or may be completely new.

Guideline 5.4.41. New Decks and Patios

a) New decks and patios should be located so they are not visible from the primary right-of-way. Avoid locating decks and patios so they are visible from a primary right-of-way, employ landscaping and other screening measures as necessary.

b) New decks and patios should be designed to be compatible with the architectural style, scale, form, and materials of the main building on the property.

c) Alternate materials may be used on side or rear construction.

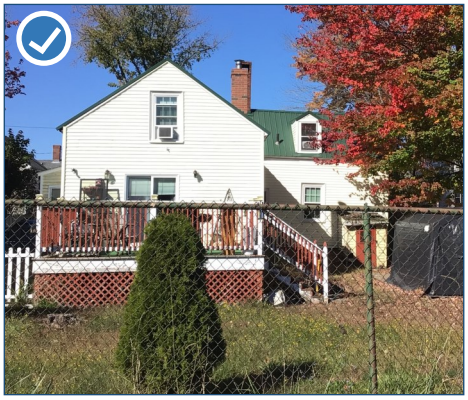


Figure 120: Appropriately located rear deck located within the rear yard of the residence.

Figure 121: Inappropriate side deck addition.

Roofs

Roofs are one of the most important character-defining elements of buildings in historic districts. Commercial buildings typically have flat roofs hidden from view by a cornice and parapet. Sloped roofs typical of residential buildings in the historic district include gable, cross-gable, gambrel, mansard, hipped, and shed.

The roofs of a number of the residential buildings in the HPC Review Area also contain character-defining features such as dormers, towers, chimneys, finials, and cresting. The shape, size, and materials of gutters and downspouts also contribute to the character of a roof. On sloped roofs, half-round galvanized gutters and round galvanized downspouts are typical features.

The material used to cover sloping roofs also contributes a building's character.

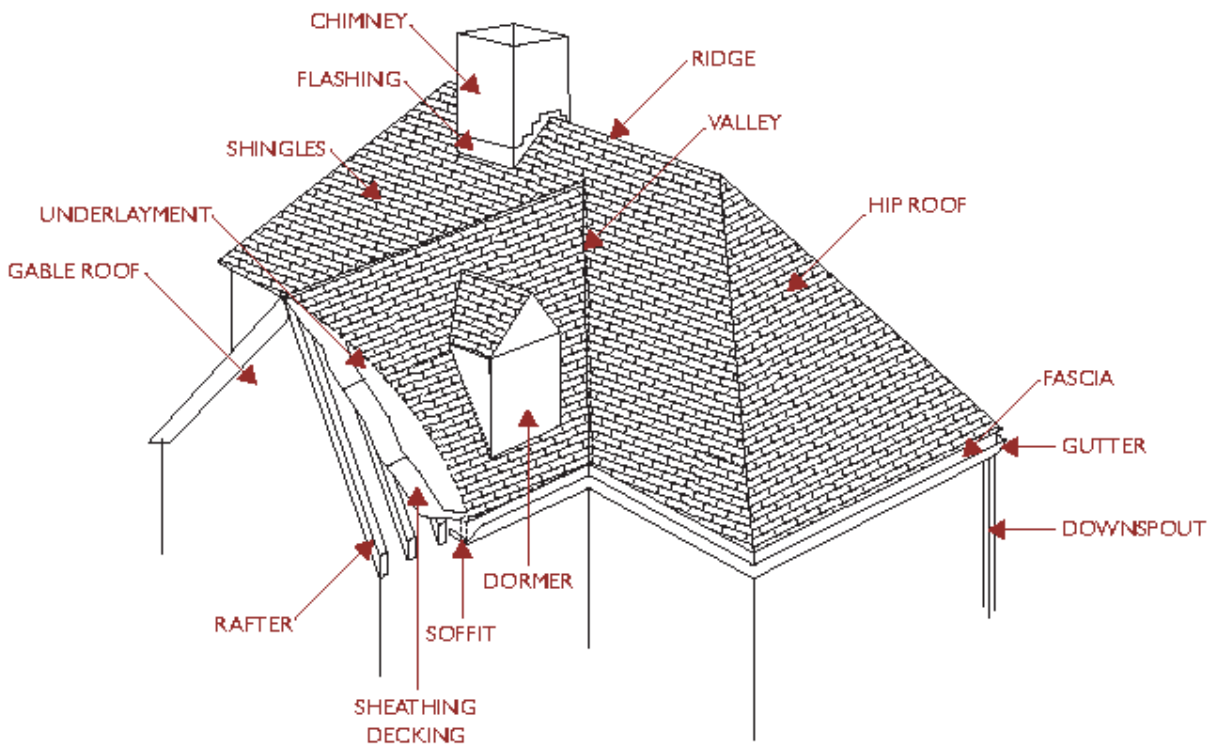


Figure 122: Diagram of typical roof parts.

Guideline 5.4.42. Universal Guidance on Roofs Shapes

Roof shape is a major component of building form and is a major character-defining feature. Certain roof types have close association with architectural styles and are integral to a building's design.

a) Preserve the historic shape and slope of the roof. If a roof will be replaced completely, it shall be replaced with the same roof form or a similar form complimentary to the architectural style.

b) Details, ornamentation, and other character-defining elements should be maintained.

c) The addition of dormers should be undertaken sensitively. If a dormer is added, its size, design, and placement should be in keeping with the character of the building and in scale with its size. Its siding and roofing should match the existing, and its windows should be consistent with the building's other windows in terms of style, type, and material.

d) Do not increase the height or change the shape of parapets unless to restore an inappropriately altered condition to its historic appearance.

e) Roofs on secondary structures should be consistent with the architectural style of the main building in terms of shape and slope.

f) Missing or severely damaged roof towers, dormers, finials, cresting, chimneys and other character-defining elements should be replaced based on documentary or photographic evidence. If no evidence of the appearance of the element exists, a new element should be designed to be compatible with the overall character of the building.

Figure 123: A variety of roof shapes can be found throughout the HPC Review Area as well as a variety of roof appurtenances.

Guideline 5.4.43. Universal Guidance on Roof Materials

a) Like roof shape, roof material, when visible, is often a character defining feature. Historic roofing materials include wood shingles, slate shingles, clay tiles, metal, and several types of membranes for flat roofs.

b) Retain and repair visible historic roofing materials where feasible.

c) Where total replacement of all roofing material is required, the new roofing should match the existing material or be a roofing material that is consistent with the building's architectural style.

d) Heavy-weight architectural shingles are preferred when existing asphalt shingles are replaced.

e) Repairs to isolated portions of visible roofing materials must match the existing in material, size, style, texture, and color.

For Reference

Preservation Brief 04: Roofing for Historic Buildings.

Preservation Brief 19: The Repair and Replacement of Historic Wooden Shingle Roofs.

Preservation Brief 29: The Repair, Replacement, and Maintenance of Slate Roofs.

Preservation Brief 30: The Preservation and Repair of Historic Clay Tile Roofs.

Figure 124: Appropriately preserved roof shape and roofing material.

Figure 125: Inappropriate dormer addition that changes the roof shape of the residence.

Guideline 5.4.44. Universal Guidance Roof Maintenance

a) Regularly inspect, evaluate, and monitor roof for signs of deterioration, leaks, and to ensure that flashings, downspouts, and gutters are properly functioning. Check seams of metal roofs and keep metal surfaces painted, except for copper.

b) Coat and seal flat roofs per the manufacturer's recommendation, typically every five years.

Guideline 5.4.45. Universal Guidance on Roof Appurtenances

a) New skylights, vents, chimneys, or other projections should be located so that they are not visible from a primary public right-of-way. If this is not possible, they should be designed to be in character with the overall appearance of the roof.

b) Snow guards or railings should be installed sensitively on the roofs of buildings to prevent the shedding of snow and/or ice onto a public street, sidewalk or public parking lot.

c) Roof-mounted air conditioning units should be located so they are not visible from a primary right-of-way. If this is not possible, they should be screened from view. The design of the screen should be compatible with the character of the roof and building.

Guideline 5.4.46. Universal Guidance on Historic Gutters and Downspouts

a) Keep gutters and downspouts clear of debris and in good repair.

b) Make sure that gutters and downspouts are property connected and direct water away from the building.

c) Seal any cracks or gaps with silicone sealants.

Figure 126: Appropriately located and painted downspout on the side of a residence.

Figure 127: Improper drainage gutter system resulting in deterioration of foundation walls.

Guideline 5.4.47. Sensitive Replacement of Historic Gutters and Downspouts

a) Replace deteriorated or damaged gutters and downspouts in-kind.

b) Half-round gutters and round downspouts are appropriate for most buildings in the Historic District.

Guideline 5.4.48. Universal Guidance on Historic Parapets

a) Parapets are especially prone to deterioration given their placement above the roof and exposure to the elements. Parapets should be regularly inspected and repaired to prevent loss of material or the entire feature itself.

b) Retain and maintain all of the material components of existing parapets and cornices. These materials include the coping, street facing signage or date stones, and masonry construction material.

Guideline 5.4.49. Sensitive Repair or Replacement of Historic Parapets

a) If conditions require the replacement of the parapet, it should be replaced in-kind in order to preserve the building's original design. Special care must be taken to match the masonry elements on the existing parapet, so the replacement feature blends seamlessly with the façade materials.

b) The form of the parapet, be it flat, stepped, curved, or another shape, is often a character defining feature of a commercial building. Maintain the historic parapet form when repairing or replacing a parapet.

c) Restore inappropriately altered parapets. Common alterations to parapets include the installation of ill-fitting metal coping or the removal of decorative features from the top of the parapet. Remove inappropriate additions and replace missing features in-kind using photographic or documentary evidence when possible.

Figure 128: Examples of parapets throughout the commercial area.

Utilities

As advancements in modern technology continue to grow, a compromise must be met between these ever-changing needs and the preservation of historic districts, to include heating and air conditioning equipment, electrical panels and meters, telecommunications equipment, satellite dishes, and freestanding antennas. Telecommunication towers are not allowed in historic districts unless they are stealth application.

Guideline 5.4.50. Universal Guidance for Utilities

a) Locate electric, telephone, and cable services underground whenever possible.

b) Where underground placement is not possible, utilize the rear or other non-visible façade.

c) Locate exterior conduit and hosing in an inconspicuous area and paint housing to match the exterior surface to which it is applied.

For Reference

Preservation Brief 24: Heating, Ventilating, and Cooling Historic Buildings: Problems and Recommended Approaches.

Figure 129: Appropriately obscured access to mechanical equipment within a storefront bulkhead.

Figure 130: Inappropriate placement of mechanical equipment in the front yard of a residence.

Guideline 5.4.51. Universal Guidance for Mechanical Equipment

a) Rooftop mechanical systems should be positions so as not to be visible from the street.

b) Where rooftop location is not possible, mechanical systems should be located at a side or rear elevation and screened with fences or plantings.

c) Avoid placing window or air conditioning units in first-story windows or through storefront walls or transoms.

Guideline 5.4.52. Universal Guidance on Trash and Refuse Containers

a) Locate dumpsters and other trash receptacles in the rear or on a non-visible side elevation.

b) Employ opaque fencing or screening to limit the view from public rights-of-way.

Guideline 5.4.53. Universal Guidance for Vents and Hoods

a) Install vents and hoods on non-visible elevations.

b) Avoid installing vents and hoods in location that damage important historic features, such as windows, trim, or ornamental elements.

Figure 131: Appropriate location for satellites and antennas on the rear elevation of a residence.

Figure 132: Inappropriate location of unpainted and unconcealed antenna.

Guideline 5.4.54. Universal Guidance for Antennas

a) Avoid collocating telecommunications equipment on rooftops that are visible from the public right-of-way.

b) Where possible, use existing parapets or other historic features to conceal antennas and equipment. Suggest telecommunications company paint the equipment to blend with the surrounding building fabric upon install.

c) Install equipment in a manner that avoids damage to historic features and materials.

d) Employ a setback and limit antenna heights to the lowest effective height.

e) Avoid screening and "stealth" enclosures that create a false sense of history, such a faux parapets or chimneys.

f) Position ground equipment in the rear or on non-visible sides of buildings and employ fencing or plantings for screening where needed.

Guideline 5.4.55. Universal Guidance for Satellite Dishes

a) Install satellite dishes on the rear or a non-visible side elevation, in a location as inconspicuous as possible.

b) New satellite dishes attached to posts and other features should be located so they are not visible from the primary right-of-way.

c) Small satellite dishes (less than 2 feet in diameter) that are permitted on roofs, must be located so they are not visible from the primary right-of-way.

d) Satellite dishes should be installed in a manner which will minimize damage to historic building materials (ex: through a mortar joint rather than through a masonry unit).

Figure 133: Appropriately located solar panels on side elevation of a historic residence.

Figure 134: Inappropriate location of a satellite dish on the front façade of a historic residence.

Guideline 5.4.56. Universal Guidance for Solar Panels

a) Install solar panels on a rear slope or side not visible from the primary right-of-way, where possible.

b) Install solar panels parallel to the roof slope. Panels should not be installed in a vertical position where their appearance is most noticeable, but rather on horizontal or sloped surfaces.

c) When placed on the roof, solar panels should be set back from the roof edge and ridge and shall not affect the roof façade elevation or roofline.

d) Solar panels shall be low profile and exposed hardware, frames and piping shall have a matte finish and be of a color similar to the roofing material color.

e) Consider solar shingles, a shingle that looks and functions like common roofing materials; however, it absorbs sunlight as a source of energy for generating electricity. Solar shingles may be approved on a case-by-case basis.

f) Install ground-mounted equipment so that it is not visible from the street, or install appropriate screening materials such as shrubbery or fencing.

Paint and Color

Some of the construction materials used for the buildings in Biddeford have colors that are integral to their manufacture including brick, stone, cast stone, and concrete. Other materials are painted or finished with other types of applied architectural coatings. They include wood, tin, zinc and stucco. Besides aesthetic appearance, paint or other architectural coatings applied to the latter materials play a role in the durability of building materials through weather protection. Paint is a protective coating for wood and metal surfaces but can cause damage to masonry surfaces which were not intended to be coated.

While paint color is not regulated in the HPC Review Area, the HPC has purview over the appropriate maintenance of historically painted surfaces and projects that involve matching existing paint color when patching or piecing.

For guidance on painting historic masonry, see **Guideline 5.4.7. Universal Guidance on Painting Masonry**.

Guideline 5.4.57. Universal Guidance on Painted Surfaces

a) The painted surface of historically painted buildings, or building features, should be maintained.

b) New or replacement building features of the type that were historically painted, such as wood siding or trim, should be painted to match like features on the building.

c) Do not leave new wood surfaces exposed. Paint or stain them to protect from water and sun damage.

d) Avoid using sandblasting or other abrasive methods to strip paint from wood, masonry, tin or zinc. Avoid using flame or heating iron to remove paint from wood surfaces.

e) Paint applied to buildings built prior to 1978 should be tested for lead before scraping or sanding. If found, appropriate abatement or encapsulation should be undertaken.

For Reference

Preservation Brief 10: Exterior Paint Problems on Historic Woodwork.

Guideline 5.4.58. Universal Guidance on Matching Colors when Patching or Piecing

a) Ensure that patched siding, roofing, or masonry matches the surrounding surface in terms of color.

b) Match colors for related elements. For example, the color of a handrail for a stair should generally match the color of the stringers and risers.

The following guidance is for informational purposes only as paint color is not regulated in the HPC Review Area.

Best Practices When Choosing Appropriate Color Schemes

a) Choose a harmonious color palate. Avoid mixing clashing colors.

b) Use contrasting colors to accent details, such as trim, dentil molding, etc.

c) Use the paint scheme to tie elements of the building together.

d) Consider whether the building is usually in shadow or bright light when choosing paint colors. Darker colors are more appropriate on well-lit facades, and lighter colors on shadowed facades.

e) If the building is listed in the National Register, a paint analysis to determine historic colors and paint composition is recommended. Strong consideration should be given to repainting using the historic color scheme.

The following links can be helpful when planning your project:

Sherwin Williams: **https://www.sherwin-williams.com/homeowners/historic-collection/exterior-historic-colors**

Benjamin Moore: **https://www.benjaminmoore.com/en-us/paint-colors/historical-collection**

PPG: **https://www.ppgpaints.com/color/color-collections/historic**

5.5 Guidelines for New Construction

The following guidelines are intended for new construction and additions. The design of new buildings and additions is critical to preserving the character of the Biddeford HPC Review Area. They should contribute to that character by respecting the location, design, materials, and other character-defining elements of the existing historic buildings, as well as respecting the character of the landscape and other important features of the residential and commercial areas in which they are located. Additions and new buildings should be compatible with the existing environment without exactly duplicating existing buildings. To the maximum extent possible construction plans should preserve the existing historic landscape and natural features of the property.

To ensure compatibility with contributing historic structures within the historic district, designs for new buildings should strive for compatibility with the following characteristics of buildings within the historic district:

- Height, scale, orientation, spacing, and site coverage of surrounding buildings.
- Façade proportions, and window patterns of surrounding buildings.
- Size, shape, and proportions of entrances of surrounding buildings.
- Materials, textures, color, and architectural details of surrounding buildings.
- Roof forms of surrounding buildings.
- Horizontal or vertical emphasis of surrounding buildings.
- Landscaping, walls, and fences in the surrounding area.

Additions and new buildings should be compatible with the existing environment without exactly duplicating existing buildings. Any addition or new construction should be a product of its own time.

Please refer to **Chapter 4.5 Design Principles** for additional guidance.

General Guidelines for New Construction

Guideline 5.5.1. Style

New infill buildings should be compatible with the overall historic and architectural character of the area, yet they should also be recognizable as products of their own time. For example, windows of contemporary design might be appropriate if their size and proportions were similar to those of surrounding properties.

a) Avoid imitating earlier or historic architectural styles.

b) Create a new design that compliments the existing historic surroundings through compatible scale, form, massing, height, color, and character.

c) Architectural details of new infill buildings should relate to and be compatible with the architectural detailing of adjacent buildings. For example, matching cornice heights and referencing the façade rhythm of surrounding buildings.

Guideline 5.5.2. Siting

a) Site new construction on existing vacant lots whenever possible.

b) New buildings should be oriented to face the street.

c) Landscaping, such as front yards, should be in keeping with those of neighboring properties.

Guideline 5.5.3. Orientation, Alignment, and Setback

a) Orient new construction toward the major street. See **Chapter 4.5 Design Principles** for additional information.

b) Align new buildings with the setback of surrounding buildings on the street. Avoid constructing new buildings which have setbacks that are significantly deeper or shallower than surrounding buildings.

c) Additions to free standing buildings should be setback behind the front façade if possible.

Figure 135: Appropriate new residential construction within the context of a neighborhood.

Guideline 5.5.4. Form, Massing, Height, and Scale

a) Respect the form and massing of adjacent and surrounding historic properties. New buildings should be compatible with surrounding property and generally should occupy the same visual volume.

b) The massing of a façade of an addition should be compatible to the façade of the building to which it is attached.

c) The width and proportion of infill buildings should be similar to or compatible with surrounding buildings. Where new buildings are significantly wider than surrounding buildings, their facades should be visually divided to maintain street rhythm.

d) Construct new buildings to a height compatible with adjacent buildings. New buildings should have the same number of stories as surrounding buildings.

e) Match cornice and window heights to neighboring buildings to achieve streetscape unity.

f) The height of the front façade of an addition in the commercial areas should be compatible to the front façade of the building to which it is attached. Taller additions should be located so they are not visible when viewing the principal façades.

g) The height of a new building should be within ten percent of the height of surrounding buildings.

Guideline 5.5.5. Street Rhythm

a) The overall size, massing, and form of a new building should respect the existing street rhythm.

b) Avoid designs that interrupt or otherwise disrupt the street rhythm.

Figure 136: Inappropriate new construction within a commercial area with an incompatible setback, alignment, massing, height, scale, and rhythm.

Landscape

Yards, plants, trees, fences, garden walls, sidewalks, driveways and other landscape features are important character-defining elements of many of Biddeford's residential areas. A new building or addition should respect the existing character-defining landscape features of the property on which it is located. The landscape design of a new building should be compatible with the landscape designs of neighboring properties.

Guideline 5.5.6. Universal Guidance for Landscape Features

a) Design compatible landscaping for a new building's property.

b) Unnecessarily removing character-defining landscape to construct a new building or addition should be avoided.

c) Designing an incompatible landscape for a new building or addition should be avoided.

For Reference

Preservation Brief 36: Protecting Cultural Landscapes: Planning, Treatment, and Management of Historic Landscapes.

Figure 137: The landscaping around the residences is an important character-defining feature of the street.

Accessibility, Code Compliance, & Safety

The Americans with Disabilities Act (ADA) requires public buildings and spaces to be accessible for Americans with impaired mobility. All new commercial or public buildings should be constructed with ADA features in their design. Applicants are encouraged to work with the Biddeford Historic Preservation Commission and local code officials early in the planning process to develop creative design solutions to meet relevant standards preserving the integrity of the property. Minimize the visual impact of new accessibility and safety features, such as elevator additions, widened entrances, exterior stairs, or sloped paved surfaces through compatible design and discreet siting.

Guideline 5.5.7. Ramps

a) Ramps should blend with surrounding materials.

b) Designs, including railings, should be simple.

c) Where possible, ramps should be located on the rear or side elevations rather than on the primary façade.

Guideline 5.5.8. Railings

a) Railings should be constructed with complimentary materials to the new structure and surrounding area.

b) New handrails height should meet current building code, ADA and life safety standards.

Figure 138: Appropriate rear addition built with compatible materials, roof form, and features.

Figure 139: Inappropriate front porch addition that obscures original architectural features of the residence.

Guideline 5.5.9. Elevators

a) Exterior elevator tower additions should be located on secondary elevations and not be highly visible from public spaces.

b) The design of elevator tower additions should be compatible with the massing, size, scale, and architectural features of the historic structure, and designed so that it is clearly apparent that it is a later alteration.

c) An exterior tower addition should be attached in such a way that the future removal would not impair the essential integrity and form of the historic property.

Guideline 5.5.10. Fire Escapes and Exterior Stairs

a) Locate fire escapes and exterior stairs in the rear or on side elevations that are not visible, or minimally visible, from public rights-of-way.

b) Fire escapes and exterior stairs should not damage existing architectural features. Avoid placing these units where architecture features would need to be removed to accommodate them.

Additions

Additions to historic buildings should be designed and constructed so that the character of the original building is not adversely affected. Additions to original buildings may affect the appearance of the historic structure or character of the historic district as well as the external walls, roofing, drainage system, HVAC, and other building services. New structural loads may be imposed on existing walls, especially if the new addition is more than one story high. Small additions typically include fire stairs, mechanical equipment, storage areas, decks, entryways, porches, etc. All additions shall be sensitive in style, size, and location to the historic building and the immediate surroundings within the HPC Review Area. Careful planning, staging, and phasing shall be considered to minimize disruption of original building systems, components, and operations.

New additions should reflect, but not copy, the historic nature of a building's style, shape, roof, height, and mass. Additions on the side of a building are discouraged, while additions at the rear of a building should not extend beyond the width of the building. Additions adding height to a building are discouraged but can be accomplished under special circumstances and care. Additions on the front façade are not generally acceptable.

For Reference

Preservation Brief 14: Exterior Additions to Historic Buildings: Preservation Concerns.

Figure 140: Diagram of the appropriate and inappropriate scale and fenestration of side additions.

Guideline 5.5.11. Side Additions

a) Lateral additions should align with the façade of the historic building and respect the alignment and setback of other buildings on the street.

b) Additions should be compatible with the massing and scale of the historic building. The original building should be dominant.

Guideline 5.5.12. Rear Additions

a) Additions should be compatible with the massing and scale of the main building. In general, they should be the same or lower height as compared to the surrounding historic buildings.

b) Additions should not imitate earlier architectural styles.

c) Materials for the new addition should complement or otherwise harmonize with the historic materials.

Guideline 5.5.13. Rooftop Additions

a) Although it is possible to add additional stories to historic buildings, it is frequently difficult to avoid adversely impacting the building's historic character. Where possible, rear additions are usually preferable.

b) Rooftop additions should be set back from the front façade to limit their visibility from the street and allow the historic mass to read as intended by its design.

c) Rooftop additions should use similar roof forms to the original building.

d) Rooftop additions should be placed to avoid removal or alteration of character-defining features, such as parapets and other roof-top features.

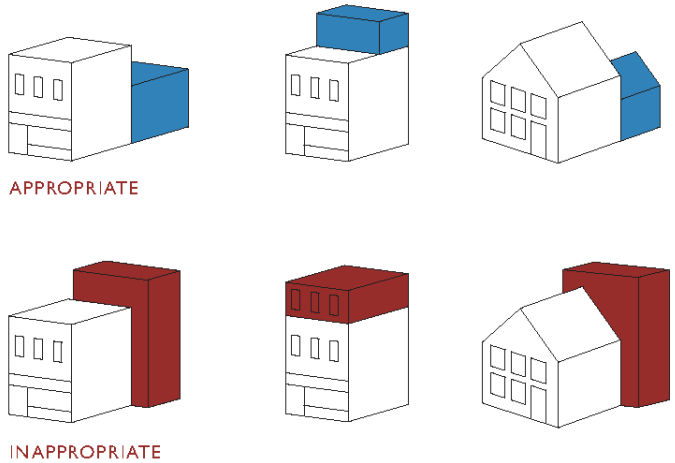


Figure 141: Diagram of the appropriate and inappropriate location of rear and rooftop additions on commercial and residential buildings.

Building Materials

The materials used for walls, sloped roofs, and other visible elements of historic buildings should be carefully considered when designing a new building or addition. Designs for new buildings should utilize materials that are the same or similar to those found on buildings in the surrounding area in order to tie into the streetscape.

The size, texture, surface finish, and other defining characteristics of exterior materials are as important as the type of material. For example, in a street of red brick façades, a new building constructed of glazed white brick would probably not be compatible.

Guideline 5.5.14. Universal Guidance on New Construction Materials

a) Exterior materials of a new building or addition should be compatible with surrounding buildings or the building to which it is attached.

b) Board siding, including wood and cementitious/fiber cement board, may be appropriate.

c) Unpainted brick masonry is generally an appropriate material for exterior walls throughout the HPC Review Area.

d) Stucco surfaces are generally most appropriate for rear or side elevations.

e) Stone or pressed concrete block may be appropriate in some settings, or for some parts of façades.

Figure 142: New residential construction with inappropriate materials along with scale and massing.

Guideline 5.5.15. Universal Guidance on Vinyl Siding Use in New Construction

a) Vinyl siding will be at least 0.042 inches thick, with a smooth, matte surface. Siding with faux wood grain is not appropriate.

b) Siding joints and seams are to be lapped toward the rear of the building, and joints must be staggered randomly to avoid a "stair step" appearance. Joints will be avoided in areas with spans of less than 12 feet in length.

c) All trim will be done with solid PVC or plastic composite lumber trim, using counter sunk finishing nails. All inside and outside corners must be trimmed using hard, dimensional PVC or composite materials. Trim details will be such that the "J" channels are hidden behind the trim board.

Decorative Architectural Features

Many historic buildings in Biddeford contain elaborate details and ornamentation. A new building should consider the amount, location and elaborateness of details and ornamentation on neighboring buildings in its design. Existing details and ornamentation may be used as the basis for those on a new building, but they usually should not be copied exactly so as to avoid creating a false sense of historic development. Details and ornamentation on additions should complement, but not copy, that of the building to which it is attached.

Guideline 5.5.16. Universal Guidance for Details and Ornamentation Design in New Construction

a) The details and ornamentation of a new building should be compatible with those of neighboring buildings.

b) The details and ornamentation of an addition should be compatible with those of the building to which it is attached.

c) Avoid introducing dramatically different details and ornamentation on a new building or addition.

d) Avoid copying exact details and ornamentation from existing buildings for a new building or addition.

e) Simple and understated elements are preferred for new construction within the historic district.

f) Minimize the amount or type of decoration on the façade. Instead, allow the building's lines and fenestration to dominate.

Figure 143: Infill construction should harmonize with, but not duplicate, surrounding historic buildings.

Doors and Entrances

Guideline 5.5.17. Universal Guidance for New Door Placement

a) On streets where storefronts are dominant, recessed entries are preferred.

b) Doors may be centered or aligned to either side of the façade.

Guideline 5.5.18. Universal Guidance for New Door Design

a) Doors within storefronts should be compatible with the design of the storefront. Wood storefronts may have wood doors, and metal storefronts may have metal doors.

b) Secondary doors should be understated and simple in design as compared to the front or main door.

Figure 144: Many of Biddeford's commercial buildings have recessed entrances. New construction should maintain this street rhythm.

Windows

Guideline 5.5.19. Universal Guidance for Window Arrangement

a) Windows should be present on all elevations that are visible from the street.

b) Window heights and sizes on new buildings should generally be consistent with that of the surrounding buildings.

c) The relationship of voids to solids should be similar to that of neighboring buildings.

d) Window orientation should be consistent with the directional expression of surrounding buildings.

Guideline 5.5.20. Universal Guidance for Choosing Appropriate Window Types

a) Windows should match the character of the new building's façade. Traditionally styled buildings should have traditional windows, while contemporary or modern style buildings should have modern windows.

b) Vinyl windows are generally not manufactured in historic proportions and are not appropriate for use in the historic district.

c) Wood, aluminum, aluminum clad wood, and fiberglass may be appropriate materials.

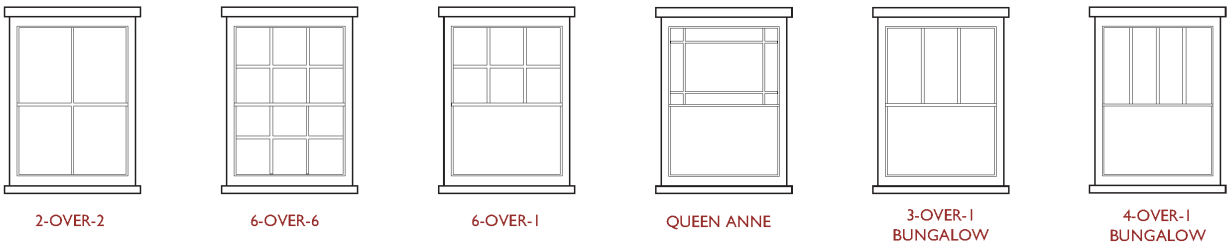


Figure 145: Diagram of types of typical window types.

Energy and Sustainability

New energy conservation devices can be introduced without compromising the historic character of buildings within the HPC Review Area when designing new construction. Property owners are encouraged to actively reduce energy use and to generate renewable energy where possible, but they should do so without compromising the integrity of the surrounding historic districts. Take a holistic planning approach that considers the new building design, systems, site, and environmental considerations as well as the potential impact on adjacent historic materials and features and to the districts as a whole.

Guideline 5.5.21. Universal Guidance on Energy and Sustainability in New Construction

a) Employ the use of shutters and awnings.

b) Wherever possible, use durable, repairable, and recyclable building materials.

c) Utilize energy efficient windows with low emissivity ("low-e") glass.

d) Place energy efficient HVAC equipment on non-visible rooftop locations, in the rear of buildings, or in other locations that are not visible from the street.

e) Add natural sustainable features to the site, such as shade trees, where possible. Locate shade trees where they will not grow to damage historic buildings.

f) Avoid paving up to the building foundation, which can create a heat island effect. Use permeable materials or landscaping with native plants to help control stormwater and reduce heat transmission to the building interior.

g) Avoid removing existing shade trees or vegetation.

h) Use permeable paving where appropriate to manage stormwater.

i) Employ features that provide natural light to the building interior, such as glass doors and transom, clearstories, and roof monitors.

Storefronts

Guideline 5.5.22. Universal Guidance on New Storefront Layout Design

a) Design new storefronts to reach approximately the same height as adjacent and surrounding storefronts.

b) New storefronts should contain all or most of the typical components of a historic storefront, including large display windows over bulkheads, a transom, signboard, and a cornice.

Guideline 5.5.23. Universal Guidance on New Storefront Entryways

a) Recess entryways where appropriate.

b) Entryways may be centered or aligned to either side of the façade.

c) Include transoms and sidelights in entryway designs. These features provide natural lighting, create visual interest, and help to maintain visual continuity along the street.

Guideline 5.5.24. Universal Guidance on Glazing Systems

a) The size of storefront windows should be in keeping those on surrounding storefronts.

b) Wood, finished anodized aluminum, and other metal storefront systems in a variety of finishes are appropriate.

Figure 146: Historic storefronts typically feature large display windows and recessed entrances. new buildings should respect this configuration.

Exterior Lighting

Guideline 5.5.25. Universal Guidance on New Exterior Lighting

a) Exterior light fixtures should match the character of the building.

b) Place building-mounted lighting to illuminate functional building elements, like entrances and signs.

c) Utilize accent lighting to highlight architectural elements. Accent light fixtures should be placed in inconspicuous locations and should generally not be visible from street-level.

d) Exterior lighting design should be subordinate to the overall façade design.

Roofs

Because the roof is one of the prominent defining features of historic buildings, its importance extends to the entirety of the streetscape. The pattern of roof shapes along a street is a major contributor to the district's character. New buildings should have roof shapes that are consistent with and complimentary to the existing historic roofs in the surrounding area. Roof shapes and elements such as chimneys, gables, dormers, and steeples are important character defining features. In many cases, the introduction of inconsistent roof forms can be jarring to the streetscape and interrupt its historic rhythm.

Guideline 5.5.26. Universal Guidance for New Roof Forms

The roof shape of a new building should respect that of its neighbors. For example, in a street of buildings where gable end roofs predominate, introducing a different roof shape, such as a flat roof with an elaborate cornice would probably not be in keeping with the existing character of the street. The roof shape of an addition should complement the shape of the roof of the building to which it is attached.

a) Roof forms should be consistent with and similar to adjacent buildings.

b) Avoid constructing new buildings with roofs that vary significantly in shape or pitch.

c) In general, the heights of cornices and parapets on new buildings should match those of adjacent buildings.

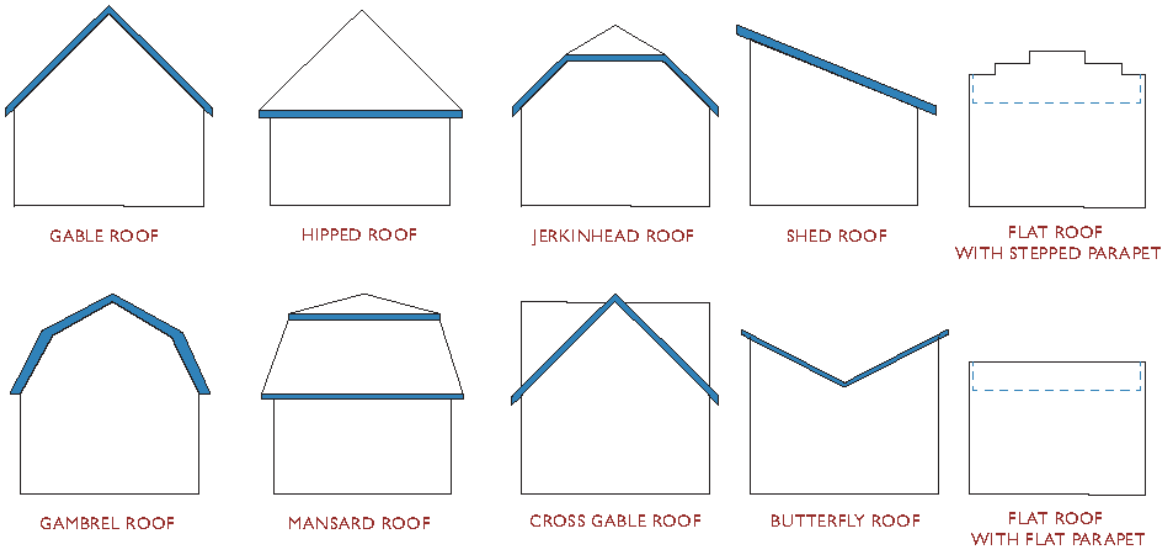


Figure 147: Diagram of typical roof shapes.

Guideline 5.5.27. Universal Guidance for New Roof Material

a) Roof material should generally be consistent with that of surrounding buildings.

b) Roof colors, where visible, should be compatible with the color scheme of the new building and the surrounding area.

Guideline 5.5.28. Universal Guidance for New Gutters and Downspouts

Gutters and downspouts are generally not character-defining features and most buildings within the historic district have gutters that are not visible from the main facades.

a) Where possible, locate gutters so that they are obscured by parapets.

b) Locate downspouts in inconspicuous locations on the façade.

c) Half-round gutters and round downspouts are generally more appropriate than corrugated or "K-Style" gutters.

Utilities

Guideline 5.5.29. Universal Guidance for Utilities in New Construction

a) Locate electric, telephone, and cable services underground whenever possible.

b) Where underground placement is not possible, utilize the rear or other non-visible façade.

c) Locate exterior conduit and housing in an inconspicuous area and paint housing to match the exterior surface to which it is applied.

Guideline 5.5.30. Universal Guidance for Mechanical Equipment in New Construction

a) Rooftop mechanical systems should be positions so as not to be visible from the street.

b) Where rooftop location is not possible, mechanical systems should be located at a side or rear elevation and screened with fences or plantings.

Guideline 5.5.31. Universal Guidance for the Location of Trash and Refuse Containers in New Construction

a) Locate dumpsters and other trash receptacles in the rear or on a non-visible side elevation.

b) Employ opaque fencing or screening to limit the view from public rights-of-way.

Guideline 5.5.32. Universal Guidance for Satellite Dishes in New Construction

a) Install satellite dishes on the rear or a non-visible side elevation, in a location as inconspicuous as possible.

b) New satellite dishes attached to posts and other features should be located so they are not visible from the primary right-of-way.

c) Small satellite dishes (less than 2 feet in diameter) that are permitted on roofs, must be located so they are not visible from the primary right-of-way.

d) Satellite dishes should be installed in a manner which will minimize damage to historic building materials (ex: through a mortar joint rather than through a masonry unit).

Guideline 5.5.33. Universal Guidance for Solar Panels in New Construction

a) Install solar panels or a rear slope or side not visible from the street, where possible.

b) Panels should not be installed in a vertical position where their appearance is most noticeable, but rather on horizontal or sloped surfaces.

c) When placed on the roof, the solar panels shall not affect the roof façade elevation or roofline.

d) Solar panels shall be low profile and exposed hardware, frames and piping shall have a matte finish and be of a color similar to the roofing material color.

e) Consider solar shingles, a shingle that looks and functions like common roofing materials; however, it absorbs sunlight as a source of energy for generating electricity. Solar shingles will be approved on a case-by-case basis.

f) Install ground-mounted equipment so that it is not visible from the street, or install appropriate screening materials such as shrubbery or fencing

Color

Closely related to the materials selected for a new building is its color. Sometimes, the color is derived from the material itself, such as in the case of unpainted brick, stone, terra cotta, slate, asphalt shingle, copper, lead and other materials. In other cases, color is applied to materials by painting or staining. This is typically the case for wood, stucco, some metals, and sometimes concrete.

The following guidance is for informational purposes only as paint color is not regulated in the HPC Review Area.

The colors of a new building should be compatible with those of surrounding buildings. The colors of an addition should complement those of the building to which it is attached. Inappropriately intense or overly vibrant color schemes are not recommended. Typically, no more than three colors should be used on a new building. Residents, property owners or contractors are encouraged to consider the Commission a resource for assistance on issues of appropriate color and material selections during the planning phase of any project.

Best Practices for Exterior Color Design on New Construction

a) Exterior wall and detail color of new construction should harmonize with the colors of surrounding historic properties.

b) Avoid flashy colors or patterns that overshadow architectural details and detract from the surrounding buildings.

c) Consider whether the building is usually in shadow or bright light when choosing paint color. Darker colors are more appropriate on well-lit facades, and lighter colors on shadowed facades.

d) Avoid using more than three exterior colors for a new building or addition.

Figure 148: New construction should utilize materials and colors present elsewhere in the district.

Chapter 6. Guidelines for Demolition and Relocation

6.1 Demolition

Historic buildings contribute to the overall historical and physical significance of the city; the loss of any one of these historic buildings is a historic loss for the city. As such, demolition is strongly discouraged for any historic building. Demolition results in a loss of architectural and historical integrity and can dramatically change the character of a neighborhood. Demolition is generally discouraged; however, it may be approved in certain situations.

The decision to demolish a historic structure is a measure of last resort and shall be based on the demonstration that there is no other feasible alternative. Demolition can have a significant impact on the historic context of the district. Many older buildings offer character and quality that cannot be economically replicated today. Older buildings can be retrofitted to provide modern amenities.

A Certificate of Appropriateness issued by the Historic Preservation Commission is required in order to demolish or remove a historic landmark, or any building or structure identified as contributing to the Review Area and its historic districts.

The City of Biddeford Code of Ordinances Art. XV, Sec. 14 sets the following criteria to be considered before a Certificate of Appropriateness can be issued and a building can be demolished:

a) The building or structure has been identified by the Historic Preservation Commission as noncontributing or incompatible with the MSRD District in which it is located; or

b) The property owner can demonstrate to the Commission that it cannot be renovated or reconstructed so as to earn an economic return on its value in its present location as determined by a qualified real estate appraiser; or

c) The property owner can demonstrate to the Commission that he/she has offered the property for sale through a real estate broker for at least 180 days and that there has been no bona fide offer to buy the property from any person or entity that is willing to preserve and restore the property.

Once the above criteria are considered and the proposed demolition is proven to meet one of the criteria, the applicant can apply for a Certificate of Appropriateness. The completed application must clearly demonstrate that their demolition proposal meets one or more of the following demolition or removal criteria before the Commission will approve the application:

a) The physical condition of the building makes the continued upkeep of the building, or important portions or features thereof, uneconomical; or

b) The building or structure, or important portions and features thereof, has been determined by the Code Enforcement Department to represent an immediate hazard to the public health or safety, which hazard cannot be abated by reasonable measures.

Demolition Delay

Before the issuance of a demolition permit by the Code Enforcement Department, a delay period of 90 days shall apply to any building or structure and portion thereof that is an historic landmark or is designated as contributing.

At the hearing on an application to relocate or demolish a contributing building in an historic preservation district, or an historic landmark, the Commission may, in the interest of exploring reasonable alternatives, delay issuance of a permit for up to 120 days from the date of the hearing.

If, 10 days prior to the expiration of the delay period, the Commission finds that there are still reasonable alternatives to explore, the Commission may continue the delay for an additional period of up to 60 days.

The purpose of the delay is to find alternatives to demolition, such as assisting in securing funding to preserve in place the building, structure, or important portions and features thereof; or finding other ways to preserve the building or structure, such as outright purchase of the property, when feasible, or relocation; or proper recordation of buildings, structures and sites, including photography and narrative report; or preservation of historic artifacts.

Partial Demolition

In some cases, it may be appropriate to demolish a non-historic, non-contributing, or structurally unsound portion of a contributing property. Partial demolitions will be evaluated by the Commission on a case-by-case basis, taking into account the significance of the building, the portion to be demolished, and the context of the surrounding area.

Total Demolition

Total demolition is rarely the best choice and the Commission supports exploring all possible options before considering total demolition.

If Total Demolition COA is approved, the following measures must be taken:

Document the existing building, site, and setting through photographs, site plans, drawings, and other written measures.

Save reusable architectural materials and features prior to demolition.

Protect significant site features including landscaping and archaeological resources from damage before, during, and after demolition.

Submit post-demolition site development plans to the Historic Preservation Commission for approval before the demolition.

Demolition by Neglect

Demolition by neglect is defined as the willful neglect in the maintenance and repair of a building or structure that does not result from a property owner's financial inability to maintain and repair the property. Property owners are expected to maintain their property in good condition and in compliance with Life and Safety codes.

6.2 Relocation

Relocation – into or out of a historic district - shall only be considered when there are no other reasonable alternatives to preserving a historic building. Relocation methods include:

a) Moving the entire structure to a new setting,

b) Moving the structure in parts to a new setting, or

c) Dissembling and moving materials from the structure and rebuilding on a new setting.

Regardless of how it is moved, relocating a historic building compromises the building's historic setting and unavoidably impacts original historic material. The goal with this section is to minimize impacts on the historic building to be relocated and the impacts on the properties surrounding the proposed relocation site.

Guideline 6.2.1 Guidelines for the Relocation of Historic Properties

a) The applicant should demonstrate that the structure cannot remain within the district and be adaptively reused.

b) A proposed new site shall be within the same district or a district of similar historic context (age, setting, and architecture).

c) The existing historic building's setting and site conditions shall be documented prior to the relocation of any building through photographs and other written or graphic means such as site plans.

d) Damage to the historic building during and after the move shall by minimized by assessing its structural condition prior to the move. All necessary precautions should be taken to prevent damage during the move including working with contractors experienced in moving historic buildings and securing and protecting the building from weather damage and vandalism.

e) The orientation of the relocated building must be compatible with the orientation of the buildings adjacent to the proposed relocation site. Consideration should also be given to maintaining the original compass orientation of the relocated building, if possible.

f) The relocated building should maintain the same height above grade that it had in its original location unless required to meet flood elevation requirements. This is to discourage elevating the property significantly above its original height for the purpose of obtaining more space for parking or creating additional enclosed space.

g) The proposed relocation site must be landscaped to make the structure appear original to the lot and harmonious with its neighboring properties. Street trees shall be planted as needed to provide continuity with the neighborhood.

h) The significant features of the original site and the proposed relocation site shall be protected during relocation.

i) The historic building shall be relocated as a single unit, when practical. Otherwise, partial disassembly is permissible. Complete disassembly is strongly discouraged as it often results in a substantial loss of original building material and detail.

j) All character-defining features of the relocated building shall be retained (i.e. the exterior end chimney shall be relocated/reconstructed with the historic building).

k) The historic structure shall be protected from weather damage and vandalism during the relocation process.

l) Any features damaged during the relocation should be repaired or replaced to match the original.

m) The new foundation design and materials and first-story elevation shall match the original.

Chapter 7. Replacement Materials

7.1 Replacement In-Kind vs. Substitute Materials

Replacement In-Kind

Replacement In-Kind means to replace a material with the same material as the existing thing needing repaired. For example, a deteriorated wooden door sash can only be replaced in-kind with wood. Replacement in-kind is the highest degree of integrity available when architectural elements need replacing.

Substitute Materials

Sometimes, replacement in-kind is not financially feasible or necessary to maintain a property's integrity. It may be appropriate to replace elements of a building with a matching element of a different material, if that material can mimic the appearance of the historic material. Substitute materials are new materials designed to simulate the appearance of a historic material. Substitute materials are often made of synthetics and are appropriate to use when the historic material is no longer available or does not meet project requirements.

Appropriate substitute materials should be the following:

- Locally manufactured
- Easy to maintain
- Proven to be durable in the Biddeford climate
- Have long lifespans
- Recyclable
- Made from recycled or repurposed materials
- Not manufactured using harsh chemicals
- Does not off-gas harsh chemicals
- Will not interact negatively with historic building materials

Prior to replacing any material, either "in-kind" or with a substitute, an investigation should be conducted to assess why the material is failing in the first place. Thoroughly assessing the underlying causes of distress allows for a better determination of an appropriate corrective action, which should be performed by a design professional experienced in exterior restoration.

Maintenance of a material, particularly where accessibility is difficult or expensive, can be an important part of a cost evaluation. Maintenance costs should not be considered without also considering life-cycle expenses. While some substitute materials may offer reduced initial costs, they may be as or more costly than traditional materials to maintain over time. For example, many substitute materials are not readily repairable, necessitating full replacement when damaged. The cost to replace a material or assembly at the end of its lifespan may also be greater than the accumulated incremental expense to maintain the historic material, particularly if it is a more traditional, repairable material. Maintenance cost should never be the sole reason for replacing a historic material that is not deteriorated.

More information can be found in the National Park Service Preservation Brief, **The Use of Substitute Materials on Historic Building Exteriors**. This brief contains general guidance on the use of substitute materials as replacement materials for distinctive features on the exterior of historic buildings and includes criteria for the appropriate use of substitute materials on historic buildings.

Refer to **Appendix E.3** for more technical information.

7.2 Use of Substitute Materials in Biddeford

Substitute materials may only be used if they will not cause damage to existing historic features. Their use must not negatively alter the appearance of the historic resource, and the new material must copy the original as closely as possible. A replacement feature should match the original in form, profile, color, and perceived texture. A substitute material cannot be chosen for sake of convenience alone when a more historically appropriate material is viable and covering or wrapping existing historic materials with synthetic materials is not appropriate.

The Commission will consider the use of a substitute material in place of historic materials on a case-by-case basis and may approve or deny such materials based on the significance of the feature and compatibility of the replacement unit.

Factors to consider when evaluating the use of substitute materials on a historic building include:

- Is the existing material historic? Is it a character defining feature of the building?
- Will the new materials cover or replace existing historic fabric?
- Will the new product be physically compatible with the surrounding building materials?
- Will the product realistically match the original feature or material in size, proportion, detail, profile, texture, and finish?
- Is the new product durable as compared to the historic material in the same environment?

Situations when substitute materials may be appropriate include:

- Where the historic material does not meet existing code requirements.
- When the historic material is unavailable, such as a particular type of slate or old growth lumber.
- Where historic craft techniques or skilled artisans are unavailable.
- When the historic feature has already been lost and little is known about its original appearance.

7.3 Common Substitute Materials

Architectural Details and Trim

Suggested substitute materials have the following characteristics:

Architectural details help convey the style of a building. Architectural details should be retained and never permanently removed. When formerly hidden ornamentation is discovered, it should be maintained and preserved.

High-quality synthetics may be an appropriate replacement for wood or plaster details where the profile, size, and dimension of the element can be accurately reproduced. Synthetic material use on architectural details and trim will be considered on a case-by-case basis by the HPC and all synthetics are subject to a painting requirement.

Figure 149: Substitute material brackets. Source: Executive Architectural Millwork.

Cellular PVC

Polyvinyl chloride is more commonly known as PVC. Cellular PVC board is used to produce trim, moldings, and other decorative architectural elements. These are durable products that can be painted.

Metal

Metal is only appropriate for architectural details and trim when it was the original material.

Figure 150: Appropriate substitute material replacement. Source: Durabrac Architectural Components.

Vinyl

Vinyl is NOT an appropriate material for architectural detail and trim replacements unless the details are not visible from the street.

Porches and Decks

Historic deck and porch materials typically include wood, brick, stone, and concrete. **There are no appropriate substitutes available for brick, stone, and concrete and therefore these elements should be replaced in-kind.** Porch elements such as columns, railings, balusters, floors, and ornaments are typically made from wood. Repairing and maintaining historic wood porches is the preferred approach, though alternative materials may be appropriate on a case-by-case basis.

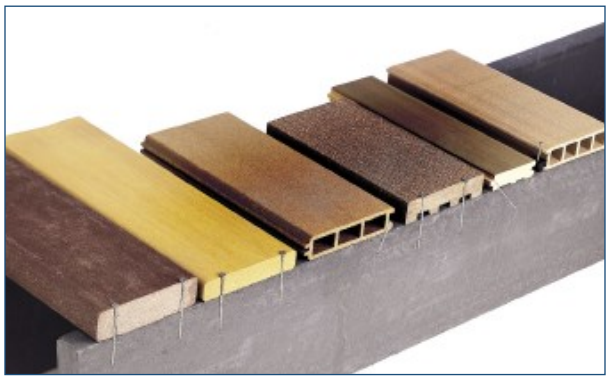


Figure 151: Substitute porch decking. Source: This Old House.

Composite

Composite materials are made from a mixture of plastic and wood fibers and are manufactured for use as floorboards and stair treads. These materials are formed into planks to imitate wood decking and are installed in a manner similar to traditional wood planks. The product is sometimes available in a paintable finish. Composite materials are appropriate for installations on non-visible sections of a property.

Figure 152: Substitute porch columns. Source: Worthington Millwork.

Fiberglass

Fiberglass can be used to replicate decorative features, such as columns and balusters, and are available in a variety of shapes and sizes. Fiberglass products which mimic historic forms are commercially available. Fiberglass is typically more expensive than their wooden counterparts. A fiberglass replacement may be appropriate if it closely matches the design and proportion of the original elements.

Metal

Railings, balusters, and porch columns can be constructed of metal. Metal porch elements made of cast iron may be of historic age, or may be a later, possibly historic age modification to a property. Aluminum may be appropriate for mid-20th century properties but would be an inappropriate choice for an older property. Metal on front porches should only be used when there is evidence that it was the original material. Metal may be appropriate on a rear, non-public visible porch on a case-by-case basis.

Pressure Treated Lumber

Pressure treated lumber is preserved through a process that uses high pressure to inject a preservative into the wood, adding years to the life of the material. Pressure treated lumber is not stronger than untreated wood, but pressure treated does withstand the elements better than untreated while still being susceptible to deterioration of checks (separation in wood fibers across the annual rings of a piece of wood), warping, and splitting. Pressure-treated wood can be effective when used for hidden structural elements such as posts, joists, and sills. It is not a good substitute for visible porch parts.

Vinyl

Vinyl is a common material for replacement columns and railings, often used in new construction. Vinyl can be appropriate for buildings constructed in the late 20th century or later and is NOT appropriate on historic buildings. Vinyl is susceptible to fading and warping with a low lifespan.

Figure 153: Metal porch railing. Source: Traditional Building.

Figure 154: Pressure treated lumber porch railing. Source: Perfection Fence.

Roofing

Roofing materials are among the most frequently substituted. Substitute materials have been designed to replace historic shingles and traditional metal roofs. While it may be appropriate to replace a deteriorated historic shingle roof with new, synthetic shingles similar in color and texture to the historic material, it would not be appropriate to replace a historic metal paneled roof with modern asphalt shingles. **The original roofing type should be maintained.**

Roofs may be re-roofed with substitute materials if the original materials are determined beyond repair, are no longer present or available, or if the retention of the original roof material is not economically feasible.

Asphalt

Asphalt shingles were first introduced in the late 19th century. While strip shingles, commonly known as "3-tab" shingles, are not appropriate on contributing or historic buildings in the Historic Preservation Commission Review Area, dimensional asphalt shingles are designed to have a more natural and irregular appearance and may be appropriate for some uses within the Review Area. Asphalt roll style covering are not historically appropriate on any building older than the mid-20th century. New asphalt roofs should be one color and compatible with the historic colors and style period of the building.

Figure 155: Asphalt shingles. Source: Refined Exteriors.

Figure 156: Composite and Synthetic roofing. Source: Brava Roof Tile.

Figure 157: Metal roofing. Source: Gouge Quality Roofing.

Figure 158: Clay tile. Source: Tile Roofing Industry Alliance.

Composite & Synthetic

Composition shingles are a heavy-duty asphalt product made with a fiberglass backing and a facing made from ceramic-coated mineral grains, suspended in an asphalt coating. Also known as laminated shingles, architectural shingles, or dimensional shingles, these differ from traditional asphalt tab shingles as they are more dimensional and provide a more irregular, natural looking pattern. Architectural shingles may be an appropriate replacement for severely deteriorated slate or timber shingle roofs, as well as existing tab-style asphalt shingles. Composition roofing may be determined to be appropriate for flat or low-pitched roofs to prevent structural damage.

Metal

Sheet metals – tin, copper, zinc, tin plate, terne plate, and galvanized iron – are common historic metal roofing materials. Corrosion, pitting, and streaking are common deteriorations to metal roofs. Metal roofs are only appropriate where a metal roof was part of the original structure and should be replaced with similar details and proportions.

Tile, Slate, and Concrete

Clay tile and slate were common historic roofing materials as well as some of the most durable. Tile and slate require a level of craftsmanship and specialization that is not attainable to mimic exactly. When feasible, it is preferred to replace a historic tile or slate roof in-kind. If a roof historically did not have clay tile, it would not be an appropriate material.

Siding

Maintaining and preserving existing historic wood siding, where present, is the general recommendation for buildings within Biddeford's Historic Preservation Commission Review Area. Mixing siding materials, either within a wall or on different walls of a building is never appropriate. Only when the entirety of the siding on a building needs to be replaced should substitute materials be considered. The HPC will determine the appropriateness of substitute siding materials on a case-by-case basis. In all cases, the replacement siding should match the historic siding in terms of width, texture, profile, and overall appearance. In cases where replacement of existing synthetic siding is being replaced, the Commission will determine whether replacement with new synthetic siding or a more historically appropriate material is necessary to achieve an accurate historic appearance on a case-by-case basis.

Figure 159: Engineered Wood siding

Engineered Polymer

Polymer siding products are more durable than other synthetics, such as vinyl. However, it is not an appropriate covering for visible elevations of a historic building.

Engineered Wood

Engineered wood products, such as LP Smartsiding, can be an appropriate replacement siding for the rear, non-visible elevations of a building.

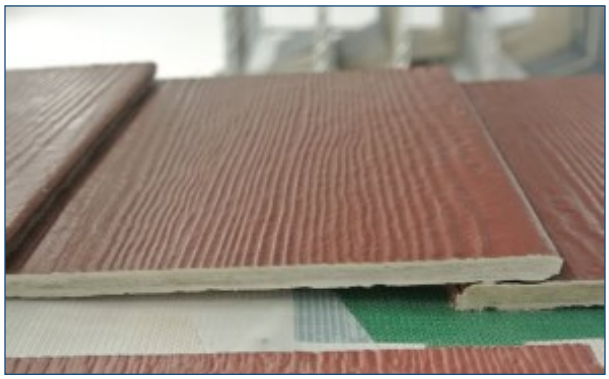


Figure 160: Fiber Cement Board.

Fiber Cement Board

Fiber cement board siding is made from combining wood pulp or cellulose with Portland cement, silica, and other products. It is commonly known as HardiPlank or Hardiboard. These products may be approved for repairing the rear, non-visible elevations of a building.

Figure 161: Synthetic Vinyl siding. Source: Urban Exteriors.

Figure 162: Unpainted wood siding.

Figure 163: Unpainted wood shingles.

Metal

Metal is not an appropriate siding choice in the historic districts, including products that try to mimic historic patterns.

Synthetics

Synthetic siding, such as vinyl, is not an appropriate covering in the historic district. Asbestos cladding that is original to a dwelling should be kept stained or painted to avoid any health hazards. If the asbestos siding is deteriorating, it may be removed and replaced with wood or other substitute siding.

Wood

Wood siding or shingles, when used as historic covering, are always the best choice due to their durability and repairability. In many cases where wood siding is in poor condition, spot replacements using in-kind materials to replace boards that are deteriorated beyond repair is the best approach. Wood siding and shingles should be replaced to match the original size, placement, and design.

Windows and Doors

Windows and Doors are character-defining features that help convey the age and architectural style of a building, especially when located on the primary façade. For windows and doors on the primary façade, it is always preferred to repair and retrofit the original material.

Wood

Most historic-age buildings, excepting those of the more recent past, have wood windows. Replacement of an existing historic wood window or wood door with a new wood window or door matching the dimensions and configuration of the original is considered a replacement in-kind. However, most wood building products that are commercially available now are made from faster-growing trees and are inferior in quality to historic, old growth lumber products. New wood windows and doors are not as durable as historic windows. If wood windows or doors are desired, consider repairing these historic wood elements.

Fiberglass

Fiberglass windows and doors have a matte finish and are available in proportions that mimic their historic replacement. Fiberglass windows may be appropriate if they can match the appearance of the historic windows.

Composite

Composite windows and doors are made from a mixture of materials, typically fiberglass and wood fibers. **Composite is paintable and is a good lower-cost option for residences in historic districts.** Composite windows may be appropriate if they can match the appearance of the historic windows.

Figure 164: Wood door.

Figure 165: Fiberglass door.

Figure 166: Composite windows.

Metal

Metal doors and windows may be appropriate for later (post-1900) architectural styles, industrial and commercial buildings, or on non-visible elevations. Aluminum is a common metal for windows. Aluminum clad windows are wood or composite windows with an aluminum facing on the trim, sashes, and muntins. Aluminum clad windows may be approved for replacement of historic windows in cases where the historic windows are deteriorated beyond repair and where the proposed replacement matches the original in size, proportion, and configuration. Aluminum clad windows typically have an anodized or baked enamel finish, rendering them unpaintable, which can be a drawback when building paint schemes are changed. Shiny metal screen doors look out of place on a historic home, and main façade doors should avoid replacement with metal.

Vinyl

Vinyl can either be used as a cladding on wood or composite materials in the same way as aluminum, or vinyl windows or doors can be completely constructed out of PVC. **Vinyl products are problematic for use in historic districts, as they are not typically available in proportions or finishes that are compatible with historic buildings.** Because of the way vinyl is manufactured, vinyl windows have narrow stiles and rails on the sashes which do not match the thicker proportions on historic window openings. **Vinyl windows and doors are not paintable and are the least durable option with a lifespan of 10 to 15 years.**

Nonetheless, vinyl materials may be appropriate for use in properties constructed in the mid-20th century, on non-visible elevations, and on non-contributing properties.

Figure 167: Metal windows.

Figure 168: Vinyl windows.

Chapter 8. Best Practices for Non-Contributing Structures

8.1 Introduction

The character of Biddeford, its historic districts, and the HPC Review Area is continually evolving and new construction will continue throughout the Review Area as it is necessary to replace a lost building or to fill a lot left vacant in the future. Additionally, some original buildings have been greatly altered or were built after the period of significance for the district and require unique guidance to promote compatibility with existing historic structures. While not considered "historic" themselves, non-contributing buildings should still visually harmonize with the surrounding historic structures and adding features that could make them appear like they belong to a different era should be avoided.

Preservation does not mean that a neighborhood or historic district must be “frozen” in time, but it does mean that, when new building occurs, it should be in a manner that reinforces the basic visual characteristics of a block. This does not imply, however, that a new building must look old. In fact, imitating historic styles is generally discouraged. A context sensitive design approach starts with a respect for what exists and builds from there with new construction and alterations that fit with the surroundings. Context levels include adjacent properties within the immediate surroundings, as well as the surrounding context on the block including both sides of the street.

Non-contributing buildings should not be altered in any manner that renders them less compatible or congruent with the surrounding historic district. Even though many of these newer buildings were constructed with newer materials, repair over replacement is still encouraged and if replacement is necessary, replacement in-kind remains the most appropriate.

8.2 New Construction and Additions

New construction and additions should respect the location, design, materials, and other character-defining elements of the existing historic buildings. Additions and new buildings should be compatible with the existing environment without exactly duplicating existing buildings.

The historic setting and context of a property and its surroundings should be protected. This entails identifying the formal or informal arrangements of buildings surrounding the site, and whether they have a distinctive urban, suburban, or rural character. For example, the setting of historic neighborhoods that traditionally consist of residences set within large parcels of land would be damaged with dense development on one if its integral lots.

Best Practice 8.2.1 Best Practices for New Construction

a) A new building should not be significantly larger than those single- and multi-family structures seen traditionally.

b) Additions should be compatible with the massing and scale of the non-contributing building. The original building should remain dominant.

c) The alignment of horizontal elements along the block with any new construction should be maintained."

8.3 Site Design and Landscaping

Historic landscapes and significant viewsheds must be preserved. Also, significant archeological resources should be taken into account when evaluating the placement of new construction, and, as appropriate, mitigation measures should be implemented if the archeological resources are disturbed.

Best Practice 8.3.1 Best Practices on Site Design and Landscaping

a) The location of new construction should be considered carefully in order to follow the setbacks of historic buildings and to avoid blocking their primary elevations.

b) Architectural elements that make up the streetscape where the project building is located should be maintained. Consideration should be given to locating new off-street parking facilities at the rear or side of the property.

c) Front yard landscaping should be maintained as it is found in the surrounding historic neighborhood.

d) The visual connection of the building to the street should be maintained.

8.4 Building Materials

Materials should appear similar in scale, color, texture, and finish to those found in the surrounding context for new construction. Repair over replacement is encouraged when materials are damaged or deteriorated. If replacement is necessary, replacement in-kind is encouraged.

Best Practice 8.4.1 Best Practices for Building Materials

a) Brick should be of standard size and depth.

b) Stucco should be a cementitious stucco at least 7/8" in thickness. EIFS is not allowed.

c) Fiber-cement lap siding or similar durable wood siding products should have a smooth finish.

d) Alternatives to vinyl siding are encouraged for new construction.

e) The number of materials used on one structure should be limited to one or two to avoid busy façades that are not commonly found on historic buildings.

f) Roof materials should convey a scale and texture similar to those used traditionally.

8.5 Architectural Character

Traditionally, many residential buildings in Biddeford's HPC Review Area were simple in character, although some of the grander houses exhibited significant ornament and detail. These fundamental characteristics are vital to the preservation of the historic integrity of the districts. Regardless of stylistic treatment, a non-contributing building should appear similar in form and detail to houses in the area. A new building also should be visually compatible with older structures without being a direct copy of historic styles.

Best Practice 8.5.1 Best Practices for Architectural Character

a) Architectural details should appear similar to those seen traditionally.

b) The exact imitation of older historic styles is discouraged.

c) The use of contemporary interpretations of historic styles in new houses is encouraged.

d) Dormers are a frequent neighborhood architectural roof feature and should be of design compatible with the main structure.

8.6 Doors and Windows

Windows and doors are some of the most important character-defining features of houses. They give scale to buildings and provide visual interest to the composition of individual facades. Distinct window design often defines a historic building style. Usually, they are inset into openings or they have surrounding casings and sash components which have substantial dimensions. Because windows and doors so significantly affect the character of a house, their design is a very important consideration.

Best Practice 8.6.1 Best Practices for Doors and Windows

a) Fenestration patterns (windows and doors) should be similar to what is found in the surrounding context in regard to opening sizes, location on the façade, and number of openings.

b) Entrances and building orientation should be consistent with the established pattern within the surrounding context. Historically this means primary entrances face the street.

c) Windows and doors should be finished with trim similar to those used traditionally.

d) If security is a concern, use wire glass, tempered glass or light metal security bars.

8.7 Porches

The most important aspects of porch design are its location, scale and materials. While it is not necessary to duplicate the details of porches seen historically in the neighborhood, it is important that details be compatible with the design of the porch and the style of the house.

Best Practice 8.7.1 Best Practices for Porches

a) The design of a porch should relate to the overall architectural style of the main structure.

b) A porch should use similar materials to that seen traditionally.

c) Simple, open partial-width porches and bracketed porch roofs were most common.

8.8 Outbuildings and Auxiliary Structures

Traditionally, accessory structures such as sheds, garages and carriage houses, were subordinate in scale and character to the primary structure and were located to the rear of the lot, where physical conditions allow. The tradition of detached accessory structures is encouraged because this reduces the overall perceived mass of building on the site.

Best Practice 8.8.1 Best Practices for Outbuildings and Auxiliary Structures

a) Accessory structures should be located at the rear of properties and should not be taller than the primary building or adjacent contributing buildings.

b) If visible from an adjacent front or side street, the accessory structure should be constructed in materials similar or compatible to the original building and should have a similar or compatible roofline and massing.

Appendix A. Glossary

A

Acceptable – Work that will be approved.

Adaptive Use – Rehabilitation of a historic structure for use other than its original use such as a residence converted into offices.

Addition – New construction added to an existing building or structure.

Alignment – The arrangement of objects along a straight line.

Alteration – Any act or process requiring a building permit and any other act or process not requiring a building permit but specifically listed in this article as a reviewable action, including, without limitation, the repair, reconstruction, demolition or relocation of any structure or object or any part of a structure or object.

Altered – The word altered includes "rebuilt," "reconstructed," "rehabilitated," "restored," "removed" and "demolished."

American Bond – A brickwork pattern where most courses are laid flat, with the long "stretcher" edge exposed, but every fifth to eighth course is laid perpendicularly with the small "header" end exposed, to structurally tie the wall together.

Applicant – A person who submits an application for issuance of a certificate of appropriateness.

Application – A form submitted for approval of alteration, construction, demolition or removal that requires issuance of a certificate of appropriateness.

Appropriate – Refers to those changes in historic properties, landmarks, buildings, structures or sites within historic overlay zones, or sites or landmarks, which are not incongruous with what is historically and architecturally significant as determined by the Commission or its designee.

Approval Authority – Either the Historic Preservation Commission or its designee.

Appurtenances – An additional object added to a building; typically includes vents, exhausts hoods, air conditioning units, etc.

Arch – A curved construction of wedge-shaped stones or bricks which spans an opening and supports the weight above it. (see flat arch, jack arch, segmental arch and semi-circular arch).

Archaeological Resource – An archaeological site or bounded geographical location containing the physical evidence of previous human occupation, including but not limited to structures, artifacts, graphics (paintings or drawings) and discarded material, including plants or animals.

Architectural Style – A category of architecture of similar buildings distinguished by similar characteristics of construction, design, materials, etc. Typical styles in Oxford include Greek Revival, Federal, Italianate, Queen Anne, and Colonial Revival.

Attic – The upper level of a building, not of full ceiling height, directly beneath the roof.

B

Balcony – A platform that projects from the exterior wall of a building above the ground floor, which is exposed to the open air, has direct access to the interior of the building, and is not supported by posts or columns extending to the ground.

Baluster – One of a series of short, vertical, often vase-shaped members used to support a stair or porch handrail, forming a balustrade.

Balustrade – An entire rail system with top rail and balusters.

Bargeboard – A board which hangs from the projecting end of a gable roof, covering the end rafters, and often sawn into a decorative pattern.

Bay – The portion of a façade between columns or piers providing regular divisions and usually marked by windows.

Bay Window – A projecting window that forms an extension to the floor space of the internal rooms; usually extends to the ground level.

Belt Course – A horizontal band usually marking the floor levels on the exterior façade of a building.

Board and Batten – Siding fashioned of boards set vertically and covered where their edges join by narrow strips called battens.

Bond – A term used to describe the various patterns in which brick (or stone) is laid, such as "common bond' or "Flemish bond."

Bracket – A projecting element of wood, stone or metal which spans between horizontal and vertical surfaces (eaves, shelves, overhangs) as decorative support.

Building – A structure used to house human activity such as a dwelling or garage.

Building Materials – The physical characteristics that create the aesthetic and structural appearance of the resource, including but not limited to a consideration of the texture and style of the components and their combinations, such as brick, stone, shingle, wood, concrete, or stucco.

Building Type – Describes a structure's function and form. Building types, such as "Double Pile," "American Foursquare," "rowhouse," or "twin" houses are sometimes associated with one or more architectural styles.

Bulkhead – The structural panels just below display windows on storefronts. Bulkheads can be both supportive and decorative in design. nineteenth century bulkheads are often of wood construction with rectangular raised panels. Twentieth century bulkheads may be of wood, brick, tile, or marble construction. Bulkheads are also referred to as kickplates.

C

Capital – The head of a column or pilaster.

Casement Window – A window with one or two sashes which are hinged at the sides and usually open outward.

Casing – Moldings that go around windows and doors.

Certificate of Appropriateness (COA) – A certificate issued by the Commission or its designee evidencing approval of specific plans for alteration of a structure or construction on a site in accordance with this article.

Certificate of Economic Hardship – A certificate issued by the Commission or its designee evidencing a hardship variance approved by the Board of Appeals in accordance with Section 13E of City of Biddeford Historic Preservation Ordinance.

Certificate of Nonapplicapility – A certificate issued by the Commission or its designee evidencing a determination that specific plans for alteration of a structure or construction on a site do not require approval under this article.

Character – The qualities and attributes of any structure, site, street or district.

Clapboards – Horizontal wooden boards, thinner at the top edge, which are overlapped to provide a weather-proof exterior wall surface.

Classical Order – Derived from Greek and Roman architecture, a column with its base, shaft, capital and entablature having standardized details and proportions, according to one of the five canonized modes: Doric, Tuscan, Ionic, Corinthian, or Composite.

Clipped Gable – A gable roof where the ends of the ridge are terminated in a small, diagonal roof surface.

Colonial Revival – House style of the early twentieth century based on interpretations of architectural forms of the American colonies prior to the Revolution.

Column – A circular or square vertical structural member.

Compatible/Compatibility – The characteristics of different uses or activities that are harmonious in location, setting, surroundings, and historic context.

Configuration – The arrangement of elements and details on a building or structure which help to define its character.

Conservation – The sustained use and appearance of a structure or area, maintained essentially in its existing state.

Construction – The adding to a structure by an addition, or the erection or placement of any new structure on a lot or property.

Contemporary – Reflecting characteristics of the current period. Contemporary denotes characteristics which illustrate that a building, structure, or detail was constructed in the present or recent past rather than being imitative or reflective of a historic design.

Context – The setting in which a historic element, site, structure, street, or district exists.

Contributing – A classification applied to a site, structure or object within an historic district signifying that it contributes generally to the qualities that give the historic district cultural, historic, architectural or archeological significance as embodied in the criteria for designating an historic district, but without being itself a landmark.

Coping – A protective cap, top, or cover of a wall or parapet, often of stone, terra cotta, concrete, metal, or wood. This may be flat but is commonly sloping to shed water.

Corbel – In masonry, a projection, or one of a series of projections, each stepped progressively farther forward with height and articulating a cornice or supporting an overhanging member.

Corinthian Order – Most ornate classical order characterized by a capital with ornamental acanthus leaves and curled fern shoots.

Cornice – The uppermost, projecting part of an entablature, or feature resembling it. Any projecting ornamental molding along the top of a wall, building, etc.

Cresting – A decorated ornamental finish along the top of a wall or roof, often made of ornamental metal.

Cross-Gable – A secondary gable roof which meets the primary roof at right angles.

D

Demolition – Any act or process that partially or totally destroys a structure or object, or the razing of a building or a structure or the removal of any exterior architectural feature or structure or object.

Demolition by Neglect – The destruction of a building or structure through abandonment or lack of maintenance.

Dentils – A row of small tooth-like blocks in a classical cornice.

Department – The Planning and Development Department.

Design Guidelines – Criteria developed to identify design concerns in an area and to help property owners ensure that rehabilitation and new construction respect the character of designated buildings and districts.

Door Frame – The part of a door opening to which a door is hinged. A door frame consists of two vertical members called door jambs and a horizontal top member called a lintel or head.

Door Jamb – The vertical portion of the door frame onto which the door is attached.

Doric Order – A classical order with simple, unadorned capitals, and with no base.

Dormer Window – A window that projects from a roof.

Double-hung Window – A window with two sashes, one sliding vertically over the other.

Double-Pile House – A two-story center hall plan house, two rooms deep on either side of the hall.

Dutchman Repair – Any new or salvaged material (stone of wood) fitted into the existing facade material. This new material is chosen and installed to match existing.

E

Eave – The edge of a roof that projects beyond the face of a wall.

Eclectic – Exhibiting elements and characteristics of more than one historic style simultaneously.

Element – A material part or detail of a site, structure, street, or district.

Elevation – Any of the external faces of a building.

Ell – The rear wing of a house, generally one room wide and running perpendicular to the principal building.

Engaged Column – A column attached to a wall.

Engaged Porch – A porch whose roof is structurally continuous with that of the main section of the building.

Entablature – A part of a building of classical order resting on the column capital; consists of an architrave, frieze, and cornice.

Entry – A door, gate, or passage used to enter a building.

Exterior Architectural Feature – The parts, elements, and general arrangement of the exterior of a building or structure, including but not limited to:

a) The kind, type, and texture of the building materials;

b) The type and style of elements, including, but not limited to, windows, doors, lights, dormers, roofs, gable cornices, porches, and decorative trim;

c) Signs; and

d) Fencing.

Eyebrow Dormer – A small, curved window in an attic story.

F

Fabric – The physical material of a building, structure, or community, connoting an interweaving of component parts.

Façade – Any one of the external faces or elevations of a building.

Fanlight – A semi-circular window usually over a door with radiating muntins suggesting a fan.

Fascia – A projecting flat horizontal member or molding; forms the trim of a flat roof or a pitched roof; also part of a classical entablature.

Fenestration – The arrangement of windows on a building.

Finial – A projecting decorative element, usually of metal, at the top of a roof turret or gable.

Fishscale Shingles – A decorative pattern of wall shingles composed of staggered horizontal rows of wooden shingles with half-round ends.

Flashing – Thin metal sheets used to prevent moisture infiltration at joints of roof planes and between the roof and vertical surfaces.

Flat Arch – An arch whose wedge-shaped stones or bricks are set in a straight line; also called a jack arch.

Flemish Bond – A brick-work pattern where the long "stretcher" edge of the brick is alternated with the small "header" end for decorative as well as structural effectiveness.

Fluting – Shallow, concave grooves running vertically on the shaft of a column, pilaster, or other surface.

Form – The overall shape of a structure (i.e., most structures are rectangular in form).

Foundation – The lowest exposed portion of the building wall, which supports the structure above.

Frieze – The middle portion of a classical cornice; also applied decorative elements on an entablature or parapet wall.

G

Gable – The triangular section of a wall to carry a pitched roof.

Gable Roof – A pitched roof with one downward slope on either side of a central, horizontal ridge.

Gambrel Roof – A ridged roof with two slopes on either side.

Ghosts – Outlines or profiles of missing buildings or building details. These outlines may be visible through stains, paint, weathering, or other residue on a building's façade.

Glazing – Fitting glass into windows and doors.

Guardrail – A building component or a system of building components located at or near the open sides of elevated walking surfaces that minimizes the possibilities of a fall from the walking surface to a lower level.

H

Half-Story – A partial story under the roof, usually denoted by the presence of dormer windows or by full windows within gables.

Handrail – A horizontal or sloping rail intended for grasping by the hand for guidance or support.

Harmony – Pleasing or congruent arrangement.

Height – The distance from the bottom to the top of a building or structure.

Hipped Roof – A roof with uniform slopes on all sides.

Historic – Important in or contributing to history.

Historic Building – A building important because of its association with a historic event or with the history of a locality.

Historic District – A geographically definable area with a significant concentration of buildings, structures, sites, spaces, or objects unified by past events, physical development, design, setting, materials, workmanship, sense of cohesiveness or related historical and aesthetic associations. The significance of a district may be recognized through listing in a local, state, or national landmarks register and may be protected legally through enactment of a local historic district ordinance administered by a historic district board or commission.

Historic Fabric – Those elements and features of a historic building that are original and contribute to the integrity of the historic building.

Historic Imitation – New construction or rehabilitation where elements or components mimic an architectural style but are not of the same historic period as the existing buildings (historic replica).

Historic Landmark – Any improvement, building or structure of particular historic or architectural significance to the City relating to its heritage or cultural, social, economic or political history or which exemplifies historic personages or important events in local, state or national history, as may be designated in accordance with this article. An historic landmark does not necessarily need to be located within an historic district.

Hood Molding – A projecting molding above an arch, doorway, or window, originally designed to direct water away from the opening; also called a drip mold.

I

In-Kind – Use of the same or similar materials to the original or existing materials.

Ionic Order – One of the five classical orders used to describe decorative scroll capitals.

Infill – New construction where there had been an opening before, such as a new building between two older structures; or block infill between porch piers or in an original window opening.

Integrity – The ability of a property to convey its historic significance through the retention of location, design, setting, materials, workmanship, feeling, and association.

J

Jerkinhead Roof – A gable roof where the peak is clipped, forming a slope and resulting in a truncated gable on the wall below. Also known as a clipped gable roof.

K

Keystone – The wedge-shaped top or center member of an arch.

Kickplate – A metal plate (usually brass) attached to the bottom of a door to protect the door from damage.

Knee Brace – An oversize bracket supporting a cantilevered or projecting element.

L

Landmark – A building, structure, object or site which is identified as a historic resource of particular significance.

Landscape – The totality of the built or human-influenced habitat experienced at any one place. Dominant features are topography, plant cover, buildings, or other structures and their patterns.

Landscape Elements – Those elements that contribute to the landscape, such as exterior furniture, decks, patios, outdoor lighting, and other elements that may be located within a landscape.

Lattice – An openwork grill of interlacing wood strips used as screening.

Leaded Glass – Small panes of glass which are held in place with lead strips; the glass may be clear or stained.

Light – A section of a window, also called "pane" or "sash light."

Lintel – The horizontal top member of a window, door, or other opening.

M

Main Building – The primary historic building in an individual historic site.

Maintain – To keep in an existing state of preservation or repair.

Maintenance and Repair – Any work meant to remedy damage or deterioration of site elements or a structure or its appurtenances that involves no change in materials, dimensions, design, configuration, texture, surface coating, or visual appearance. A CA is not needed for regular maintenance and repair. This work may include cleaning, repainting, in-kind repairs, or yard maintenance.

Major Repair – Any exterior alteration that does not qualify as a minor repair.

Mansard Roof – A roof with a double slope on all four sides, with the lower slope being almost vertical and the upper almost horizontal.

Masonry – Exterior wall construction of brick, stone or adobe laid up in small units.

Massing – The perception of the general shape and form as well as size of a building.

Material – Material refers to the physical elements that were combined or deposited in a particular pattern or configuration to form a historic resource.

Material Change – A change that will affect either the exterior architectural or environmental features of an historic property or any structure, site, or work of art within an historic district.

Metal Standing Seam Roof – A roof composed of overlapping sections of metal such as copper-bearing steel or iron coated with a terne alloy of lead and tin. These roofs were attached or crimped together in various raised seams for which the roof is named.

Minor Repair – Exterior alterations that do not change materials, form, style, or overall appearance, and are only necessary to correct deficiencies resulting from normal wear and tear.

Modillion – A horizontal bracket, often in the form of a plain block, ornamenting, or sometimes supporting, the underside of a cornice.

Mortar – A mixture of sand, lime, cement, and water used as a binding agent in masonry construction.

Mortar Joint – Masonry joint between masonry units, such as brick or stone, filled with mortar to transfer the load, provide a bond between the units, and keep out the weather.

Mortar Mix – The composition (and proportions of these ingredients) of the mortar used in masonry.

Mullion – A heavy vertical divider between windows or doors.

Multi-Light Window – A window sash composed of more than one pane of glass.

Muntin – A secondary framing member to divide and hold the panes of glass in multi-light window or glazed door.

N

Neo-Classical Revival Style – Early twentieth century style which combines features of ancient, Renaissance, and Colonial architecture; characterized by imposing buildings with large columned porches.

New Construction – Construction which is characterized by the introduction of new elements, sites, buildings, or structures or additions to existing buildings and structures in historic areas and districts.

Non-Contributing Structures – Any structure which is neither a contributing structure within a district nor a landmark and is not identified as contributing.

O

Object – A material thing of functionality, aesthetic, cultural, or scientific value that may be, by nature or design, movable yet related to a specific setting or environment. The term "object" is used to distinguish from buildings and structures those constructions that are primarily artistic in nature or are relatively small in scale and simply constructed.

Obscured – Covered, concealed, or hidden from view.

Ordinary Maintenance – Acts of maintenance or repair which do not include a change in the design, material or outer appearance of a structure, including, without limitation, repainting, replacement of materials or windows of the same scale, texture and color, and landscaping other than within an historic landscape district.

Order – Any of several specific styles of classical and Renaissance architecture characterized by the type of column used (e.g., Doric, Ionic, Corinthian, Composite, Tuscan).

Oriel Window – A bay window which emerges above the ground floor level.

Orientation – Generally, orientation refers to the way a building relates to the street. The entrance to the building plays a large role in the orientation of the building. It should face the street.

Original – Features, components, materials, or other elements of a structure that were part of its initial construction; or structures that were part of the initial development of a site (such as accessory structures built at the same time as the related primary structure). Features or structures that are not original to the structure or site may have gained historic significance in their own right and may still be considered "historic."

Ornamentation – Any decorative objects or series of objects, which are added to the basic structure to enhance its visual appearance.

Owner – The person or persons holding record title to the building, site or property; provided, however, the last previous tax roll in the records of the City Assessor's office may be relied upon as showing record ownership in the absence of substantial evidence to the contrary.

P

Paired Columns – Two columns supported by one pier, as on a porch.

Palladian Window – A window with three openings, the central one arched and wider than the flanking ones.

Paneled Door – A door composed of solid panels (either raised or recessed) held within a framework of rails and stiles.

Parapet – A low horizontal wall at the edge of a roof.

Partial Demolition – Partial demolition is the removal of a portion of a building, including structural members, floors, walls, or architectural features.

Pediment – A triangular crowning element forming the gable of a roof; any similar triangular element used over windows, doors, etc.

Period of Significance – The length of time when a property was associated with important events, activities, or persons, or attained the characteristics which qualify it for National Register Listing.

Pier – A vertical structural element, square or rectangular in cross-section.

Pilaster – A square pillar attached, but projecting from a wall, resembling a classical column.

Pillar – A vertical supporting member in a building, may be ornamental.

Pitch – The degree of the slope of a roof.

Porch – A covered and floored area of a building, especially a house, that is open at the front and usually the sides.

Porch Ornamentation – Decorative elements include, but are not limited to, scrollwork, balustrade, and porch supports that are decorative.

Porte Cochere – A large, covered entrance porch through which vehicles can drive.

Portico – A roofed space, open or partly enclosed, forming the entrance and centerpiece of the façade of a building, often with columns and a pediment.

Portland Cement – A strong, inflexible hydraulic cement used to bind mortar. Mortar or patching materials with a high Portland cement content should not be used on old buildings. (The Portland cement is harder than the masonry, thereby causing serious damage over annual freeze-thaw cycles.)

Post – A piece of wood, metal, etc. usually long and square or cylindrical, set upright to support a building, sign, gate, etc.; Also referred to as a pillar or pole.

Preservation – The adaptive use, conservation, protection, reconstruction, restoration, rehabilitation or stabilization of sites, buildings, districts, or structures significant to the heritage of Biddeford. The act of maintaining the form and character of a building as it presently exists. Preservation stops deterioration and stabilizes the structure. Preservation includes Adaptive Use, Conservation, Protection, Reconstruction, Rehabilitation, and Restoration.

Pressed Tin – Decorative and functional metalwork made of molded tin used to sheath roofs, bays, and cornices.

Property – Land and improvements identified as a separate lot for purposes of subdivision, site plan, or zoning regulation.

Proportion – Harmonious relation of parts to one another or to the whole.

Protection – The act or process of applying measures designed to affect the physical condition of a property by defending or guarding it from deterioration, or to cover or shield the property from danger or injury.

Public Right-of-Way – Any street, avenue, boulevard, road, highway, sidewalk, alley, or easement that is owned, leased, or controlled by a government entity.

Pyramidal Roof – A roof with four identical sides rising to a central peak.

Q

Quoins – A series of stone, bricks, or wood panels ornamenting the outside of a wall.

R

Rafter – Any of the parallel beams that support a roof.

Rafter Tail – Exposed rafter supporting the eave.

Ramp – A sloped surface that makes a transition between two different levels; typically used to provide access to a building or raised surface for those persons with disabilities.

Recessed Entry – An entry set back from the storefront. Historically, storefronts step in, towards the interior of the building at the entry point.

Recommended – Suggested, but not mandatory actions outlined in the design guidelines.

Reconstruction – The act or process of reproducing by new construction the exact form and detail of a vanished building, structure, or object, or a part thereof, as it appeared at a specific period of time.

Rehabilitation – The act or process of making possible a compatible use for a property through repair, alterations and additions, while preserving those portions or features which convey its historic, cultural or architectural values. The act or process of returning a property or building to usable condition through repair, alteration, and/or preservation of its features which are significant to its historical, architectural, and cultural values.

Relocation – Any removal or relocation of a structure on its site or to another site.

Replacement – To interchange a deteriorated element of a building, structure, or object with a new one that matches the original element.

Replicate – To copy or reproduce an historic building or element.

Repointing – Repairing existing masonry joints by removing defective mortar and installing new mortar.

Restoration – Any act which returns a structure or a feature of a structure to a prior state of historic significance.

Retain – To keep secure and intact. In the guidelines, "retain" and "maintain" describe the act of keeping an element, detail, or structure and continuing the same level of repair to aid in the preservation of elements, sites and structures.

Re-Use – To use again. An element, detail, or structure might be reused in historic districts.

Rhythm – Characterized by the regular recurrence of strong and weak elements.

Ridge – The horizontal line of meeting of the upper slopes of a roof.

Rusticated – Roughening of stonework of concrete blocks to give greater articulation to each block.

S

Sash – The moveable framework containing the glass in a window.

Scale – The size or apparent size of an object seen in relation to other objects, people, or its environment or format.

Screening - Construction or vegetation of which the essential function is to separate, protect, conceal, or shield from view but not support.

Segmental Arch – An arch whose profile or radius is less than a semicircle.

Semi-Circular Arch – An arch whose profile or radius is a half-circle the diameter of which equals the opening width.

Semi-Engaged Porch – A porch whose roof forms a continuous surface with, but is in a different plane than, the roof of the building.

Setback – An architectural device in which the upper stories of a tall building are stepped back from the lower stories.

Setting – The sum of attributes of a locality, neighborhood, or property that defines its character.

Shape – The physical configuration of structures of buildings or monuments and their component parts, including but not limited to roofs, doors, windows, and façade.

Sheathing – An exterior covering of boards of other surface applied to the frame of the structure (see Siding).

Shed Roof – A gently-pitched, almost flat roof with only one slope.

Sidelight – A vertical area of fixed glass on either side of a door or window.

Siding – The exterior wall covering or sheathing of a structure.

Significance (Characteristics of Historical or Architectural Resources) – Those characteristics that are important to, or expressive of, the historical, architectural or cultural quality and integrity of the resource and its setting, and includes, but is not limited to, building material, detail, height, mass, proportion, rhythm, scale, setback, setting, form, street accessories and workmanship.

Significant – Having particularly important associations within the contexts of architecture, history, and culture.

Sill – The bottom crosspiece of a window frame.

Site – The land upon which a significant event, activity, building, structure, archaeological resource, or another feature is located.

Site Features – Site features include constructed surfaces, steps, retaining walls, fences, arbors, trellises, benches, decks, fountains, ponds, waterways, pools, or other physical elements constructed or proposed for construction in the landscape

Spindles – Slender, elaborately turned wood dowels or rods often used in screens and porch trim.

Stabilization – The essential maintenance of a deteriorated building as it exists at present, establishing structural stability and a weather-resistant enclosure.

Storefront – A ground level façade of a commercial building with display windows with minimal mullions or columns; this is often with a recessed entrance.

Story – The space between two floors of a structure or between a floor and roof.

Street Furniture – Objects placed or fixed in the street for public use space including benches, trash receptacles, parking meters, parking kiosks, telephone and electrical poles, fire hydrants, mailboxes, streetlights, bulletin boards.

Streetscape – The general appearance and configuration of the many buildings which define the street.

Stretcher Bond – A brickwork pattern where courses are laid flat with the long "stretcher" edge exposed.

String Course – A narrow horizontal band projecting from the exterior walls of a building, also known as a stringcourse. It is often located between the stories of a building and provides a visual break in the mass of bricks or stones, defining the interior floor levels.

Stucco – A masonry material applied as exterior wall fabric.

Style – A type of architecture distinguished by special characteristics of structure and ornament and often related in time; also a general quality of a distinctive character.

Surround – An encircling border or decorative frame, usually at windows or doors.

Synthetic Materials – Building materials that are manufactured with man-made or artificial components as opposed to materials derived from natural sources, such as plants, trees, or earth (e.g. vinyl, aluminum, fiber cement, plastic resin).

T

Terra Cotta – Decorative building material of baked clay. Terra cotta was often glazed in various colors and textures. Terra cotta was widely used for cornices, inset panels, and other decorative façade elements from ca. 1880 to 1930.

Texture – The feel, appearance, or consistency of a surface or substance.

Transom – A horizontal opening (or bar) over a door or window.

Trim – The decorative framing of openings and other features on a façade.

Turret – A small slender tower.

V

Valance – A short piece of fabric that hangs from the front edge of an awning, essentially acting as a decorative trim that adds style and can provide a bit of extra shade to the area beneath the awning

Veranda – A roofed open gallery or porch.

Vergeboard – The vertical face board following and set under the roof edge of a gable, sometimes decorated by carving.

Vernacular – A regional form or adaptation of an architectural style.

Viewshed – The natural environment that is visible from one or more viewing points.

Visibility from A Public Way – Able to be seen from any public right-of-way, or other place, whether privately or publicly owned, upon which the public is regularly allowed or invited to be.

Visual Continuity – A sense of unity or belonging together that elements of the built environment exhibit because of similarities among them.

W

Wall – A structure or hedgerow that provides a physical barrier, typically constructed of a solid material such as stone or rock.

Wall Dormer – Dormer created by the upward extension of a wall and a breaking of the roofline.

Water Table – A projecting horizontal ledge, intended to prevent water from running down the face of a wall's lower section.

Weatherboard – Wood siding consisting of overlapping boards usually thicker at one edge than the other.

Workmanship – The physical evidence of the crafts of a culture, people, or artisan.

Y

Yard – An open space at grade, other than a court or plaza, between a structure and the adjacent lot lines. In measuring a yard for the purpose of determining depth, the minimum horizontal depth between the lot line and a building or structure shall be used.

Z

Zoning District – A planning tool used to regulate land use, building form, design, and compatibility of development.

Appendix B. Biddeford Zoning

Main Street Revitalization District Zones:

MSRD-1: The commercial core district where the intent is to preserve the historic character of Biddeford while promoting the growth of businesses and residences in the district.

MSRD-2: The residential conservation district where the intent is to provide for areas of medium density while preserving the residential and historical character of the existing buildings while still providing opportunities for maintenance and remodeling of residences.

MSRD-3: The high-density and mixed-use district where the intent is to preserve the historic character of buildings while facilitating the redevelopment of vacant and underused mill buildings into a vibrant residential and commercial community which contributes to the revitalization of the City's downtown.

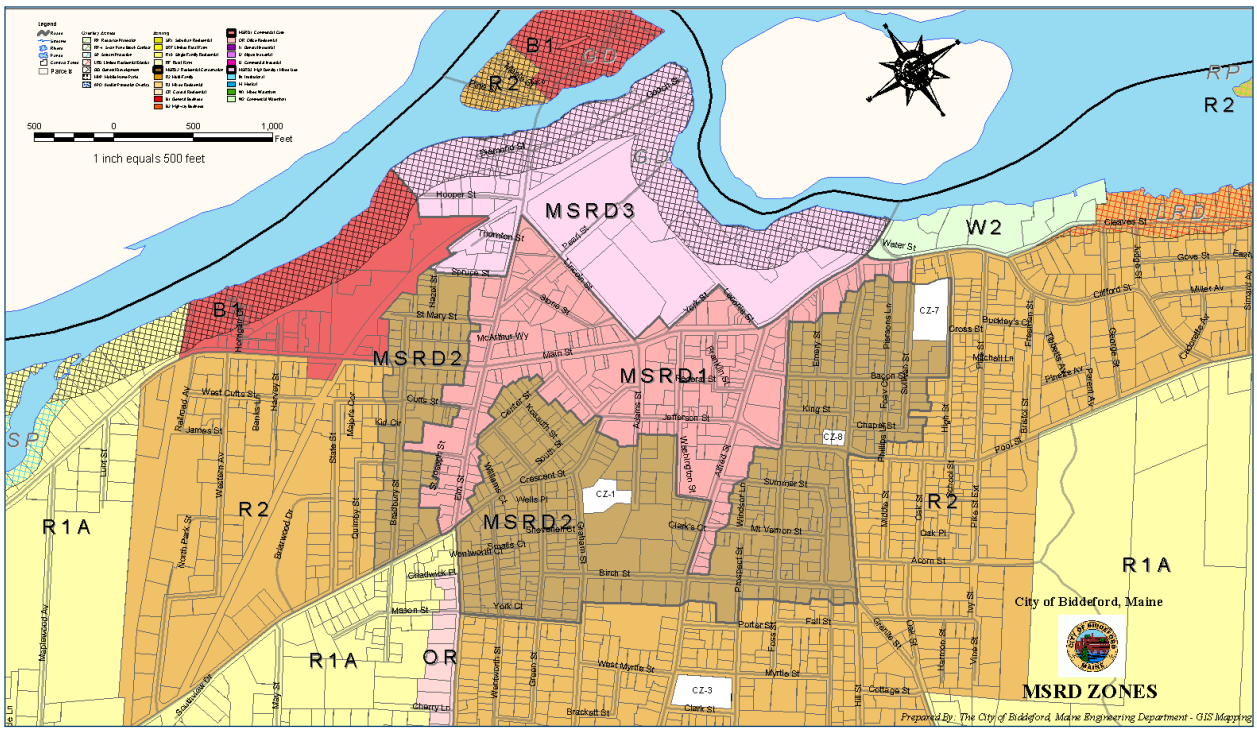


Figure 169: Map of the Main Street Revitalization District Zones within Biddeford..

Appendix C. Energy Efficiency

Introduction

One of the main objectives of this design guidelines is to preserve Biddeford's unique heritage, and also encourage the adaptive reuse of its core commercial buildings. By encouraging the maintenance and re-use of existing buildings, preservation represents the broad philosophy of recycling. Therefore, historic preservation is inherently "green." In past decades, the traditional focus of preservation focus was on the aesthetic and cultural significance of historic buildings. Recently, as communities consider how to grow responsibly, preservation has become a tool for promoting values of energy-efficiency and sustainability.

Embodied Energy

The concept of "embodied energy" was developed by Richard Stein in 1976 and is the energy required to extract, process, manufacture, transport and install building materials. In seeking innovative designs, architects and developers today often embrace the use of "green" practices and materials in new building construction. While there will always be some form of new construction and "green" standards are important, the bottom line is that new construction will always require a new expense of energy.

In contrast, an existing building represents the physical embodiment of energy, already spent. This energy, in the inert form of a building, remains in place as long as the building stands. The reuse of any building material *in situ* is more energy efficient than replacing it with a similar newly manufactured item. If razed, the building's embodied energy is lost; the very demolition represents an expenditure of new energy. Loading and hauling the building debris to a landfill requires additional energy and loss of resources. Thus, an existing building is literally a mass of invested energy. Demolishing a sound building squanders that investment.

Energy Efficiency

The thick masonry walls of older commercial buildings help retain interior heat in the winter and also help lengthen the time it takes for summer heat to penetrate the building. Form-to-function architectural elements include operable transoms and high ceilings, which allow the escape of hot air. Storefronts were also designed to allow sunshine into the interior in the winter and block the summer heat through retractable awnings. It logically follows that the traditional considerations of construction produced building stock of inherent energy-efficiency. Data from the U.S. Energy Information Agency found that buildings constructed before 1920 are actually more energy-efficient than those built during the last two or three decades of the twentieth century. Only in recent years, as consumers started considering their energy use, have builders begun to design more energy-efficient buildings. Yet, contrary to common thought, these newer buildings often use more energy because they are not designed to take advantage of the natural benefits of their site.

Retro-fitting and Weatherization

Biddeford's one historic buildings often have inherent energy-efficient design features. Still, numerous windows and minimal insulation can result in energy losses in older buildings. Owners of historic buildings need not compromise their historic character for improved energy efficiency. Simple non-altering upgrades to historic buildings include the addition of attic insulation, installation of storm windows, and more efficient heating and cooling systems. In particular, repairing and weatherstripping historic wood windows and adding storm windows often result in energy performance equal to or exceeding that of new windows and at much less cost. Installing new windows becomes a cycle, as they have a limited life expectancy.

Appendix D. Basic Maintenance

Maintenance helps preserve the integrity of historic structures. If existing materials are regularly maintained and deterioration is significantly reduced or prevented, the integrity of materials and workmanship of the building is protected. Proper maintenance is the most cost effective method of extending the life of a building. As soon as a building is constructed, restored, or rehabilitated, physical care is needed to slow the natural process of deterioration. An older building has already experienced years of normal weathering and may have suffered from neglect or inappropriate work as well.

Over time, the cost of maintenance is substantially less than the replacement of deteriorated historic features and involves considerably less disruption. Stopping decay before it is widespread helps keep the scale and complexity of work manageable for the owner.

Materials

a) Prevent water from making contact with exterior wood siding. Of particular importance is keeping all gutters and downspouts in good repair and pointed away from the property to keep water from infiltrating the wood surface.

b) All exposed wood should be kept painted, stained or treated with preservatives.

c) Repairs for wood siding such as cracks can be made through the use of waterproof glue. Large cracks may be filled with caulk followed by putty. The surface should then be sanded, allowed to dry, and painted.

d) Where exterior siding has to be replaced the use of siding to match in dimension, size and profile is recommended.

e) Use paints consistent (oil or latex) with the existing paint surface for exterior siding.

f) Keep exterior brick clean of mildew, efflorescence and dirt. Also keep exterior brick clean of vines, ivy, and other plant materials. Washing with detergents and water are best for exterior masonry and mortar. Sandblasting, water-blasting and other abrasive cleaning methods are detrimental to historic buildings and should not be used.

g) Re-pointing of historic mortar should be with a mortar which matches the original in appearance and composition. Most mortar from before 1900 was composed of lime and sand and a mortar with similar content should be applied. The use of Portland cement is not appropriate due to the hardness of the mortar versus the soft brick.

h) Most silicone based or waterproof coatings have limited effectiveness and may actually add to moisture problems by not allowing the brick to breathe. The use of these products is not appropriate.

Roofs, Cornices, and Chimneys

a) Check the roof regularly for leaks, deterioration of flashing, and worn roof surfaces such as rolled or asphalt shingles. An inspection of the upper floor or attic space during or following a rainstorm can also assist in detection of water related problems.

b) Know what metals are used in the cornice or roof flashing and use only similar metals during replacement or repair. Different metals should not touch each other or a galvanic reaction may occur leading to corrosion.

c) Metal roofs and cornices should be kept painted to prevent rust and deterioration. Appropriate paints include those with an iron oxide oil base. Asphalt based paints and aluminum paints should not be used on historic metals as they could accelerate the rusting process.

d) Chimneys should be regularly checked for cracking, leaning, spalling, and infestation by birds and insects. The use of chimney caps over chimneys or flue openings is recommended to keep out moisture. Refer to the chimney section – only certain types of caps are acceptable.

Guters and Downspouts

a) Keep gutters and downspouts in good repair. Make sure they are properly connected, are clean of leaves and other debris, and channel water effectively away from the building. Seal all cracks in downspouts with silicone caulk or sealants.

b) The use of splash blocks to keep water away from the foundation is recommended.

c) Gutters and downspouts which are deteriorated should be replaced with new gutters and downspouts. During the 1920s, various gutter shapes were becoming available and were in general use by the 1940s. While half-round gutter shape is generally preferred, if landmarks and landmark districts post-date or span this period, other gutter shapes may be appropriate.

Foundations

a) All water should drain away from a building and should not enter the foundation.

b) Trees, shrubs, and other plants should be kept well away from the foundation to prevent damage from moisture and root growth. Typically a minimum distance of 2' between the plantings and the foundation wall is recommended.

Porches and Exterior Ornamentation

a) Keep all porch and trim elements painted.

Doors and Entrances

a) Doors, transoms, and sidelights should be kept clean.

b) Original locks and hardware should be kept oiled and in good repair. If original hardware is missing or is deteriorated, the use of reproduction locks and hardware suitable for the building is recommended.

c) Doors with a stained wood finish should be kept varnished; painting over the wood finish is not recommended.

Windows

a) Windows should be kept clean and free of dirt and grime. Wood sash surfaces should be painted regularly.

b) Windows should be kept caulked and sealed to aid in energy conservation.

Shutters should be kept painted and in good repair.

Awnings

a) Canvas awnings should be washed periodically and kept in good repair.

b) Awning hardware should be regularly checked for rust or loose mechanisms.

c) Awnings which become torn or otherwise deteriorated should be replaced.

Signage

a) Abandoned signs and sign hardware should be removed from buildings, unless historic.

b) Signs should be kept painted and mounting bolts should be checked periodically to make sure they are secure.

c) Light fixtures, conduits, and wiring for signs should be inspected and replaced when necessary.

INSPECTION FREQUENCY CHART		
Feature	Minimum Inspection Frequency	Season
Roof	Annually	Spring or fall; every 5 years by a roofer
Chimneys	Annually	Fall, prior to heating season; every 5 years by a mason
Roof Drainage	6 months; more frequently as needed	Before and after wet season, during heavy rain
Exterior Walls and Porches	Annually	Spring, prior to summer/fall painting season
Windows	Annually	Spring, prior to summer/fall painting season
Foundation and Grade	Annually	Spring or during wet season
Building Perimeter	Annually	Winter, after leaves have dropped off trees
Entryways	Annually; heavily used entries may merit greater frequency	Spring, prior to summer/fall painting season
Doors	6 months; heavily used entry doors may merit greater frequency	Spring and fall; prior to heating/colling season
Attic	4 months, or after a major storm	Before, during and after wet season
Basement/Crawlspace	4 months, or after a major storm	Before, during and after rain season

Appendix E. Selected Bibliography

E.1. Architectural Style Guide Sources

Carley, Rachel. *The Visual Dictionary of American Domestic Architecture*. New York. Henry Holt and Company: 1994.

Longstreth, Richard. *The Buildings of Main Street: A Guide to American Commercial Architecture*. Washington, DC, The National Trust for Historic Preservation: 1987.

Lounsbury, Carl R., Ed. *An Illustrated Glossary of Early Southern Architecture and Landscape*. Charlottesville. University Press of Virginia: 1994.

McAlester, Virginia Savage. *A Field Guide to American Houses*. New York. Alfred A. Knopf: 2000; 2013.

Poppeliers, John C., S. Allen Chambers Jr., and Nancy B Schwarz. *What Style Is It? A Guide to American Architecture*. The Preservation Press: 1983.

Rifkind, Carole. *A Field Guide to American Architecture*. New York. Bonanza Books: 1984.

Vogel, Robert M. "Industrial Structures." In *Built in the U.S.A. American Buildings from Airports to Zoos*, by ed. Diane Maddex. Washington, D.C.: The Preservation Press, 1985.

Whiffen, Marcus. American Architecture Since 1780: A Guide to the Styles. Revised. Cambridge: MIT Press, 1992.

E.2. Technical Sources

Preservation Briefs are produced by the National Park Service and provide information on preserving, rehabilitating, and restoring historic buildings. These publications provide guidance on a number of topics to help both professionals and building owners.

The briefs are especially **useful to Historic Preservation Tax Incentives Program applicants** because they recommend methods and approaches for rehabilitating historic buildings that are consistent with their historic character. Preservation Briefs can be revised, removed or added, please consult the National Park Service website for the most up to date list: https://www.nps.gov/orgs/1739/preservation-briefs.htm

National Park Service Preservation Briefs

Assessing Cleaning and Water-Repellent Treatments for Historic Masonry Buildings. Surveys a variety of cleaning methods and materials and provides guidance on selecting the most appropriate method and the gentlest means possible. Discusses water-repellent and waterproof coatings, the purpose of each, the suitability of their application to historic masonry buildings, and possible consequences of their inappropriate use.

Repointing Mortar Joints in Historic Masonry Buildings. Provides general guidance on appropriate materials and methods for repointing historic masonry buildings.

Improving Energy Efficiency in Historic Buildings. Discusses the inherent energy efficient features of historic buildings. Recommends actions to increase energy efficiency. Describes alternate energy sources that have been used for historic buildings.

Roofing for Historic Buildings. Provides a brief history of the most commonly used roofing materials in America. Presents a sound preservation approach to roof repair, roof replacement, and the use of alternative roofing materials.

The Preservation of Historic Adobe Buildings. Provides information on the traditional materials and construction of adobe buildings and the causes of adobe deterioration. Makes recommendations for preserving historic adobe buildings.

Dangers of Abrasive Cleaning to Historic Buildings. Cautions against the use of sandblasting to clean various buildings and suggests measures to mitigate the effects of improper cleaning. Explains the limited circumstances under which abrasive cleaning may be appropriate.

The Preservation of Historic Glazed Architectural Terra-Cotta. Discusses deterioration problems common to terra-cotta and provides methods for determining the extent of deterioration. Makes recommendations for maintenance and repair and suggests appropriate replacement materials.

The Repair of Historic Wooden Windows. Provides information on evaluating the condition of historic wood windows and on practical methods for repair.

Exterior Paint Problems on Historic Woodwork. Identifies and describes common types of paint surface conditions and failures. Provides guidance on preparing historic woodwork for repainting, including limited and total paint removal.

Rehabilitating Historic Storefronts. Explores the role of the storefront in historic buildings and provides guidance on rehabilitation techniques for historic storefronts as well as compatible storefront designs.

The Preservation of Historic Pigmented Structural Glass (Vitrolite and Carrara Glass). Provides information on the early manufacture, installation, and use of this decorative building product commonly found in 20th century buildings; reasons for its damage; and a general approach for its maintenance, repair, and replacement.

The Repair and Thermal Upgrading of Historic Steel Windows. Presents brief historical background on the development, use, and styles of rolled steel windows popular in the first half of the 20th century. Explains steps for cleaning and repairing damaged steel windows; provides information on methods of weatherstripping and options for storm panels or the installation of thermal glass.

Exterior Additions to Historic Buildings: Preservation Concerns. Uses a series of examples to suggest ways that attached additions can successfully serve contemporary uses as part of a rehabilitation project while preserving significant historic materials and features and the building's historic character.

Preservation of Historic Concrete. Discusses the characteristics of concrete and causes of deterioration. Includes information on cleaning, maintenance, and repair, and on protective systems.

The Use of Substitute Materials on Historic Building Exteriors. Provides general guidance on the use of substitute materials as replacement materials for distinctive features on the exterior of historic buildings.

Architectural Character—Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character. Essential guidance to help property owners and architects identify those features of historic buildings that give the building its visual character so that their preservation can be maximized in rehabilitation.

Rehabilitating Interiors in Historic Buildings—Identifying Character-Defining Elements. Assists building owners in identifying significant interior spaces, features, and finishes so they may be preserved in rehabilitation work. Applies to all building types and styles, from 18th century churches to 20th century office buildings.

The Repair and Replacement of Historic Wooden Shingle Roofs. Discusses historic wooden roofing, expectations for longevity, and repair and replacement options. Identifies roofing material that duplicates the appearance of a historic roof, offers guidance on proper installation, and provides information on coatings and maintenance procedures to help preserve the roof.

The Preservation of Historic Barns. Identifies historic barn types, helps owners understand the historic character of their barns, and offers advice on the maintenance, repair, and rehabilitation of old and historic barns.

Repairing Historic Flat Plaster—Walls and Ceilings. Guides building owners on repairing historic plaster using traditional materials (wet plaster) and techniques. Suggests replacement options if the historic plaster is severely deteriorated. Useful chart on various plaster bases and compatible basecoats and finish coats.

The Preservation and Repair of Historic Stucco. Describes the evolution of stucco as a building material, beginning with a brief history of how stucco is applied, and how its composition, texture, and surface patterns have changed. Includes guidelines on how to plan for and carry out repair of historic stucco, with sample mixes for 18th, 19th, and 20th century stucco types.

Preserving Historic Ornamental Plaster. Discusses ornamental plaster production, explaining the processes of run-in-place and cast ornamentation using three common decorative forms as examples: the cornice, ceiling medallion, and coffered ceiling. Provides guidance on identifying causes of deterioration and understanding complex restoration techniques. Includes useful advice on selecting and evaluating a restoration contractor.

Heating, Ventilating, and Cooling Historic Buildings: Problems and Recommended Approaches. Underscores the importance of careful planning in order to balance preservation objectives with the interior climate needs of the building.

The Preservation of Historic Signs. Discusses the history of sign types pre-1800 to the 20th century, including symbol signs, flat signs, fascia signs, hanging signs, goldleaf signs, rooftop signs, and neon signs. Makes recommendations for their repair and re-use.

The Preservation and Repair of Historic Log Buildings. Focuses on horizontally laid or vertically positioned logs, but the preservation and repair treatments are essentially the same for all log structures. Discusses traditional splicing-in techniques, the use of epoxies, and replacement, as well as guidance on the repair and replacement of chinking and daubing.

The Maintenance and Repair of Architectural Cast Iron. Discusses the role of cast iron in 19th-century industrial development and the resulting advances in building design, technology, ornamental detailing. Provides essential guidance on maintaining and repairing architectural cast iron.

Painting Historic Interiors. Discusses wall paint and decorative surface treatments from the late 17th century to the 1950s. Describes the usefulness of a complete paint investigation for preservation and restoration projects. Provides guidance on the common causes of interior paint failure and preparing surfaces for repainting. Makes recommendations about paint with health and safety factors in mind.

The Repair, Replacement, and Maintenance of Slate Roofs. Describes the causes of slate roof failures and provides comprehensive guidance on their repair and, when necessary, their appropriate replacement. Repair/Replacement Guidelines are included to assist owners prior to work.

The Preservation and Repair of Historic Clay Tile Roofs. Reviews the history of clay roofing tiles and describes many types and shapes of historic tiles, as well as their method of attachment. Provides general guidance for historic property owners on how to plan and carry out a project involving the repair and selected replacement of historic clay roofing tiles.

Mothballing Historic Buildings. Describes process of protecting a deteriorating historic building from weather as well as vandalism when funds are not currently available to begin a preservation, rehabilitation, or restoration project.

Making Historic Properties Accessible. Introduces the complex issue of providing accessibility at historic properties and underscores the need to balance accessibility and historic preservation. Provides guidance and many examples of successful projects.

The Preservation and Repair of Stained and Leaded Glass. Gives a short history of stained and leaded glass in America. Surveys basic preservation and documentation issues and addresses common causes of deterioration and presents protection, repair, and restoration options.

Applied Decoration for Historic Interiors: Preserving Historic Composition Ornament. Describes the history, appearance, and characteristics of this uniquely pliable material. Provides guidance on identifying compo and suggests appropriate treatments, depending upon whether the project goal is preservation or restoration.

Understanding Old Buildings: The Process of Architectural Investigation. Explains architectural investigation as the critical first step in planning an appropriate treatment. Addresses the investigative process of understanding how a building has changed over time and assessing levels of deterioration.

Protecting Cultural Landscapes: Planning, Treatment, and Management of Historic Landscapes. Describes types of cultural landscapes. Provides a step-by-step process for preserving historic designed and vernacular landscapes to ensure a successful balance between historic preservation and change.

Removing Graffiti from Historic Masonry. Focuses on cleaning methods to remove surface-applied graffiti without damaging historic masonry. Includes tips for successful graffiti removal, a discussion of barrier coatings, and useful charts designed to guide the graffiti-removal process.

Holding the Line: Controlling Unwanted Moisture in Historic Buildings. Outlines a way to diagnose moisture problems and choose remedial treatments. Provides guidance on managing moisture deterioration, repairing and maintaining historic building materials, and correcting common problem areas. Includes charts on types of diagnostic tools, recommended treatments and treatments that should always be avoided.

Preserving Historic Ceramic Tile Floors. Summarizes the historical use of glazed and unglazed ceramic flooring tiles and describes different types of tiles. Provides guidance for maintaining and preserving historic ceramic tile flooring, on cleaning treatments, and on protective and code-required, slip resistant coatings. Also contains information on various repair options, as well as the selective replacement of damaged tiles.

The Seismic Rehabilitation of Historic Buildings. Discusses the issues of protecting historic buildings from earthquake damage. Describes approaches to seismic retrofit that make a building safe without destroying significant historic materials. Provides guidance on the extent of strengthening to consider, design approaches, and the visual impact of these changes.

The Maintenance, Repair, and Replacement of Historic Cast Stone. Provides a brief history of the manufacture and use of cast stone. Discusses the causes of its deterioration, repairable conditions, and methods of repair. Addresses the replication and replacement of historic cast stone installations, and the use of cast stone as a substitute replacement material for natural stone.

The Preparation and Use of Historic Structure Reports. Defines the historic structure report and provides a historical overview of its use. Outlines an entire procedure for preparing a report, taking a team approach.

The Use of Awnings on Historic Buildings: Repair, Replacement and New Design. Provides a historic overview of the practical and aesthetic use of various types of awnings. Presents guidance for their maintenance, preservation, and repair. Discusses the circumstances under which awning replacement is appropriate and how to achieve a compatible design for new awnings on historic buildings.

Preserving Historic Wooden Porches. Explains how to assess the condition of historic porches. Provides detailed procedures for proper maintenance and repair and includes measures to address code issues. Provides a range of information from the selection of materials to guidance on contemporary alterations.

The Preservation and Reuse of Historic Gas Stations. Provides guidance on assessing the significance of historic gas stations and provides information on their maintenance and repair. Describes appropriate rehabilitation treatments, including conversions for new functions when the historic use is no longer feasible.

Maintaining the Exterior of Small and Medium Size Historic Buildings. Discusses the benefits of regular inspection, monitoring, and seasonal maintenance work for historic buildings. Provides guidance on maintenance treatments for historic building exteriors.

Preserving Grave Markers in Historic Cemeteries. Describes grave marker materials and the risk factors that contribute to their decay. provides guidance for assessing their condition and discusses maintenance programs and various preservation treatments.

Historic Decorative Metal Ceilings and Walls: Use, Repair, and Replacement. Discusses the history and manufacturing of decorative metal for ceiling and wall applications; provides information on paint removal, maintenance, and repair; and includes guidance on replacement.

Lightning Protection for Historic Structures. Describes the history and components of traditional lightning protection systems; discusses inspection, evaluation, and maintenance of systems; and provides guidance on the repair of systems and the installation of new systems.

Building Codes for Historic and Existing Buildings: Planning and Maximizing their Application. Discusses how to meet the goals of building codes while preserving or minimizing alterations to the character-defining features, spaces, materials, and finishes of historic buildings; provides guidance for selecting the optimal code compliance method and suggests best practices for achieving code-compliant solutions that also allow for the preservation of a building's historic character.

E.3. Additional Sources

Maine Sources

Atlas of York County, Maine. Philadelphia: Sanford, Everts, and Co., 1872.

History of York County, Maine. Philadelphia: Everts and Peck, 1880.

Gaertner, Margaret. "Post-World War II Residential Architecture Field Guide," 2009. Web. https://www.maine.gov/mhpc/sites/maine.gov.mhpc/files/inline-files/Post%20WW2%20Guide.pdf (accessed 2025).

Kleinfelder, Amanda Taylor. "Architectural Survey Report City of Biddeford, Maine," 2023. https://www.biddefordmaine.org/DocumentCenter/View/12301/Biddeford-Survey-Report-FINAL (accessed 2025).

Wright, Russell. "A Reconnaissance Level Architectural Survey of Downtown Biddeford, Maine: A Summary Report," 1998, Maine Historic Preservation Commission, Augusta, Maine.

Maine Preservation - offers a variety of resources for parties interested in preservation and property owners interested in pursuing projects on historic buildings.

Linked below is a "Preservation Professional Directory," last updated in 2018. While there is a note that listing in the directory does not necessarily constitute an endorsement by Maine Preservation, it is still a helpful resource. It is strongly recommended that before any contractor, craftsperson, or professional is employed that the hiring party obtain several satisfactory references.

https://www.mainepreservation.org/preservation-professionals

Additional Sources

12 Economic Benefits of Historic Preservation. Washington, DC. The National Trust for Historic Preservation: 2011. Web. http://my.preservationnation.org (accessed 5/15/2017).

Eggleston, Jenifer, Jennifer Parker and Jennifer Wellock. *Guidelines on Flood Adaptation for Rehabilitating Historic Buildings*. Washington, DC. US Department of the Interior National Park Service Cultural Resources, Partnerships & Science: 2019.

National Register Bulletin. "How to Apply the National Register Criteria for Evaluation." U.S. Department of the Interior, Washington, D.C. Revised for the internet, 1995.

Park, Sharon D., AIA. *The Use of Substitute Materials on Historic Building Exteriors. Preservation Brief no. 16*. Washington, D.C.: Technical Preservation Services, U.S. Department of the Interior, 1989.

Preservation Green Lab. "The Greenest Building: Quantifying the Environmental Value of Building Reuse." The National Trust for Historic Preservation: 2011. https://living-future.org/wp-content/uploads/2022/05/The_Greenest_Building.pdf

Rypkema, Donovan. *The Economics of Historic Preservation: A Community Leader's Guide*. Washington, DC. The National Trust for Historic Preservation: 1994.

The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings. Washington, DC. US Department of the Interior National Park Service Heritage Preservation Services: 1990.

Thomason and Associates, Preservation Planners. *Alternative Materials and Their Use in Historic Districts*. Columbus: Ohio. City of Columbus, Ohio Planning Division: 2013.

Vogel, Robert M. "Industrial Structures." In *Built in the U.S.A. American Buildings from Airports to Zoos*, by ed. Diane Maddex. Washington, D.C.: The Preservation Press, 1985.

Appendix F. Tax Credit Incentives

Federal Tax Incentive Program

Income tax incentives for the rehabilitation of historic structures are important tools for historic preservation and economic development throughout the United States. A federal income tax credit for the rehabilitation of historic structures first appeared in 1976 and today consists of a 20% credit for the certified rehabilitation of certified historic structures. For more information regarding the Federal Tax Incentive Program, please see the National Park Service website: https://www.nps.gov/subjects/taxincentives/index.htm

State Historic Rehabilitation Tax Credit

The Maine Historic Preservation Commission administers the state historic rehabilitation tax credit in consultation with the Department of Administrative and Financial Services, Bureau of Revenue Services. The Commission strongly recommends that prospective applicants carefully review the program rules and application instructions prior to submitting applications or commencing work.

Maine's State Historic Rehabilitation Tax Credit Program includes the following incentives:

The "Substantial Rehabilitation Credit"

A 25% state credit for any rehabilitation that also qualifies for the 20% federal credit. The rehabilitation must meet all of the requirements of the Federal tax incentive program and the application must be submitted in accordance with the procedures at the following link: https://www.maine.gov/mhpc/programs/tax-incentives/rehabilitation-credit

The "Small Project Rehabilitation Credit"

A 25% state credit for the rehabilitation of certified historic structures with certified qualified rehabilitation expenditures of between $50,000 and $250,000. This credit is available to entities that do not claim the federal rehabilitation credit. Applicants must meet all federal tax code qualifications except the substantial investment requirement. For more information regarding the "Small Project Rehabilitation Credit," please follow the link: https://www.maine.gov/mhpc/programs/tax-incentives/small-project-rehabilitation-credit

The "Affordable Housing Rehabilitation Credit Increase"

The State Substantial Rehabilitation Credit and the Small Project Rehabilitation Credit may be increased an additional 10% if the rehabilitation project meets certain affordable housing requirements. Please contact the Maine State Housing Authority (MSHA) for additional eligibility requirements.

If you are considering submitting an application, or if you have any questions, please contact:

Mike Johnson
Rehabilitation Tax Credit Coordinator
Maine Historic Preservation Commission
55 Capitol Street
Augusta, ME 04333
PH: 207-287-2949
e-mail: Mike.D.Johnson@maine.gov

If you have specific tax related questions, please contact:

Maine Revenue Services
Business Taxes Section
51 Commerce Center Drive
Augusta, ME 04333
PH: 207-624-9670
e-mail: corporate.tax@maine.gov