

# DESIGN GUIDELINES and Preservation Manual

For the

## BEAVER HISTORIC DISTRICT

*January 2019*

Board of Historical Architectural Review  
Borough of Beaver, Pennsylvania





# Notes & Acknowledgements

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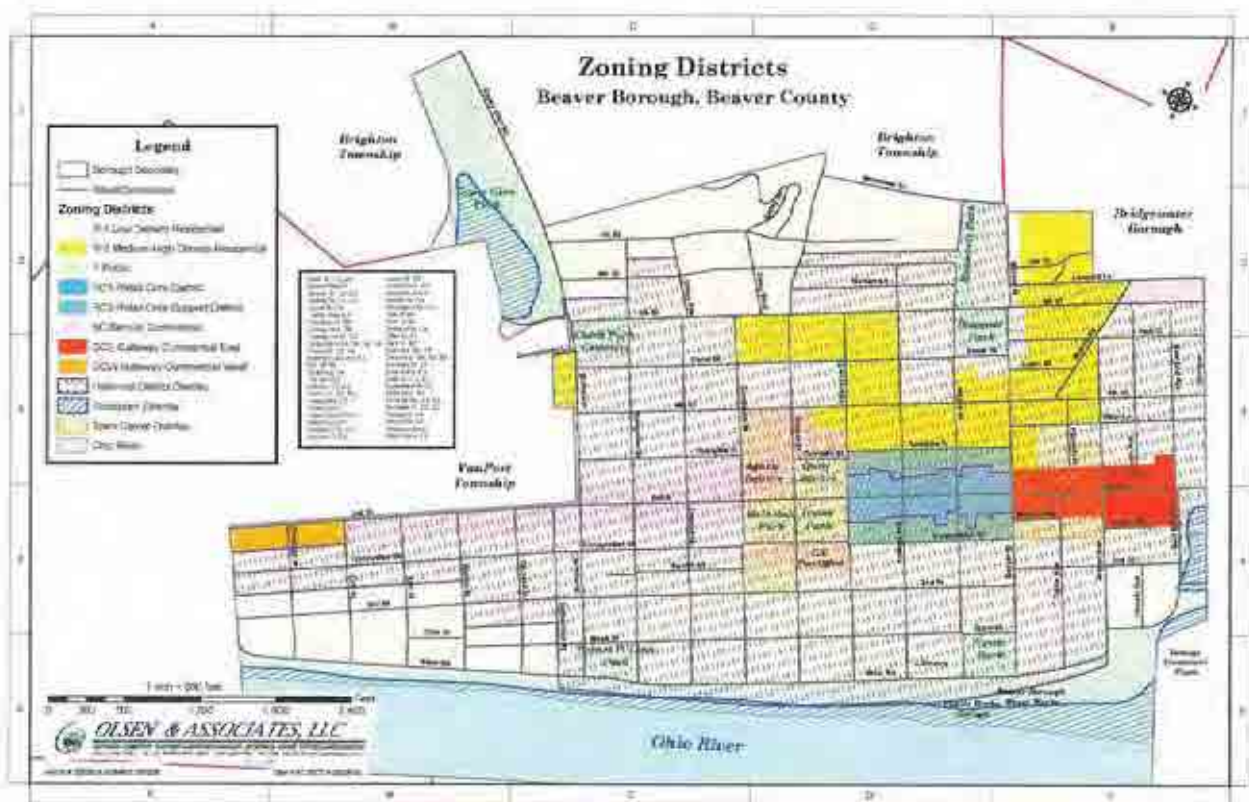
# *Introduction*

## **1.1 INTRODUCTION TO THE BEAVER HISTORIC DISTRICT**

The Beaver Historic District provides the Borough of Beaver with a sense of stability and a tangible connection to its past. Materials, forms and architectural styles employed in buildings tell a great deal about material availability, community economics, and connections to the outside world. This heritage, experienced by residents and daily users within the district, is worthy of preservation. These guidelines are designed to help residents and property owners preserve the heritage and character of this historic district, while ensuring that the district continues to meet the needs of residents, property

owners and visitors. Activity in the historic district is a sign of vitality. New construction, rehabilitation, restoration and maintenance can be guided to preserve the historic district and its streetscapes, and the local heritage while encouraging a vibrant economy. These guidelines create a path for change that will strengthen and protect the district.

To preserve and protect Beaver's historical and architectural resources, Borough Council created the Beaver Historic District through the 2011 enactment of Chapter 11: Historic Preservation, of the Zoning Ordinance, pursuant to state enabling legislation. The Ordinance contains provisions for regulating the demolition of buildings within the District. The



*Map of Beaver Zoning Districts. Note that the Historic District Overlay encompasses most of the Borough.*

Ordinance establishes the Board of Historical Architectural Review (HARB), which reviews demolition applications within the Historic District, and makes recommendations to Borough Council for the issuance of a Certificate of Appropriateness for each application.

## 1.2 INTENT OF THE DESIGN GUIDELINES

These Design Guidelines are a component of a Preservation Plan for Beaver that includes four primary goals:

1. Preserve and Protect the Historic Character of the Borough.
2. Increase Public Awareness of Beaver's History and Historic Resources.
3. Maximize Economic Benefits of the Historic Preservation Program.
4. Serve as a Borough-wide historic building maintenance guide.

Each of these goals has several objectives. The creation of these Design Guidelines specifically achieves the first objective of Goal 1, to provide tools for design review.

The Design Guidelines for the Beaver Historic District are intended to assist property owners and HARB members to protect the historical character of the District in an informed, cooperative effort. The guidelines provide an analysis of what is special about the Historic District, and offer specific direction for preserving those qualities. **Although design review is limited to the review of demolition applications, the Design Guidelines are advisory to all proposed changes in the Historic District, and represent best practice in historic preservation.**



*Historic view of Third Street.*

**The Design Guidelines may also be used as a technical resource for property owners outside of the Historic District.**

This document is not meant to be used as a strict and rigid rule book. Chapter 11 of the Zoning Code will continue to be the legal basis for review within the Historic District. Pursuant to Section 11-107.1.H of the Zoning Code, the HARB may “promote public interest in ...historic preservation by carrying on education and public relations programs including, but not limited to, activities related to new construction or renovation of historic resources within the Historic District.”

The Design Guidelines are a flexible tool for ensuring the thoughtful preservation of the Beaver Historic District. As such, they advocate two primary goals for every proposed change:

- To minimize harm to historic fabric, and
- To enhance the historic character of the district

To achieve these goals, the guidelines strive to meet the following objectives:

- To provide best-practice advice to property owners in planning for the acquisition of property, alterations to historic structures, and design of new buildings and additions in the historic district.
- To provide best-practice advice to property owners and their architects and builders regarding the criteria that should be used design in the historic district.



*Beaver County Courthouse, 1875; destroyed by fire in 1932.*

# *Historical Overview*

## **2.1 HISTORICAL OVERVIEW OF THE BEAVER HISTORIC DISTRICT**

### **Brief History of the Borough of Beaver**

Perched on a plateau overlooking the Ohio River, the Borough of Beaver is located in one of the great industrial centers of the United States. It is a beautiful riverfront town with fine houses, lovely parks and squares, and a forested escarpment in view beyond the river. Beaver's wide tree-lined streets and stately homes, and its many green spaces and thriving downtown, seem removed from the industrial landscape that immediately surrounds it. Freight

trains continually pass by on tracks along the Ohio, as do barges on the river itself. The scenic Beaver Bridge (1910), carries additional freight over tracks adjacent to the former Pittsburgh and Erie Railroad stations at the east end of town. Along the Beaver River, from which the town takes its name, is the Beaver Canal, which begins just east of town in Bridgewater. Immediately west of Beaver, in Vanport, is the former Curtiss Wright plant, an aircraft propeller plant built during World War II. This industrial history continues: the Shell "cracker" plant rises at the time of this writing just across the Ohio River.





While no great factory was located within the Borough, Beaver was and is the product of industrial development. Pittsburgh area company executives and managers – the professionals of the day - found Beaver a refuge. As a result, the community is enriched with fine buildings, including residential, government, religious, and commercial. In the late twentieth century, when so many of the surrounding industries closed, Beaver's by-then well-established "sense of place" as well as its own "industry," Beaver County government, did not feel the sting of mass layoffs or the stigma of massive hulks of former mills long abandoned. Today, Beaver continues to attract people looking for an environment that is clean, safe and convenient. This did not occur by happenstance. Many things – but mainly its geography and location – influenced decisions that ultimately created what we now know as Beaver.

*The following brief history of the Borough of Beaver is mainly derived from the Beaver Historic District National Register of Historic Places nomination, completed in 1996 by Taylor & Taylor Associates, Inc.*

### **Fort McIntosh and the American Revolution**

Permanent settlement in this area occurred in the last quarter of the eighteenth century. The Tuscarawas Trail, a Native American trail that extended to central Ohio, began in what is now Beaver. In the mid-eighteenth century English and French traders passed through this way and established a small village in the area. The end of the French and Indian War in 1763 also brought an end to French involvement, but the Native Americans remained. Fearing attacks during the American Revolution, the Continental Army in 1778 constructed a fort at the present location of

River Road and Insurance Street. Named after its commanding officer, Lachlan McIntosh, Fort McIntosh marked the first permanent settlement of European Americans in Beaver. Commanding a strategic location high above Ohio River near its confluence with the Beaver River, the fort set the stage for Beaver's eventual development.



*Fort McIntosh.*

### **A Planned Community**

Changes occurred rapidly after the Revolution, and attracted people to both Western Pennsylvania and Beaver. In 1783, with the war over, the Pennsylvania state legislature assigned lands to veterans as payment for their service. Two years later, the state signed the Treaty of Fort McIntosh with the remaining Native Americans, essentially opening much of western Pennsylvania to settlement as the Native Americans began moving west. In his "History of Beaver County, Pennsylvania, and its Centennial Celebration," author Joseph Bausman states that the Native Americans ceded all of this land for a sum of just \$2,000. Peace was not yet at hand, however, until



*The legacy of the 1792 town plan creates both large and intimate-scale settings. On 3<sup>rd</sup> Street, the original 100-foot wide right-of-way allows for diagonal parking in both directions and a center turning lane. On Insurance Street, the original 25-foot right-of-way creates an intimate-scale residential neighborhood. This block, south of 2<sup>nd</sup> Street, is one of the rare examples where both brick sidewalks and street paving have survived.*

General Anthony Wayne defeated the Native Americans in 1794, and signed a peace treaty the following year.

The state legislature continued to look west. An act by the Pennsylvania General Assembly in 1791 authorized the establishment of the community of Beaver. The following year Deputy Surveyor Daniel Leet completed a survey of the area, specifying a grid of streets at the confluence of the Beaver and Ohio Rivers. The plan included 8 “public” spaces (including four in the heart of the community), major streets having 100 foot rights of way and minor streets having 25 foot rights of way, and development lots. Though public, Beaver Borough purchased the last of these lands in 1834. In the ensuing years Beaver would expand only slightly beyond its original layout.

Fort McIntosh, meanwhile, was deactivated in 1791 and abandoned. Between 1784 and 1785, Fort McIntosh had been home to the First American Regiment, making it the first permanent peacetime home of the U.S. Army, except for two small detachments at Fort Pitt and West Point. This unit continues today as the Presidential Honor Guard, also known as “The Old Guard”, part of the 3rd Infantry Regiment. Remnants of the log fort can be seen along River Road, overlooking the Ohio River; several of its log and timber framing were reused in the construction of some of Beaver’s early houses.

### The County Seat

Beaver became the county seat in 1800 when the County of Beaver was formed out of Allegheny and Washington Counties, and was incorporated as a

Borough two years later. Court was first held here that year, in the house/tavern of Abner Lacock, who was also judge and later a U.S. Senator. The first court house was built in 1804, on one of the public lots laid out by Daniel Leet. A large Second Empire style courthouse opened in 1877, although it was destroyed by fire as the result of a painter’s torch igniting a bird nest in 1932. The current Art Deco style building was constructed in 1933. In 1912, just a few blocks east of the courthouse on Third Street, the borough constructed the Neo-Classical Revival style Beaver Borough Hall. By then Third Street had emerged as the major thoroughfare and center of commerce in the community.

### The Community Grows

Beaver grew slowly but steadily through the nineteenth century. From a few hundred residents in 1820, the population reached 2,350 by 1900 and by 1950 the population reached its zenith at 6,360. The greatest growth occurred between 1880 and 1930; today the population is estimated to be just under 4,400. To be sure, a county seat often contains an abundance of jobs and professions most other towns don’t offer, such as in the legal field. Unlike so many river towns in the Pittsburgh metropolitan area however, it was not job opportunities that drew and continue to draw people to Beaver. Beaver offered something different.

In 1870, the Pittsburgh and Erie Railroad opened a passenger station on the east side of town. Beaver’s residents could now commute daily to jobs in Pittsburgh. Moreover, Beaver’s location allowed the prevailing winds to keep the severe smog associated with the region in the late 1800s and much of the



*Water Lot, at the corner of 5<sup>th</sup> Street and Wayne Street, was the source of water to Beaver Borough from 1802-1886. Springs from the hills to the north supplied water to the surviving, vaulted-stone reservoir, from where water was piped via wooden pipes to the center of town.*



1900s away from town. As the area's industrial base grew during this time, requiring thousands of workers, Beaver offered an alternative location for its managers and executives to locate. It offered clean air, efficient transportation, and safe, quiet streets. Beaver was also convenient to other towns via a trolley and later the automobile. While freight or passenger service is no longer available at the former Pittsburgh and Erie line in Beaver, the former station buildings have been beautifully restored for use as a museum, events space, and local historic and genealogy research center.

Beaver's architecture reflects its transition from a small county seat to a bedroom community. Large and architecturally significant houses were built mainly in the eastern end of town, however fine residences and large, architecturally significant churches can be found throughout the borough. The

majority of the churches were constructed between 1890 and 1930, the period of rapid growth in the borough. Meanwhile, Third Street experienced the development of several commercial buildings, often built in the Italianate style, between Beaver and Insurance Streets. This compact area became Beaver's "downtown." Though altered significantly over the years, Beaver's "main street" conveys its commercial significance and to some degree its historic appearance. Downtown Beaver thrives, offering a variety of offerings the residents of Beaver, and elsewhere.

### **The Squares**

In 1792, Daniel Leet laid out Beaver as a rectangular grid having a central square with four additional squares near the corners of the rectangle, following the precedents of Philadelphia and Savannah.



*The Borough of Beaver was laid out in 1792 as a rectangular grid having a central square with four additional squares near the corners of the rectangle, following the precedents of Philadelphia and Savannah.*

Beaver's public squares are named after some of Beaver's most important residents or other influential people. The squares (some of which are called parks) have served as locations for the county seat, a cemetery, and a jail. They remained unnamed, however, until 1903, when local attorney and business leader, John M. Buchanan, suggested naming the squares after significant individuals.

The large square in the center of town, at the intersection of Market and Third Streets, is actually four squares. At the northwest quadrant of the intersection is Agnew Square, named for Pennsylvania Supreme Court Chief Justice Daniel Agnew, whose home once faced the square. The courthouse complex occupies the northern part of this square. Quay Square occupies the northeast quadrant, and is named for U.S. Senator Matthew Stanley Quay. He was a Medal of Honor recipient for actions during the Battle of Fredericksburg in the Civil War and a major figure in Pennsylvania and U.S. politics. (Quay's last residence at the corner of College Avenue and Second Street was declared a National Historic Landmark in 1976). Irvine Square, which occupies the southeast quadrant, is named for General William Irvine. The final quadrant, the southwest square, is named for General Lachlan McIntosh. Both Generals Irvine and McIntosh were associated with Fort McIntosh.

Clark Square is named for George Rogers Clark, who was a United States Commissioner at the time of the 1785 Treaty of Fort McIntosh. Bouquet Square honors Colonel Henry Bouquet, who led a 1763-1764 expedition against the Ohio Indians and traversed the area which later became Beaver. Wayne Square is named for General Anthony Wayne, whose forces were located nearby in the winter of 1792-3. Finally, in 1908, Linn Square was named for Robert P. Linn in 1980, who served as Beaver's mayor for than 50 years.

### **The Twenty-first Century – the Ideal Continues**

Beaver today is considered a "built-out" community, meaning that virtually all of its developable land has been built upon. Over time, the "in-lots" Daniel Leeks created between his grid street pattern were subdivided and developed as the larger lots envisioned (partly for agricultural needs) were no longer needed. With modern transportation systems expanding in the area in the early 1900s, and the use of automobiles grew, there was a lesser need for company executives and managers to locate here. Beaver, however, remained a place where people of all walks of life wanted to live. These factors in part



*View from 3<sup>rd</sup> Street, across Irvine Park to McIntosh Park on the right.*

led to the development of smaller houses and smaller lots. Prevailing architectural styles such as the Craftsman style enabled this to occur throughout the borough, but with little disruption to the overall small town community feel. This may have been in part due to the restrictions placed upon builders by the developers and later on, through borough ordinances. While Beaver does have several apartment complexes that were built in the latter part of the twentieth century, the majority of the housing here is single family. Beaver's grid street pattern, building restrictions including front-yard setbacks, and the mainly single-family residential make-up have helped preserve Beaver's "small town" feeling. Beaver's compact business district plus its many squares and parks have greatly augmented and contributed to this character.



## 2.2 ARCHITECTURAL STYLES IN THE HISTORIC DISTRICT

The Beaver Historic District is comprised of linear core of commercial and institutional buildings in a setting of green squares, flanked to the north and south by cohesive residential neighborhoods, all laid out on a rectangular grid. The cohesiveness of the residential streets is attributed to the consistency of house size, form, style, and materials, and to the repeated setting of tree-lined streets. Architecturally, some 85% of Beaver's historic resources date from the period 1850-1946, with late Victorian and early 20th century revival styles dominating the architecture of the historic district. Only 2% of surviving historic resources date from the first half of the 19th century. Numerous architectural styles are represented in the historic district, as follows.

### FEDERAL STYLE (NATIONALLY 1780-1820, VERNACULAR EXAMPLES TO MID-CENTURY)

The Federal style became popular after the American Revolution, and the style is found in abundance in communities that developed during the first half of the nineteenth century. Federal style buildings are relatively plain, rectilinear and box-like. They are generally oriented with side-gables, with their ridge lines parallel to the street. Windows, aligned vertically and horizontally, are double-hung, typically with six-over-six pane sashes. In Federal style buildings, cornices generally have a modest projection, and the principal ornamentation is lavished on the door surround, which often features pilasters, full classical entablature, and transom window.



*DiLorma Imbrie House, 722 Turnpike Street. This house has the basic side-gabled form of a classic Federal Style House, with added eave brackets and porch detailing of the Italianate Style.*

### GREEK REVIVAL (NATIONALLY 1818-1860)

The Greek Revival Style came into fashion in 1818, with the Second Bank of the United States in Philadelphia. Modeled after the ancient Greek temple and introduced from Great Britain, the most distinguishing feature of the Greek Revival in America was the temple form with its pedimented (triangular) gable front, 30-degree pitch roof, and large classical columns supporting a portico roof. When applied on a residential scale, the Greek Revival was often manifest as distinctive door surrounds, pedimented porches or front gables, and trim profiles.



*901 5th Street. The low-pitched gable roof, simple entry porch supported by square columns, and narrow transom and sidelights are characteristic of the Greek Revival style.*

### ITALIANATE STYLE (NATIONALLY 1837-1890)

The Italianate style appeared in America circa 1837 as a residential style. Although high-style examples of Italianate "villas" are uncommon, the vocabulary of the Italianate is everywhere in American cities, towns, and villages from the second half of the nineteenth century. In Beaver, Italianate Style houses are built in wood frame with clapboard siding and brick with wood trim. Commercial buildings were often designed as simple brick boxes with Italianate-style cornice and storefront. Italianate exterior woodwork was also applied to earlier buildings at times, and was blended with other styles on a single building.





652 Bank Street. A carefully restored Italianate Style dwelling with a carefully-considered period color scheme.

### GOthic REVIVAL (NATIONALLY 1800-1880)

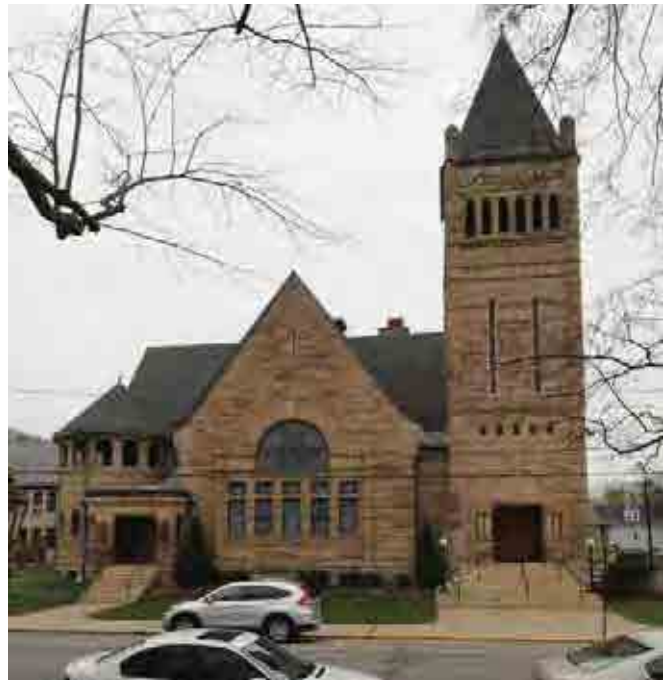
The Gothic Revival style was a favored style for religious buildings. Residentially, the Gothic Revival style featured steeply pitched roofs with deep overhangs, centered or paired cross gables, decorated barge boards and ornamental trusses at the gables, and elaborate one-story porches.



Park Presbyterian Church, Commerce Street. An example of Gothic Revival, built of brownstone masonry.

### ROMANESQUE REVIVAL (NATIONALLY 1850-1890)

Romanesque Revival architecture is identified by its use of the semi-circular arch for window and door openings. Walls are typically masonry and façades are often flanked by square or polygonal towers of different heights. Examples are often ecclesiastical buildings, as seen in Beaver at the First Presbyterian Church on College Avenue.



First Presbyterian Church, 1890, College Avenue, a monumental example of the Romanesque Revival Style.

### FRENCH SECOND EMPIRE (NATIONALLY 1865-1890)

The French Second Empire emulated forms developed during Napoleon III's reign (1852-1879). The primary feature of American versions of this robust style was the "Mansard" roof which makes full use of the attic space. It does this by wrapping the



653 2nd Street. A textbook example of the French Second Empire Style.

attic floor height with a short, steep, vertical or curved, hip roof, capped by a flat or near-flat central roof. Sizable window dormers open the attic for air and light. French Second Empire structures sometimes shared the general proportions of the Italianate style and the use of the larger window panes available after the Civil War, notably 1-over-1, double-hung sash. Buildings were often decorated with brackets and other ornamental forms cut out of flat wood. A textbook example of the French Second Empire style is 653 2nd Street.

### **QUEEN ANNE REVIVAL (NATIONALLY 1875-1890)**

The Queen Anne Revival started in England as a highly imaginative adaption of the late seventeenth century, into larger, richly textured, highly decorated houses of complex shapes. The American examples were perhaps less literal and more fluid, but used similar methods to achieve the overall picturesque effect. There are numerous Queen Anne Revival Style houses in Beaver, most evident by their wrapping porches and corner turrets.



*404 Bank Street, an example of the Queen Anne Revival Style.*

### **COLONIAL REVIVAL STYLE (NATIONALLY 1880-1955, ARGUABLY TO THE PRESENT)**

The Colonial Revival Style grew out of the Centennial Exhibition of 1876, and flourished for numerous building types in the first half of the twentieth century. The style was based on colonial building forms, but elements were enlarged, accentuated, and combined in new ways. In Beaver, Colonial Revival forms include side-gabled houses, hipped-roof houses, and gambrel-roofed houses.



*Colonial Revival Style house with side gable and roof dormers.*

### **AMERICAN FOUR-SQUARE (NATIONALLY 1880-1930)**

The American Four-Square Plan, which was a two-story plan featuring four rooms per floor, is plentiful in Beaver. Characteristic of the style is a pronounced pyramidal (hipped) roof, dormers, tall chimneys, and a front porch. Several are best described as Colonial Revival Style houses with an American Four-Square Plan.



*American Foursquare Plan houses are found throughout the Borough.*

### **DUTCH COLONIAL REVIVAL STYLE (NATIONALLY 1900-1930)**

A variant of the Colonial Revival Style, the Dutch Colonial Revival Style is recognized by its gambrel roof form, shed dormers, and typically modest size.





*Dutch Colonial Revival Style houses were built in brick and wood clapboarding, as seen at 340 River Road.*

### **TUDOR REVIVAL (1890-1940)**

The Tudor revival style was largely a residential style. It employed steeply pitched roofs, and prominent end gables, and often featured cross gables. Exterior walls were sometimes decorated with applied half-timbering, and windows were typically casement (and often steel), sometimes with leaded glass panels. The style also features prominent chimneys and rustic board doors with wrought iron hardware.



*225 College Avenue, Residence of Arthur Mayer, and one of several Tudor Revival Style houses in the borough that were designed by John H. Craner.*

### **BUNGALOW (1905-1930)**

The bungalow style, also called the craftsman style, was exclusively a residential design. Characterized by a low-pitched, gable roof with deep overhangs and ornamental projecting eave brackets or rafter extensions, bungalows typically featured deep porches with heavy columns.



*Bungalow Style houses are distributed throughout the Historic District.*

### **20<sup>TH</sup> CENTURY COMMERCIAL (1900-1940)**

Generally following the eclectic designs of large office and other commercial buildings from the first half of the twentieth century, this style features large metal-and-glass storefront windows and wide office windows above.

### **MINIMAL TRADITIONAL (NATIONALLY 1935-1950)**

The most common Minimal Traditional Style houses are Cape Cods, usually simple one- or one-and-one-half story side-gabled house, sometimes with a small cross gable entrance vestibule.



*Third Street contains a mix of late 19th century styles such as Italianate, Early 20th Century Commercial Style, late 20th century highway commercial, and contemporary commercial.*

# Qualities of Historic Architecture

Introduction  
Building Materials  
Massing  
Order  
Proportion  
Rhythm  
Scale

## 3.1 INTRODUCTION

Architectural styles contribute to the richness and understanding of Beaver's historic district. While the uniform size, spacing, setbacks, and materials of houses are the primary character-defining qualities of the borough, architectural style and house form go hand-in-hand in Beaver. A two-story brick house with a hipped roof and front porch takes its form from the American Four-Square Plan Style. One-and-a-half story gambrel-roof houses are consistently Dutch Colonial Revival Style. One-and-a-half story houses with a low-pitched roof, deep eaves parallel to the street, and a deep porch supported by heavy columns occur only in the Bungalow Style, and so forth. And so, unlike rowhouse communities and communities from the first half of the nineteenth century, in which stylistic elements were added to masonry or wood frame "building blocks," house form and architectural style are integral in Beaver. In contrast to the residential architecture, pre-1950 commercial buildings along 3rd Street typically follow the norm of masonry blocks with applied stylistic ornamentation, although sometimes with great flourish.

To preserve an individual building, the architectural character and stylistic elements of the building must be identified and either maintained or restored. To preserve a historic district, the architectural character of each proposed new structure and addition must be compatible with neighboring historic buildings. The architectural character of a building refers to the qualities of massing, scale, proportion, order, rhythm, and materials. These qualities are related first to the architectural form of the building and secondly to the stylistic elements of buildings. Each application for a change to an existing building or for a new building should be evaluated using these qualities, which are defined in this chapter.

## 3.2 BUILDING MATERIALS

The historic buildings of Beaver Historic District were constructed of traditional building materials, including wood, brick, and stone. Larger buildings, including churches, schools, government buildings, and commercial buildings, were stone and brick, while dwellings were wood frame and clapboard, brick-faced, and for a small number, stucco and half-timbered finishes.

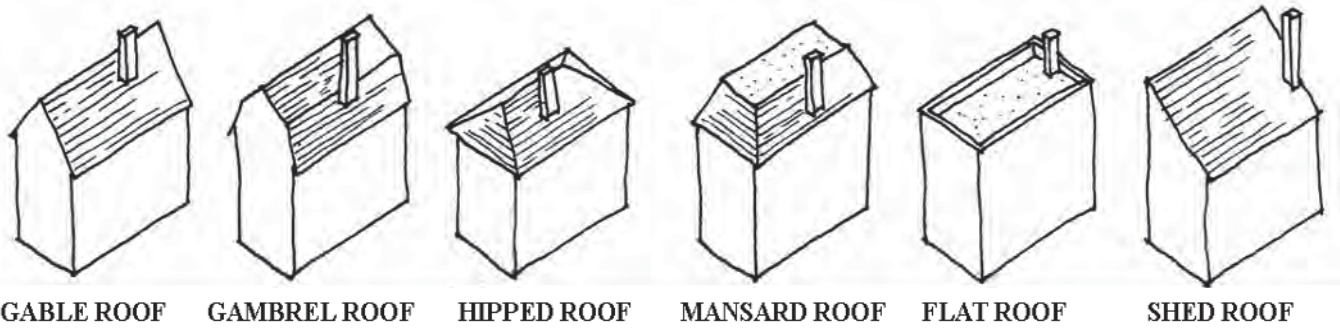


*Ironspot brick is one of the most distinctive materials in the historic district. At 951 4th Street, custom brick shapes and bonding patterns are used to highly decorative effect.*

## 3.3 MASSING

Massing, also referred to as architectural form, is the overall volumetric shape of a building. The massing of a building may be described as large or small, simple or complex. The massing of a building is defined by the volume formed by the exterior walls, roof shape, and appendages such as porches, projecting bays, towers, dormers, and cupolas. In a historic district, massing is the single most important characteristic to consider in the evaluation of proposed additions and new construction. A large new building set in a context of uniform-size, smaller, historic building





*The roof form contributes to the volumetric shape of a building. All of these roof shapes may be found in Beaver.*



*The massing of the Beaver United Methodist Church on College Avenue may be described as complex, with several geometric volumes that are skillfully integrated.*

blocks is visually disruptive because the continuity of the historical pattern is broken. Roof forms in a residential streetscape are highly visible and contribute significantly to the shape of a building.

### 3.4 ORDER

Order in architecture is the arrangement and relationship of parts of a building. A symmetrical building façade — one where a center door is flanked by an equal number of windows on each side of the door — is highly ordered. The front façade of 476 Beaver Street is symmetrical and clearly ordered. Windows that align vertically are ordered; their placement is based on a rational structural and visual order. An asymmetrical façade is less formal than a symmetrical façade.

### 3.5 PROPORTION

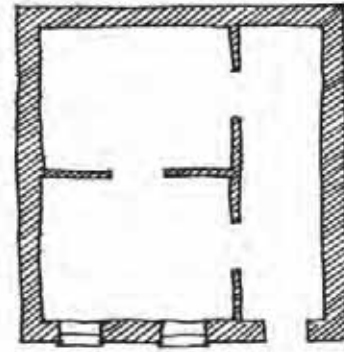
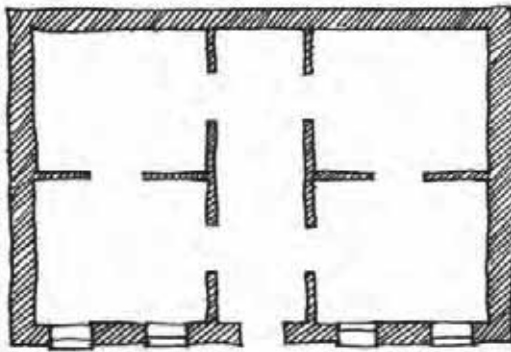
Proportion in architecture is the relationship among the dimensions of the various building elements and the individual features to each other. Architectural



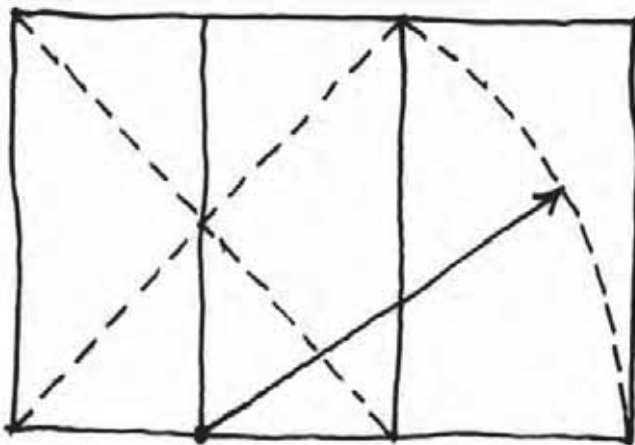
*476 Beaver Street. Best described as a Colonial Revival Four-Square Plan house, the façade is symmetrical and ordered. Note also the unique use of coursed limestone wall material.*



*Analysis of a three-story commercial building façade showing the repeated proportions in façade elements, beginning with the overall façade and carried down to the proportions of individual glass panes. (Geometrically, when the diagonals of rectangles are parallel, the rectangles are proportional.)*



*The center-hall plan house, with its symmetrical façade, is highly ordered. The side-hall plan house, although lacking a symmetrical façade, is also a formal, ordered plan-type in which the doors and windows of the front façade are uniformly spaced and directly related to the floor plan inside the building.*

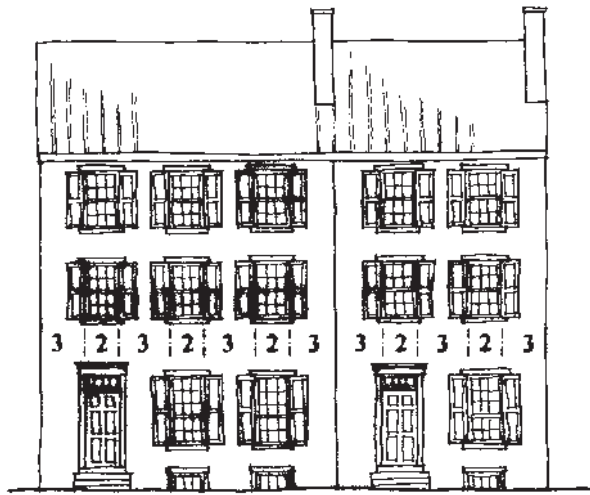


*The Golden Section formed by arcing the diagonal of half a square, creates a ratio of about 5:8. This shape recurs in western art and architecture.*

harmony is achieved in a building façade when façade elements are proportional to each other and to the overall façade. "The purpose of proportion is to establish harmony throughout the structure - a harmony which is made comprehensible either by the conspicuous use of one or more of the [classical] orders as dominant components or else simply by the use of dimensions involving the repetition of simple ratios." (John Summerson, *The Classical Language of Architecture*, Cambridge, MA: MIT Press, 1963, page 8.)

One of the oldest systems of proportion was the Golden Section, which was devised in ancient Greece. The Golden Section is a rectangle with a width to length ratio of about 5:8, proportions that are an ideal ratio in western art and architecture.

In architecture, the use of repeated proportions creates a harmony in a building façade. The overall proportions of the façade are repeated in façade elements such as doors and windows.



*The spacing of window and wall on a façade creates a rhythm that repeats itself from building to building. The spacing of buildings along a street also creates a rhythm.*

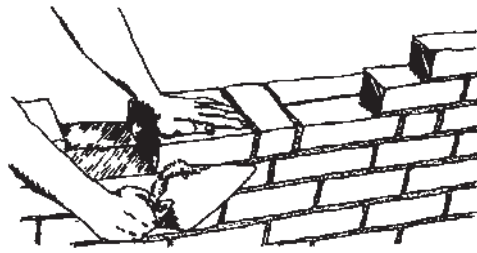
### 3.6 RHYTHM

Rhythm in architecture is the pattern and spacing of repeating elements such as windows, columns, arches, and other façade elements. Almost all buildings are made of elements that repeat themselves — alternating vertical bands of brick wall and windows, alternating horizontal bands of brick wall and windows, for example. The spacing of buildings in a historic streetscape also creates a rhythm.

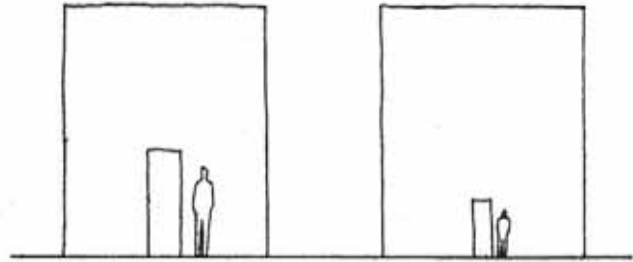
### 3.7 SCALE

Scale in architecture is a measure of the relative size of a building or building component in relation to a known unit of measure or customary size for such a component. A person evaluates how large a building or building component is in relation to the human body size and his or her memory of the expected size for such a component. For example, a sense of the size of a wood-frame building can be established because of the width of a clapboard, which is usually about 5 inches. Doors and windows are scale-giving features on all buildings. Residential doors are typically slightly higher than the height of a tall person, or roughly seven feet high. Double-hung sash windows in historic buildings are typically five or six feet tall, the height of an average size person. If the size or shape of a familiar building component diverges from the expected, it may be said to be “out of scale.”

The principle of scale applies both to individual buildings and to streetscapes. In a village setting,



*The common brick is scaled to the human hand.*



*The scale of a building refers to its size and the size of building components relative to the size of a human. In a building of monumental scale, such as a large courthouse, a human is dwarfed in comparison to the size of the building and its elements. We use scale to estimate the size of a building or building element. In both diagrams, the door appears to be slightly taller than a human form, say 7 feet. With that assumption, the wall in the left diagram may be estimated as slightly higher than 2 times the door height, while in the right diagram, the wall is several times as high as the door opening.*

where each building forms part of a larger streetscape, building scale is of paramount importance. In the hierarchy of social order in a community, prominent buildings such as churches, civic buildings, and any “mansions” differentiate themselves by contrasting with the predominating building form. The perceived scale of any proposed building or addition is a function of 1) the overall size of the proposed new construction relative to existing building sizes, and 2) the visual relationship of building façade elements in the new construction relative to the visual relationship of building façade elements in existing buildings.

Outdoor spaces — formed by the buildings, fences, fields, and vegetation that surround them — also have scale.



# *Guidelines for Preserving Historic Buildings*

## **4.1 GENERAL GUIDELINES FOR PRESERVING HISTORIC BUILDINGS**

The following guidelines are applicable to all contributing historic buildings within the Beaver Historic District, including outbuildings such as carriage houses and garages.

### **4.1.1 BUILDING CHANGES**

Significant changes to a historic building take place over time and are evidence of its history. Significant changes are defined as those that took place within the period of significance of the historic district. Such changes reflect the evolution of the building to accommodate evolving owner needs and changes in lifestyle or technology. Historically significant changes should be preserved.

### **4.1.2 DETERIORATED AND MISSING COMPONENTS**

Deteriorated or missing significant architectural components should be replaced or recreated with materials that replicate the historic design, color, texture, and other visual qualities of the components. Replicate components should generally be fabricated from traditional materials. However, for painted woodwork, substitute materials that are field-painted, such as plastic composites and solid PVC, may be employed. For missing components, efforts should be made to determine the original design of the component through physical evidence or historic pictorial evidence of the building. If the original design is unknown, a component that is appropriate to the type and style of the building's architecture should be used.

### **4.1.3 IMMEDIATE NEIGHBORHOOD**

In planning for an alteration, addition, or new building, the immediate neighborhood of the property



*Parish Hall addition to Park Presbyterian Church. Parish halls and school additions were added to Beaver's oldest churches, and are a significant part of their character.*

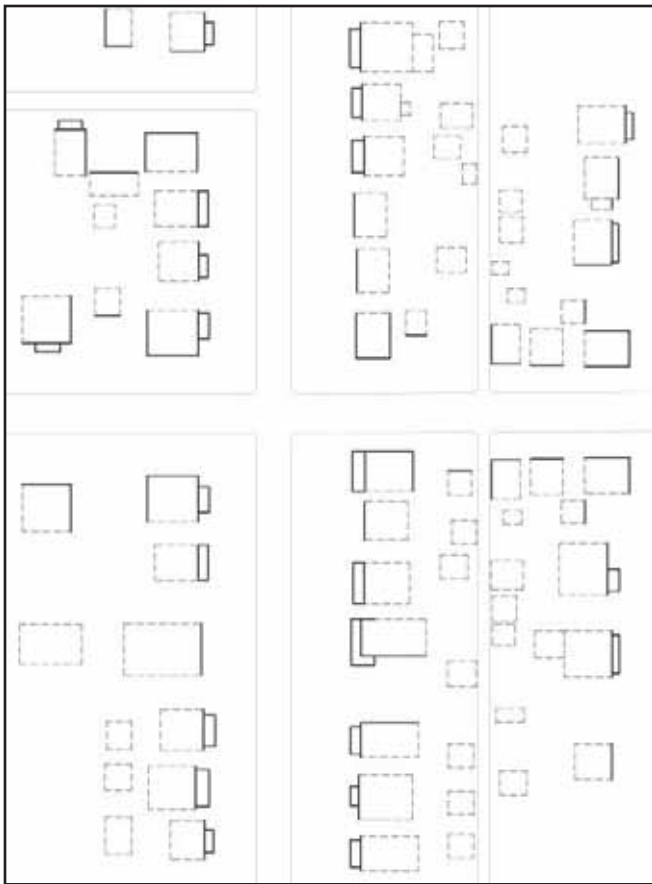
should be considered the context for the design. The immediate neighborhood is defined as the buildings flanking the subject property (building) and the three buildings across the street.

### **4.1.4 PRIMARY FAÇADES**

In planning for an alteration, addition, or new building, primary facades, which are most visible, to the public should receive the highest level of design treatment and detail. A primary façade includes the front and highly visible side façade of a building. A secondary façade includes a rear façade and nominally visible side façade.

### **4.1.5 PRESERVING ARCHITECTURAL CHARACTER**

The historic architectural character of structures should be maintained or restored. Proposed repairs and changes to historic structures should not reduce the integrity of a structure nor result in the loss of repairable historic building fabric.



*Façades that face or are visible from a main street are considered principal (indicated with a solid line) while façades that face the interior of lots and alleys are considered secondary (indicated with a dashed line).*



*Diagram of “immediate neighborhood” for a mid-block and a corner location.*

#### 4.1.6 REVERSIBILITY

Proposed changes to historic buildings should be reversible whenever possible. Applying stucco over stone masonry is not recommended for several reasons, including the fact that the removal of stucco is extremely difficult if not irreversible. For severely deteriorated windows, it is recommended to replace only the sashes while restoring the frames in place because the retained frames allow a future property owner to reconstruct the original appearance of the windows.

#### 4.1.7 REPAIR AND RESTORATION VERSUS REPLACEMENT

It is recommended that existing original materials and significant components be retained wherever possible by stabilizing, repairing, or matching them with compatible new materials rather than by replacing them. If, due to severe deterioration or loss, historic

components must be replaced, new components should replicate the profiles, dimensions, and material of the original components. The historic architectural character of structures should be maintained or restored. Proposed repairs and changes to historic structures should not reduce the integrity of a structure nor result in the loss of repairable historic building fabric.

#### 4.2 SPECIFIC GUIDELINES FOR PRESERVING HISTORIC BUILDINGS

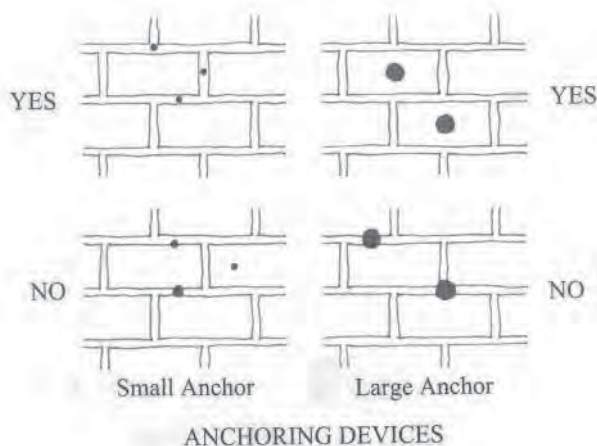
The following guidelines apply to major maintenance, repairs, and restoration of existing, contributing buildings in the Beaver Historic District, and are based on the *Secretary of the Interior’s Standards for Rehabilitation* (see Appendix). The following specific guidelines are listed in alphabetical order.



*Sequence of restoration of a severely deteriorated cornice return. The crown molding was custom-cut for the project, a procedure that requires scheduling but does not add significantly to the repair cost.*

#### 4.2.1 ANCHORING DEVICES

When attaching new items such as signs, sign brackets, light fixtures, door bells, security equipment, building identification numerals, awnings, flagpole brackets, and other devices to existing historic building materials, care should be taken to minimize permanent damage to the historic building materials. Attachment to plain wood surfaces is preferable to attachment to masonry, because at a future date when the item is no longer required, the anchor or fastener can be removed and the resultant hole patched and repainted without harm. When



*Anchoring devices for the support of signs and other wall-mounted items should be anchored with minimal damage to historic wall materials. In masonry walls, small anchors should be inserted in the mortar joints, while large anchors should be held back from the mortar joint, not overlapping the joint.*

attachment to brick or stone masonry walls is necessary, non-rusting anchors should be embedded in mortar joints wherever the joint width accepts the anchor without damaging the edges of the masonry unit. When existing mortar joints are less than 3/8 inch wide joints, anchors should be embedded in the stone or brick unit at least 1 inch away from the mortar joint to prevent damaging two stones or bricks at each anchor.

#### 4.2.2 AWNINGS

Awnings should be appropriate to the design of the storefront or building façade. Awnings traditionally provided protection from the weather and shaded porches and windows from direct sunlight. New awnings should be designed to relate to the architecture of the storefront or building façade. Building features such as arched transom windows should not be obscured by the awning design. Awnings should be constructed of suitable fabrics supported by metal frames. Fabric design should be striped or solid color, using colors appropriate to the period of the building, and should avoid non-traditional effects. Awnings should not be internally illuminated.



*184 Taylor Ave: Canvas awnings for porches and windows were a common site before the era of air conditioning.*



*Canvas awnings are a traditional way of providing sun and rain protection to storefront windows and doors.*



### 4.2.3 DOORS AND DOOR HARDWARE, HISTORIC

Historic doors should be preserved by means of repair and restoration. Unique features such as leaded glass, fanlights, and sidelights should also be preserved. Where the severity of door deterioration dictates replacement, new units should match the historic units in design, dimensions, and pane configurations.

Where historic wood exterior doors are severely deteriorated or missing, replacement doors are appropriate. Options for replacing historic wood exterior doors include the following:

- Replace with replicate, custom-size wood door. Custom wood doors are readily available from architectural woodworking shops.
- Replace with stock wood door of same dimensions and similar design. This option is recommended only when available stock wood doors can be fitted to existing door openings.
- Replace with stock fiberglass or composite door of same dimensions and similar design. Similar to a replacement stock wood door, this option is recommended only when available stock fiberglass or composite doors can be fitted to existing door openings.
- Not recommended: Insulated steel door and frame; pre-hung wood or fiberglass door and frame set in existing opening.

Visible door hardware should be compatible with the architectural character of the building. The preservation and repair of historic door hardware is encouraged. Buzzers, intercoms, and mailboxes should be selected and located to have minimum visual impact on building entrances.

### 4.2.4 DOORS, STORM AND SCREEN

The paneled front door was a symbol of hospitality and security. When a storm door is required to further protect the front door opening, the storm door design should be simple and should allow the historic door to be visible. While wood storm and screen doors are preferred, simple aluminum doors that are finished with a baked enamel finish matching the historic wood door paint color are also acceptable. Scalloped edges and cross-buck patterns on aluminum storm doors are not recommended.



*Wood storm doors that allow a view of the historic paneled wood door(s) are most compatible with a historic house. Note also a rare example of paneled shutters on the first floor louvers on the second.*



*When a storm door is required to further protect the front door opening, the storm door design should be simple and should allow the historic door to be visible. While wood storm and screen doors are preferred, simple aluminum doors that are finished with a baked enamel finish are also acceptable. Scalloped edges and cross-buck patterns on aluminum storm doors are not appropriate.*

### 4.2.5 EQUIPMENT, BANKING AND VENDING MACHINES

Automatic teller machines (ATMs) mounted on primary façades of buildings within the historic district are not recommended. Efforts should be taken to mount ATM machines on secondary façades whenever possible. The machine should be mounted to cause the least amount of destruction to original building materials. Where possible, the ATM machine may be mounted in a panel that fills a first floor window opening or is integrated into the storefront window pattern.



*ATM machines should be installed in existing masonry openings so that the installation is reversible.*

The machines should be lit using the least obtrusive light fixtures possible while still ensuring customer safety.

Vending machines installed in the public view are not recommended in the historic district.

#### 4.2.6 LIGHTING, EXTERIOR

Where historic light fixtures survive, they should be preserved. Reproduction exterior light fixtures on historic structures should be documented as compatible with the historic period of the structure and in scale with the building. Polished brass, “colonial style,” and other overly ornamental light fixtures are not recommended for the primary façades of historic buildings. For historic periods before electric lighting (pre-1879), a concealed electric light source, or a very simple, clearly modern fixture is encouraged. A reproduction fixture from the wrong period is not recommended. If exposed conduit cannot be avoided, it should be painted to match the background material on which it is mounted. In addition to these guidelines, all new lighting is required to comply with the Beaver lighting ordinance, which requires cutoff fixtures and regulates glare. Exterior floodlights and spotlights should be avoided on principal façades. Lighting for signage on historic buildings should be inconspicuous and should be restricted to reasonably low light levels. Yard lighting and parking lot lighting should be post-mounted on maximum 12-foot high posts, or mounted on a secondary façade. High efficiency light fixtures that produce yellowish or pinkish light are not appropriate at highly visible locations.



*Projecting gooseneck lights fixtures illuminate the store-fronts without glare. The period form of the fixtures contributes to the character of the retail establishment during the daytime as well as after dark.*

#### 4.2.7 MASONRY - CLEANING

Cleaning of historic brick, stone, and terra cotta masonry should be done using the gentlest methods possible. Destructive techniques such as sandblasting, harsh chemical cleaning, and high-pressure water washing are not recommended. Water washing, with or without mild detergent cleaners, is generally effective and safe for historic masonry surfaces. Water pressure should be limited to 600 pounds per square inch (PSI), using a 15 degree spray tip held 6 inches from the masonry surface. Specialty cleaners may be required for the most tenacious stains, but are only recommended for application by highly-skilled historic masonry cleaning contractors. Muriatic acid is never appropriate for cleaning historic masonry.

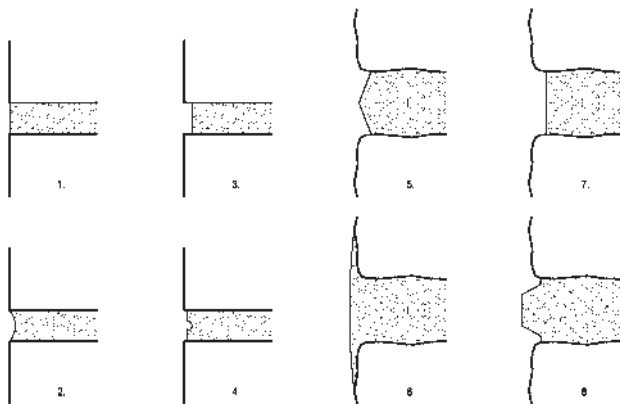
#### 4.2.8 MASONRY - PAINT REMOVAL

Generally, the complete removal of paint from historic masonry is not appropriate. Historically, masonry buildings were painted only if the exposed masonry units could not withstand exposure to the weather and were deteriorating. If, during a restoration project, an owner desires to remove paint from stone or brick walls, a test panel must be conducted to assess the condition of the original stone or brick below and to confirm that the masonry below will not be damaged by the paint removal process. If the building has been painted for several decades, an owner may elect to repaint the structure. Dry-grit blast cleaning (sandblasting) is never recommended,

because it causes irreversible damage to historic masonry surfaces. Paint removal should be accomplished using an environmentally-friendly paint stripper. If the paint coating is pre-1972, it should be removed using a chemical system in which the applied paint stripper is covered with a laminated paper sheet and the stripper and sheeting are removed together.

#### 4.2.9 MASONRY REPOINTING

Historic masonry requires maintenance to be preserved. Natural stone and brick vary in hardness and durability, but generally have a long service life, while mortar joints deteriorate and require periodic renewal. Where repointing is required, care should be taken to ensure that the stone or brick is not damaged in the process of removing deteriorated pointing. For wall areas to be 100% repointed, the new mortar should match the color, texture, and tooling of the original mortar, not the appearance of the surface dirt on weathered pointing. For spot pointing, new mortar should match the darkened color of surrounding mortar. For brickwork, the new pointing should be slightly recessed, struck flat, joint profile 3), unless there is evidence for an original recessed or grapevine joint profile. For stonework, the profile of new pointing should match the profile of original pointing. Deeply struck (recessed) and concave joint profiles are generally not appropriate, except where replicating twentieth-century pointing. For brickwork, the slight recess is important, however, to prevent the mortar from smearing onto the face of the bricks, resulting in an enlarged joint width that is both unsightly and historically inappropriate.



*New mortar joint profiles should match the pattern of original pointing. Brick joint profiles shown are 1) flush, 2) concave, 3) slightly recessed – struck flat, and 4) scribed. Stone joint profiles shown are 5) shallow raised ridge, 6) parge pointing (appropriate only where matching existing parge pointing), 7) slightly recessed – struck flat, and 8) raised ribbon.*

New pointing should not have a high Portland cement content. Mortars rich in Portland cement are harder and less permeable than historic masonry units, causing damage to the historic brick or stone. Recommended repointing mortar mixes for buildings in the historic district are dependent on specific conditions at each building, including the type and quality of the stone or brick, the mortar joint profile, and the condition and appearance of existing mortar. Although specific conditions may indicate a softer mortar mix, the following mixes are generally appropriate for historic masonry in good condition. It is recommended that a small test panel of repointing

##### **Historic stone and brick walls:**

1 part by volume white Portland cement  
2 parts by volume hydrated lime  
6 parts by volume selected sand.

##### **Historic stone and brick chimneys:**

1 part by volume white Portland cement  
1 part by volume hydrated lime  
5 parts by volume selected sand



*Recent raised-bead profile, tinted pointing at Park Presbyterian Church exhibits a high degree of workmanship.*



*Ochre-color mortar was typically used for pointing the characteristic iron-spot brick of Beaver, while a tannish mortar in a raised-bead profile was used on the tan sandstone foundation walls.*



be reviewed by members of the HARB and the owner to confirm the appropriateness of the mortar removal technique (joint raking), mortar color, joint profile, and workmanship.

#### 4.2.10 MECHANICAL, ELECTRICAL, AND COMMUNICATIONS EQUIPMENT

The mounting of ventilation louvers, registers, exhaust fans, alarm devices, cable boxes, utility meters, satellite dishes, security cameras, and other mechanical, electronic, and electrical devices is not recommended on primary façades. To minimize their visual impact, devices mounted on secondary façades should either be painted to match the color of the material on which they are mounted or screened by landscaping. Rooftop mechanical equipment should not be visible from a public way. If this is not possible, equipment should be screened with wood lattice, louvers or vertical-board screening. Electrical, cable and telephone services should be placed underground whenever possible. Window-mounted air conditioning units are not recommended on a primary façade. If unavoidable, they should be removed during off-season or installed only on secondary façade. Air conditioning condenser units should be screened from public view.



*Installation of a stainless steel flue outside of a chimney is not appropriate in the historic district.*

#### 4.2.11 OPENINGS (NEW) IN EXISTING WALLS

Creating new openings in a principal façade is not recommended. Proposed new openings in walls should be compatible with the historic character of the building, and should follow the existing rhythm, proportions, and scale of the façade.

#### 4.2.12 PORCHES

Historic porches are important character-defining features in the Historic District. On primary façades, the original materials, configurations, details, and dimensions of a historic porch or stoop should be preserved or restored. Where components are severely deteriorated and require replacement, new components should be similar to the original in dimensions, design, and painted finish.

In recent years, synthetic wood railing systems, porch columns, ceilings, and trim have made significant improvements in representing and replicating traditional exterior woodwork, including porch components. Early vinyl railing systems, with their exposed fasteners, gloss-white finish, and non-historic profiles, poorly represented traditional railings. Since then, the most advanced solid PVC and composite products have solved the problems of color, finish, exposed fasteners, and profiles. As a result, except in the case of very elaborate historic architectural woodwork, synthetic wood products with a satin gloss finish may be appropriate, but standard vinyl railing systems and railings fabricated from unpainted pressure-treated wood are not recommended.

Porch flooring was traditionally painted wood, fabricated with tongue-and-groove board edges to lay flat. With fewer rot-resistant wood options available, as well as fewer coating options because of VOC restrictions, synthetic wood options now dominate the market. Vertical grain, tongue-and-groove Douglas fir or mahogany with a painted finish remain the preferred porch flooring option for historic houses. However, solid synthetic wood (PVC) porch flooring fabricated with tongue-and-groove edges is also a viable solution, depending on the significance of the building and its visual prominence. Spaced boards – whether wood or synthetic wood – are not recommended for porch floors, and pressure-treated wood decking also is not recommended.

The open area between a porch deck and the ground is referred to as the skirting. Typically, skirting is a lattice of thin wood strips set in a wood frame and



*Porches are important design elements on historic houses in Beaver. Not only do they reinforce a sense of hospitality and community by creating semi-private outdoor space on the front of each property, they also break down the bulk of the 2-1/2 story Colonial Revival and American Four-Square Plan houses by placing an open one-story “step” on the front of each house. Composite decking with spaces between boards is not recommended.*



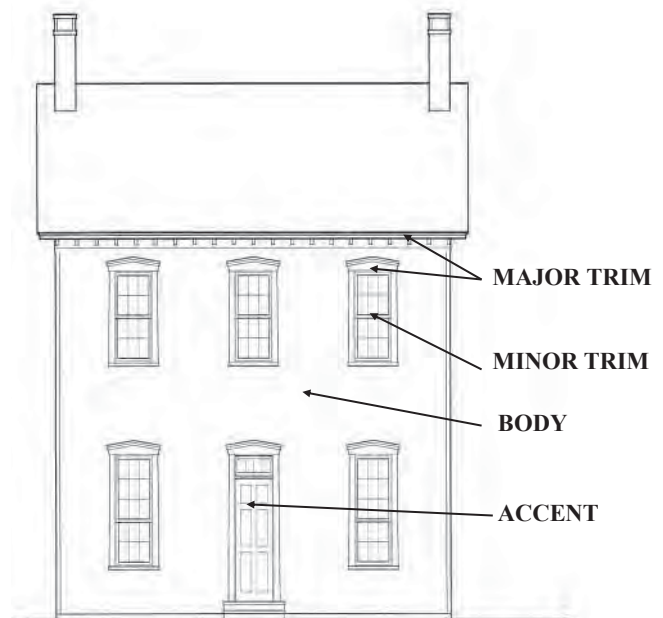
*Because of the frequency of generous porches in Beaver, several have been enclosed to form occupied rooms. Enclosing historic porches is not recommended because the open porch was a symbol of hospitality and community that is entirely lost when enclosed.*

fitted between masonry porch piers. Existing wood skirting should be repaired or replicated. Where missing, new skirting should be fabricated in a square or diagonal pattern from painted wood or synthetic wood. Plastic lattice panels are not recommended.

Enclosing historic porches is not recommended because the historic porch was a symbol of hospitality and community that is entirely lost when enclosed.

#### 4.2.13 PAINT COLORS AND COLOR SCHEMES

Exterior colors and color schemes should be consistent with the architectural style and period of the building. When a historic building is repainted, the removal of all paint layers to bare wood is not generally recommended. Except for heavily



*Paint color schemes for historic buildings should be organized according to body color, major trim color, minor trim color, and accent color.*



weathered paint, scraping off loose material in preparation for new coats of paint is sufficient. Unpainted masonry surfaces generally should not be painted. Painted masonry surfaces generally should remain painted. (See 4.2.8 Masonry - Paint Removal).

On commercial buildings, the paint scheme for the entire building should be coordinated, including building cornice, upper-floor windows and shutters, storefront, and doors. Storefronts should not be repainted without taking into account the color scheme and condition of paint on the entire façade.

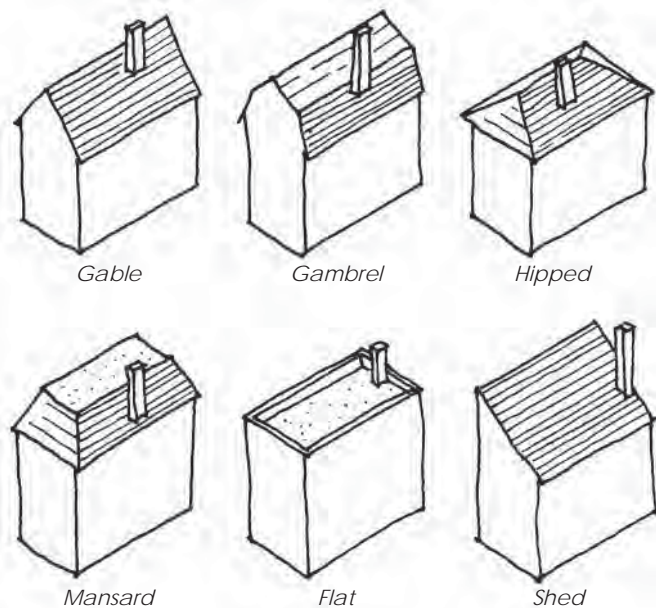
#### 4.2.14 ROOFING - GENERAL, HISTORIC

Significant historic roofing materials and features should be preserved. Where the material is too deteriorated and replacement is necessary, best practice encourages that new roofing materials should replicate the original roofing material used on the historic building. Typical historic roofing materials used on sloping roofs in Beaver were slate shingles and standing-seam metal, although most original roofing has been replaced with asphalt shingle roofing.

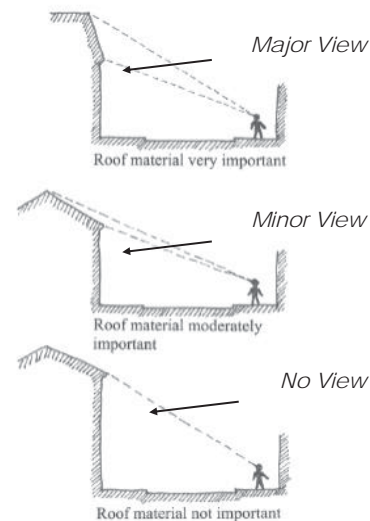
The prominence of the roof and the height and angle of the roof as seen by a pedestrian or from a passing automobile make the roofing material more important on some buildings than on others. The roofing material used on a sloping porch roof or storefront cornice that is near to the viewer is visually very important. In contrast, a shallow pitch (i.e. 3-in-12 or less slope) gable roof on a three-story building may not be visible from a public way and therefore is not visually important.

#### 4.2.15 ROOF FEATURES - HISTORIC CHIMNEYS

Historic chimneys are significant components of a building's architectural character and should be preserved. A replacement chimney should be an accurate reproduction of an original chimney and should be based on physical or pictorial evidence. Although historic chimneys were frequently finished with stucco as a maintenance measure, the treatment is not recommended. Where an interior chimney is removed as part of a proposed alteration, best practice recommends that the exterior portion of the chimney should be preserved or reconstructed to retain the historical appearance of the structure.



*Common roof forms found on historic buildings.*



*The prominence of a roof and the height and angle of the roof when seen by a pedestrian are important factors when selecting an appropriate replacement roofing material.*



*With their hipped roofs and perimeter chimney locations, Four-Square Plan houses feature prominent chimneys. Although some chimneys have disappeared, most have survived and are well-maintained.*



*In Beaver, the Tudor Revival Style houses designed by John H. Craner feature remarkably detailed chimneys that are in an excellent state of preservation.*

#### 4.2.16 ROOF FEATURES – HISTORIC CORNICES

Historic cornices are significant components of a building's architectural character and should be preserved. A replacement cornice should be an accurate reproduction of an original cornice and should be based on physical or pictorial evidence. Wrapping cornices in aluminum to eliminate painting is not recommended.

#### 4.2.17 ROOF FEATURES - HISTORIC DORMERS AND CUPOLAS

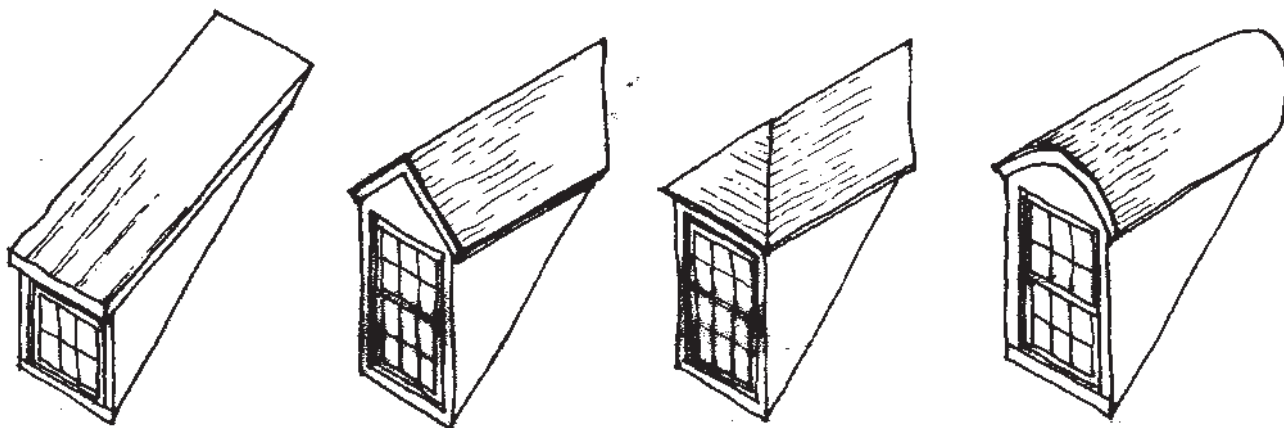
Historic dormers and cupolas should be preserved. If physical and pictorial evidence proves that either dormers or cupolas originally existed on a building, the reconstruction of the original feature is recommended.

The construction of new dormers or a cupola on any principal façade of an existing building is not recommended, except where historic dormers already exist in the immediate neighborhood. An application for new dormers should include photos of neighborhood buildings to support the placement, spacing, rhythm, size and type of new dormers.

Prefabricated ventilators or cupolas are not recommended within the historic district where visible from a public way.

#### 4.2.18 ROOFING - ASPHALT SHINGLES

Invented in America in 1901, most single-family houses built post-war in the United States have asphalt shingle roofing. During this same post-war



*Types of dormer forms, from left to right: shed dormer, gabled dormer, hipped dormer, and segmental-arched dormer.*

period, asphalt shingles have also been used to replace more expensive, traditional roofing materials such as slate shingles and standing-seam metal. If asphalt shingles are proposed, it is recommended that the shingles be heavyweight, dimensional shingles that resemble the color of the historic roofing material they are replacing.

For a building constructed before asphalt shingles were manufactured, but currently has asphalt shingles, the owner is encouraged to determine the historic roofing material, and consider replacing the existing asphalt shingles with the appropriate historic material. The use of asphalt shingles as a substitute material is described under slate and metal roofing, and may be summarized as follows:

- Slate shingle roofing: Replacement natural slate or synthetic slate roofing is recommended, particularly for Class 1 resources and architecturally significant buildings. For outbuildings and roofs not visible from a public way and with single-color gray or black slates, dimensional asphalt shingle in a color similar to the original slate roofing may be appropriate.
- Metal roofing: Replacement of standing seam metal roofing with similar color dimensional asphalt shingle roofing may be appropriate for roofs with limited visibility, depending on the application.



*A number of houses in Beaver retain their decorative slate roofs, including this roof at 201 Otter Lane. Note also the decorative brickwork at the chimneys and upper wall frieze.*

#### 4.2.19 ROOFING - DECORATIVE PATTERNED ROOFS

Decorative patterned roofs should be maintained and restored whenever possible. When replacing severely deteriorated decoratively patterned roofs, the new material should match the pattern, color, and texture of the historic roof.

#### 4.2.20 ROOFING - HISTORIC GUTTERS AND DOWNSPOUTS

Historic buildings with substantial cornices often featured built-in gutters that are not visible from the ground. The maintenance and restoration of built-in gutters is highly encouraged, but is not subject to HARB review. A more modest type of built-in gutter, the water diverter (also called a “pole gutter” because of the wood board used in its construction), is visible from the ground. The maintenance and restoration of water diverters is also encouraged, but may be replaced with “hung” gutters, so-named because they are hung from the roof deck by metal brackets.

When hung gutters and downspouts are replaced, the use of half-round gutters and smooth round downspouts is historically appropriate and thus recommended. New copper and lead-coated copper gutters and downspouts may be allowed to weather naturally, but galvanized steel gutters and downspouts should be painted to blend in with the color of the building to reduce their visibility. Factory-painted, half-round aluminum gutters and smooth round downspouts are also available.



*300 River Road, designed by John H. Craner in the Tudor Revival Style. The ragged-butt style slate roofing and dormer wall siding along with the clinker bricks used in the brick walls reinforce the image of the rustic cottage.*



Aluminum “K” gutters and corrugated rectangular aluminum downspouts, finished with baked enamel paint, are not recommended. Vinyl and PVC gutters and downspouts are not recommended because of their awkward fittings and non-traditional shapes.

#### 4.2.21 ROOFING – METAL ROOFING

Historic metal roofing appears primarily in two forms – standing-seam and flat-seam. Standing seam roofing, which is laid out in long panels approximately 18 inches wide, is used on sloping roofs, sometimes for the entire roof and sometimes for a lesser-slope porch roof. Flat-seam roofing is used on low-slope roofs and built-in gutters.

The continued maintenance of existing metal roofing is highly encouraged. The replacement of severely deteriorated metal roofing with new metal roofing is also highly encouraged, particularly on highly-visible roofs. For flat-seam metal roofing on flat roofs (less than a 2:12 slope), membrane roofing may also be appropriate. Except for sheet copper roofs, standing seam metal roofs were typically painted. To reduce the cost of custom pan fabrication and field painting, replacement roofing may be pre-formed and factory painted, provided standing seams are no more than an inch high and the roofing and flashing details are not complex.

#### 4.2.22 ROOFING - SLATE SHINGLES

Slate shingle roofing replaced wood shingle roofing in large cities because slate was fireproof. In fashionable residential areas, slate shingle roofing was also desired because it was noncombustible and durable, and in the late nineteenth century was preferred for its decorative qualities.

Slate shingles are the most durable of all historic roofing materials. Depending on the source, slate shingles last from 100 to 150 years. Individual broken or damaged slates can be replaced without affecting the surrounding slates, and it is not unusual for entire flashing systems to be replaced without requiring replacement of the entire slate shingle roof.

The continued maintenance of existing slate roofing is highly encouraged and less expensive than replacement with a substitute material. The replacement of severely deteriorated historic slate roofing with new natural or synthetic slate roofing is also strongly encouraged. On buildings with gabled, hipped, or Mansard roofs that are highly visible from the ground, replacement of slate with asphalt shingles

is not recommended. Decorative patterned roofs should be maintained and restored whenever possible. When replacing severely deteriorated decoratively patterned roofs, the new material should match the pattern, color, and texture of the historic roof.

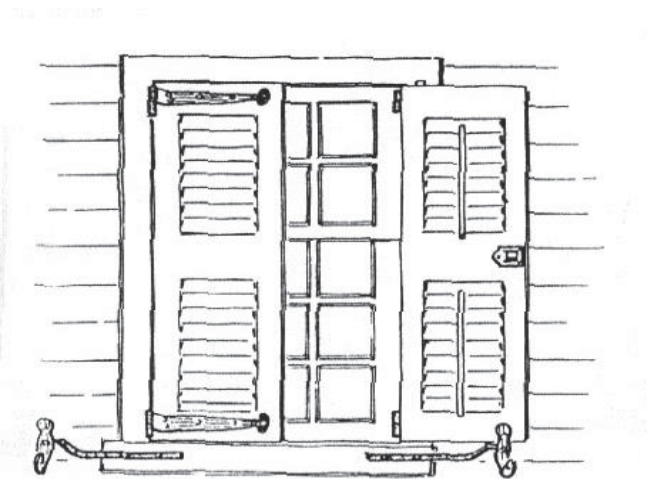
#### 4.2.23 ROOFING - SUBSTITUTE MATERIALS

Substitute materials that closely replicate historic slate roofing shingles are recommended. For example, recycled rubber/polymer shingles or fiber-reinforced cement shingles that resemble slate cost less than a natural slate roof but visually simulate slate. Care should be exercised in the selection of substitute roofing materials because their service life is often unproven.

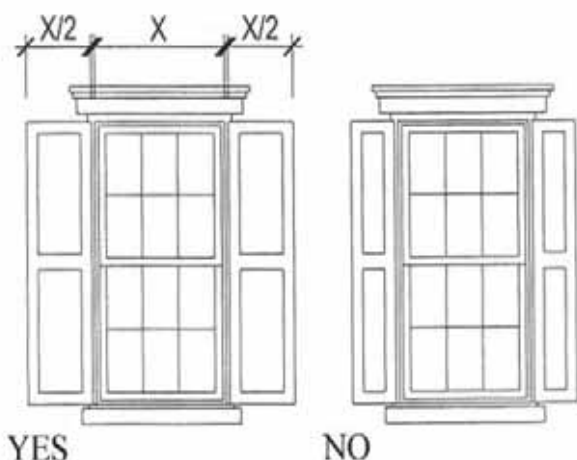
#### 4.2.24 SHUTTERS AND BLINDS

Historic shutters (solid panels) and blinds (louvered panels) should be preserved. Historically, shutters and blinds were employed to provide night security and shading from the sun. Paneled shutters were generally used on the ground floor and louvered blinds were used on upper floors. Where historic exterior shutters and blinds survive, they should be carefully preserved and repaired. If no shutters or blinds are present but there is evidence that they once existed (as evidenced in either historic photographs or surviving pintle hinges), their replacement as part of any proposed rehabilitation project is encouraged. If no vestige of shutters or blinds exists, they should not be added to a building.

Replacement shutters and blinds should be fabricated from painted wood or factory-painted, solid, synthetic wood that are properly sized, and appear operable.



*Historic shutters were mounted using traditional shutter hardware, including hinges or pintles, shutter dogs (hold-opens), and shutter bolts.*



Replacement shutters and blinds should be painted wood or solid composite material, properly sized to sash opening, and appear operable.

Hollow plastic and metal shutters are not recommended. Shutters should measure one half the width of the historic sash, and match the height of the opening.

#### 4.2.25 SKYLIGHTS IN HISTORIC ROOFS

Skylights may be installed on secondary façades (see 4.1.4 for definition of primary and secondary façades), but are not recommended for primary façades. For more information on the placement of skylights on secondary façades refer to 5.2.11 Roof—Skylights in Specific Guidelines for New Buildings and Additions.

#### 4.2.26 STOREFRONTS-HISTORIC

Storefronts provide a visual link between building interiors and the public realm of the sidewalk. Storefronts are vital to the visual character of 3rd Street and provide an understanding of the extent of commercial activity in the historic district. The scale and architectural detailing of historic storefronts create a richness and sense of visual satisfaction that is lacking in automobile-oriented retail settings.

Early shop windows were essentially large house windows, with sashes fabricated from many small panes of glass. The development of plate glass in the 1850s coincided with changes in retailing brought about by the industrial revolution. As more manufactured goods became available, competition for customers led merchants to increase their storefront display area. Existing buildings were altered to make the ground floor as transparent as possible, and new buildings were constructed with



Illustration of storefront components.

iron beams that supported the upper-floor masonry walls without reducing the storefront.

Existing historic storefront windows and doors should be preserved, even when the use of the first floor space is not retail.

#### 4.2.27 STUCCO-HISTORIC

The removal of stucco (traditionally a blend of lime and sand, more recently lime, cement, and sand) to expose original historic masonry is sometimes desirable; however, many masonry structures were originally roughly laid and covered with a lime plaster. In this case, the lime plaster should not be removed, but rather preserved or replaced.

Brick walls were rarely built with the intent of applying a stucco finish. Existing stucco finishes were typically applied as a maintenance finish, to treat deteriorated brickwork and deteriorated mortar joints, or to cover alterations to the wall. Prior to attempting to remove a stucco finish and expose the underlying brick masonry, a test panel should be undertaken to determine the technical feasibility (and cost) of removal and the condition of the original brickwork. If stucco removal is feasible and the original brickwork is in good condition, stucco removal is encouraged.

When restoring historic stucco finishes, the new stucco should be applied using traditional methods,

and finished to match surviving historic stucco. On masonry walls, the stucco should be applied directly to the masonry substrate, not to metal lath. Synthetic stucco finishes and factory-mixed stucco finish coats are not recommended.

#### 4.2.28 WINDOWS - PRESERVATION OF HISTORIC

Historic windows are important character-defining elements of historic buildings and should be preserved through maintenance and restoration. Historic multi-light wood windows are highly-refined woodworking assemblies that were fabricated from old growth timbers and wood species that are more resistant to rot than currently available woods. Preserving historic wood, steel and leaded or stained glass windows by means of periodic maintenance is the most cost-effective means of extending the life of historic window assemblies. By maintaining a paint film, historic wood, steel, and putty glazing are protected from ultra-violet light and moisture. When window maintenance is deferred, otherwise sound materials are allowed to deteriorate. In the event of deterioration, repairs are recommended rather than replacement. Repaired historic wood windows have a longer service life than replacement windows because of the quality of the old-growth wood from which they were fabricated, while at the same time retaining the historic character of the original construction. Depending on the severity of deterioration and type of window, a window repair program might include the following:

- Repair of deteriorated wood components by means of consolidation or Dutchman repairs.
- Rehanging of wood sashes on new cords or chains.
- Repairs to putty glazing.
- Repainting.
- Optional: Weatherstrip sash perimeters to reduce infiltration.
- Optional: Provide interior or exterior storm windows.

#### 4.2.29 WINDOWS - REPLACEMENT

Replacement windows are one of the most frequently encountered applications to the HARB and Historical Commission. Replacement windows are only recommended when the extent of deterioration of existing historic windows is so severe that repair is not feasible or the existing windows are not historic. They are available in numerous types, materials, designs, and quality. This section provides an



*Standard size vinyl replacement windows fitted to window frames by means of wood filler strips destroy the original proportions of the windows and are not recommended.*

overview of the range of available replacement windows and their applicability to historic buildings.

##### ***Replacement Window Types***

Replacement windows for the most commonly encountered window – the double-hung sash window – are available as 2 types: replacement sash assemblies and replacement windows. Replacement sash assemblies are designed to fit within the frame of the historic window, and typically consist of two sashes and a plastic jamb liner that fits within the space of the historic sashes. Replacement window units, in contrast, require removal of the historic sashes and historic frame in order to create space for the new window. New window frames, however, are almost never as wide as replacement frames because the historic frame is a hollow box containing two cast iron weights hung from sash cords. To accommodate the loss of dimension, the masonry or framed opening is typically boxed out with framing lumber and trim extensions are added to the face of the frame to replicate the width of the original frame. Generally not recommended is the replacement window that fits within the sash space of the historic window. This application reduces the width of the glass panes and increases the width of the frame.



### ***Replacement Window Materials***

Replacement windows are available in the following materials: painted wood, clad wood, composite plastic, fiberglass, extruded aluminum, and vinyl. Painted wood is the most historically accurate option, and because of the strength of wood, can be custom-fabricated in profiles that replicate historic wood windows. Certain manufacturers also fabricate aluminum-clad or vinyl-clad wood replacement windows, which are well-suited for sash replacement assemblies because they minimize the loss of sash glass area and have muntin profiles similar to traditional wood windows. Composite plastic and fiberglass replacement windows are available – both as replacement sash assemblies and replacement windows – and because of their strength are well-suited to large window openings and institutional and commercial applications. Extruded aluminum replacement windows with custom-profile frame panning are often proposed for institutional and commercial applications where the large number of windows allows the fabrication of custom-profile extrusions for brick molds and other shapes. Vinyl replacement windows are widely used in the housing market but are not recommended for historic buildings because they do not look like wood, have no molding profiles available, result in a loss of glass area, and are not available as sash replacement assemblies.

### ***Glazing Bar Configurations***

Early historic wood sashes were glazed with several panes of glass because the technology did not exist to produce larger sheets. A sash might be divided into 6 or 9 panes of 8” by 10” glass that were held by narrow moldings called muntins. This configuration is called a “true divided-light sash” because the lights (panes) were separated from each other by muntins. With the introduction of sealed insulating glass, small panes of glass became very impractical and expensive. In response, window manufacturers developed three alternates to the true divided-light sash: applied muntin grids, between-the-glass grids, and simulated divided lights.

- Applied muntin grids are removable plastic or metal grids that may be applied to the interior or exterior face of a sealed insulating glass unit to create the two-dimensional appearance of a divided-light sash. Because they are removable, they are sometimes removed and not replaced.

- Between-the-glass grids are metal grids that are built into the sealed insulating glass unit. They are entirely 2-dimensional, and when light reflects off the exterior face of a sash at an angle, the grid may be imperceptible.
- Simulated divided lights are metal, composite, or fiberglass grids that are adhered to the interior and/or exterior face of a window sash. They are not removable and at the exterior have the beveled profile of putty glazing. The most expensive simulated divided light sashes also have a between-the-glass grid that creates the appearance of a solid muntin extending from interior to exterior.

Because there are so many levels of quality, finish options, fabrication details, and impacts on the historic window frame, it is not possible to simply rank the window options from most desirable to least desirable. A good fiberglass window, for example, may be preferable to a low-quality wood window, and so forth. Generally, however, window replacement options may be ranked as follows from most recommended to least recommended:

- Replicate deteriorated sashes and reinstall in existing frames, with or without weatherstripping and storm windows.
- Replace deteriorated sashes with primed wood replacement sash assemblies with simulated divided lights (SDLs), custom-sized to existing sash sizes.
- Replace deteriorated sashes with aluminum-clad, wood replacement sash assemblies with SDLs, custom-sized to existing sash sizes.
- Replace deteriorated sashes with primed wood replacement window with SDLs, custom-sized to fit within existing window frame. This will result in a reduction of glass area of 2 times the thickness of the new window frame, which is typically  $\frac{3}{4}$ ”.
- Replace deteriorated sashes with aluminum-clad wood replacement window with SDLs, custom-sized to existing window frame. This will result in a reduction of glass area of 2X the thickness of the new window frame, which is typically  $\frac{3}{4}$ ”.
- Replace deteriorated sashes with composite or fiberglass replacement window with SDLs, custom-sized to existing window frame. This will result in a reduction of glass area of 2 times

the thickness of the new window frame, which is typically ¾" plus the additional width of what is typically a chunkier sash stile.)

- Replace deteriorated sashes with vinyl replacement window with SDLs, custom-sized to existing window frame. This will result in a reduction of glass area of 2 times the thickness of the new window frame, which is typically ¾" plus the additional width of what is typically a wider sash stile. (Not recommended.)
- Replace deteriorated sashes with standard size vinyl replacement window with SDLs. This will result in a reduction of glass area of a minimum of 2 times the thickness of the new window frame, and potentially up to 4 inches. This approach typically includes wrapping the historic window frame with vinyl or sheet aluminum. (Not recommended.)

#### 4.2.30 WINDOWS-STORM WINDOWS

Exterior storm windows are recommended by the National Park Service for upgrading the thermal performance of single-glazed historic wood windows. In addition to improving the infiltration of sashes and conductivity of window glass, exterior storm windows move the surface of moisture condensation to the inside face of the storm window, sheltering the prime historic sash from this constant moisture source, and are entirely reversible. Nonetheless, there is a bias against exterior storm windows, and some historic district and historic resource protection ordinances do not allow them. Because they are reversible and allow the historic sashes to be retained, they are recommended.

Types of storm window solutions include the following:

- Painted wood exterior storm windows (most expensive option). Although the most expensive, this traditional option is not necessarily the best solution if window screens are also desired, the screen panels and storm panels must be switched with the season.
- Exterior flush metal storm windows that mount in the shutter rabbet of a traditional wood window frame. A relatively new innovation, the flush-frame exterior storm window is mounted in the shutter rabbet of a traditional wood double-hung sash window. Units may be custom-color finished at the factory, and sliding screen panels are standard accessories.

- Exterior 3-track storm windows that project beyond the face of the original wood window frame (least expensive). This is the storm window that created the bias against exterior storm windows. First available only in mill-finish aluminum with poor fittings and hardware, early 3-track storm windows detracted from the exterior appearance of historic windows. Today, they are available in standard baked enamel as well as custom colors, and remain a viable exterior storm window option.
- Interior metal storm windows. The most discreet of the storm window options, standard- or custom-color interior metal storm windows provide thermal upgrading of a historic window without impacting the exterior appearance of the window. With narrow-profile aluminum frames and ultra-violet filtering glass, interior storm windows are often seen in house museums. Their disadvantage is location of the condensation surface, which in a cold climate is the interior face of the historic sash.

#### 4.2.31 WOODWORK - CLEANING

Cleaning of historic exterior woodwork should be done in the gentlest way possible. In general, scrubbing woodwork with a diluted solution of household detergent or chlorine bleach is an effective cleaning method, followed by a water rinse using a garden hose and spray nozzle. Pressurized water washing using up to 400 pounds per square inch pressure is also acceptable, provided there are no open joints and cracks in the woodwork that would allow water to penetrate into the wall cavity. Cleaning exterior woodwork is an essential preparation step for repainting, and is also useful for extending the service life of a paint coating.

#### 4.2.32 WOOD SIDING AND TRIM

Historic wood siding includes clapboard siding, vertical-board flush siding, board-and-batten siding, and wood shingles. The visual character created by the texture and pattern of historic siding should not be altered by its replacement with different siding profiles or non-historic siding materials. The earliest synthetic siding products were pressed metal (1830s) and asbestos cement (1907), followed post-war by aluminum and vinyl. Today there is a plethora of synthetic siding and trim products that range in quality, cost, and appropriateness to historic buildings. They are summarized as follows:



- **Wood siding:** It is recommended that historic wood siding be repaired and individual rotted boards replaced to the extent practicable. Replacement wood siding may be fabricated in numerous profiles to match existing siding from rot resistant woods such as Douglas fir, western red cedar, Spanish cedar, and bald cypress.
- **Fiber-cement board:** Fiber-cement boards are castings made from Portland cement, reinforcing fibers, and additives, that are furnished with a factory paint finish that may also be field-painted. Available patterns include clapboard (lap) siding, vertical board-, shingle-pattern-, and beaded-board panels, and trim boards. Clapboards are now available in 5/8-inch thickness, and trim boards in 5/4-inch. Fiber-cement board can be field-cut to length but cannot be planed to form edge profiles. For non-profile clapboard siding and trim, fiber-cement board may be an appropriate substitute material.
- **Solid PVC and composite board:** PVC and composite plastic blends are extruded to form a range of profiles, including siding, plain- and molded trim, boards of varying thickness, shaped railings, and other profiles. The material may be shop-planed to form edge profiles and field cut and using standard woodworking tools and field-installed using conventional woodworking fasteners.
- **Vinyl siding:** Vinyl siding, which was introduced in the 1950's to compete with aluminum siding as a substitute wood siding, is reported to be the most widely used siding material in the United States today. It is produced as lap siding and trim components, with and without edge profiles. Vinyl building products are shell extrusions of PVC resin, fillers, and additives. Unlike solid PVC and composite boards, vinyl siding is formed as a hollow, thin shell. Vinyl siding is generally not recommended for use in historic buildings. While the siding itself may adequately simulate wood siding – assuming the exposure and thickness are the same – the detailing at corners and ends is not traditional. This becomes acute when vinyl siding is replaced in conjunction with replacement vinyl windows, where historic window trim and cornerboards are removed and the new windows are installed without trim. In contrast, if wood corner boards and wood door and window trim are retained, the vinyl siding may be acceptable.

The removal of existing aluminum and vinyl siding and its replacement with historically appropriate siding is recommended. Wood trim elements such as corner boards, window and door surrounds, brackets, moldings, and other decorative features should also be repaired or replaced to match their historic appearance. New painted woodwork may be fabricated from rot-resistant natural wood, solid PVC, or other paintable, shapeable synthetic wood products.

The cladding (wrapping) of exterior woodwork such as cornices, corner boards, fascias, projecting bays, brackets, window and door frames, porch framing and trim, and other exterior woodwork with sheet aluminum or vinyl is also not recommended. Not only does the cladding cover historic wood moldings and architectural detail, but it also causes the covered woodwork to deteriorate due to moisture that becomes entrapped under the sheet material.



# Guidelines for New Buildings and Additions

*General Guidelines for  
New Buildings and  
Additions  
Specific Guidelines for  
New Buildings and  
Additions*

## 5.1 GENERAL GUIDELINES FOR NEW BUILDINGS AND ADDITIONS

The following guidelines pertain to new construction in the Beaver Historic District. New construction includes additions to historic buildings, new structures along primary streets, and secondary structures such as garages, sheds, outbuildings, or workshops. In general, new construction should enhance, not detract from, the historic character of the district. New construction should be compatible with neighboring structures on adjacent lots and across the street.

### 5.1.1 BUILDING HEIGHT AND FORM - ADDITIONS

The cornice line on the principal façade of an addition should be no higher than the cornice line on the principal façade of the historic structure. Likewise, the ridge line of an addition should be no higher than the ridge line of the historic structure. The form of new buildings should be compatible with the form of adjacent historic structures.

### 5.1.2 BUILDING HEIGHT AND FORM - NEW BUILDINGS

The eave line and ridge line of a proposed new structure should not exceed the height of the eave line and ridge line of flanking historic structures. The height and overall size of any proposed new addition should not exceed the height and overall size of the principal historic structure.

### 5.1.3 BUILDING PLACEMENT AND SETBACKS - ADDITIONS

Proposed additions should follow the pattern of setbacks of adjacent historic buildings and their additions in order to blend into the development pattern of the immediate neighborhood. For example,

historically, most additions to buildings in a village or town context were built at the building rear because there was no available building lot area on the sides of the building. These additions had minimal visual impact on the appearance of the village from the street, and new additions placed in the same manner will also have minimal impact.

For houses in a more suburban setting, options for placement of additions are greater. Rear additions are often the most convenient in terms of the floor plan, and are generally the most compatible with a historic setting. Side additions may also be appropriate, especially when the massing of the existing residence is complex (see also 4.3 - Massing).

### 5.1.4 BUILDING PLACEMENT AND SETBACKS - NEW BUILDINGS

Setbacks for new construction must comply with the zoning ordinance. Historically, the building type and landscape setting dictated the structure's setback from the street. For buildings in a town setting, commercial buildings such as offices, retail shops, and stores fronted directly onto the street or walk.



*New buildings should contribute to the historic character of the District by maintaining the setbacks of its historic neighbors, unlike the mid-20th c dwelling pictured here.*



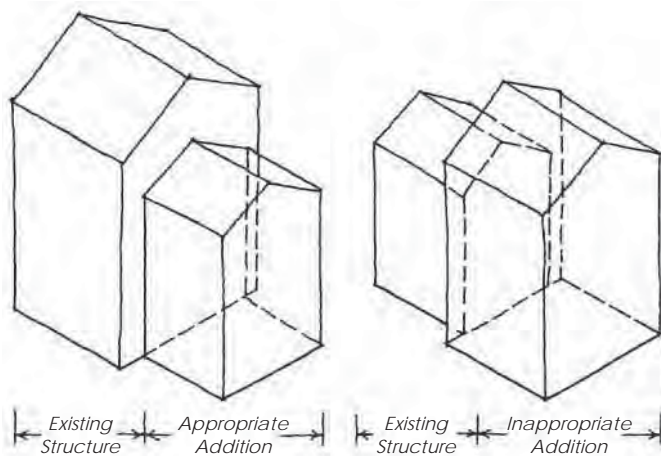


*Several new commercial buildings have contributed to the historic character of 3rd Street through the use of traditional building forms and setbacks, window sizes and spacings, brick walls, painted wood storefronts, and awnings.*

New construction in the district should follow the precedent of adjacent lots.

#### 5.1.5 BUILDING PLACEMENT AND SETBACKS - SECONDARY STRUCTURES

Outbuildings play an important role in the significance of the Historic District. Outbuildings reached by driveways between houses historically provided support functions to the dwelling, including the functions of carriage house, garden outbuilding and, later, automobile garage. Garages, sheds, workshops, and other new outbuildings should either be placed behind, and remain visually secondary to, the principal building on the lot, or follow the pattern



*An addition to a historic building should be a secondary form that preserves the form of the historic building. A proposed addition should be no larger than two-thirds the street frontage of an existing building.*

of adjacent historic properties. Side and rear setbacks should follow the general pattern of the placement of outbuildings in the immediate neighborhood.

#### 5.1.6 RELATIONSHIP OF ADDITIONS TO HISTORIC BUILDINGS

A proposed addition to a building in the Historic District should be subordinate to the principal façade and mass of the historic building. The subordinate appearance of an addition can be achieved through its setback massing, width, and detail. Generally, the width of an addition should not exceed two-thirds the width of the principal historic structure.

#### 5.1.7 RELATIONSHIP OF THE FAÇADE PARTS TO THE WHOLE

All parts of a new building façade should be visually integrated as a composition, which should relate to adjacent buildings. The size, spacing, arrangement, and proportions of façade elements such as doors, windows, cornices, and water tables should create a harmonious composition.

#### 5.1.8 REPLICATING HISTORIC BUILDINGS

The design of a new building should not be an exact replica of any existing historic building within the district. Copies of historic buildings among original ones look awkward and present a false historic context. However, a new structure's design may be inspired by historic building designs and features, and may be traditional in form and detailing.



*Though not a replica of a historic structure, this new building exhibits a false historical character. This approach to contemporary design is not encouraged.*



*The modern addition to this vibrant Queen Anne Revival house, now a funeral home, is incompatible in several ways. Although the bland stucco, total lack of detail, flat roof, and characterless punched windows all are negative factors, the greatest single problem is the one story mass that makes no effort to relate to the complex massing of the historic resource.*

### 5.1.9 THE ROLE OF MODERN DESIGN

The most successful new buildings in historic districts are ones that are clearly modern in design but compatible with and sensitive to the massing, rhythm and character of the Historic District. The experience of the Historic District is enriched by new buildings that have merit on their own and are sensitive to their setting in a Historic District.

#### 5.1.10 SCALE AND MASSING OF NEW BUILDINGS

Large buildings should be designed as a series of masses or building elements compatible with the immediate streetscape. The massing or volumetric shape of a building greatly affects the scale of a building and underlies all other architectural features. Where a large building in the Historic District is unavoidable, the mass of the proposed structure can be broken down into traditional building blocks that relate to the scale. (See 4.7 Scale) of the streetscape, thereby blending into its context.

#### 5.1.11 VISUAL RELATIONSHIP BETWEEN THE OLD AND THE NEW

A new building or addition should relate visually to neighboring contributing historic buildings. Proposals for new designs within the Historic District should consider their specific location and immediate neighborhood. For a typical building, neighboring historic structures include those to each side of the structure and those directly across the street from the structure. For a new building located at a corner, the neighboring historic structures include all buildings at the intersection in addition to those immediately adjacent. Where a building falls near the edge of the Historic District, historic buildings located near but outside of the district should also be taken into account during the design process.

The basic building form - the massing and scale - of a new building should be compatible with the general forms of neighboring structures. Specific massing considerations include:

- overall size
- complexity of volumetric form
- combinations of solids and voids in the overall shape
- Incorporating neighborhood “building blocks” into the massing of the proposed building.
- roof configuration



*A proposed large building may be made compatible with its context by breaking down its perceived massing into traditional "building blocks".*

### 5.1.12 WIDTH AND RHYTHM

Historically, the spacing of buildings along the road or village street create a rhythm of solids and voids. Additions should not fill in the spaces between buildings (unless the addition is recessed), and new buildings should not disrupt the existing rhythm of the street.

The architectural features of the façades of historic buildings within a district have a discernable rhythm. The design of new buildings is encouraged to have a rhythm that is similar, but not identical, to the rhythm of the adjacent buildings. New buildings and additions should not be sited at unusual angles.

## 5.2 SPECIFIC GUIDELINES FOR NEW BUILDINGS AND ADDITIONS

The following guidelines pertain to new construction for additions and new buildings in the Historic District, and are based on the *Secretary of the Interior's Standards for Rehabilitation*. The following elements are listed in alphabetical order.

### 5.2.1 DECKS

Wood decks that are visible from a public way are not recommended. They are permitted when carefully designed to be integral to the overall design of the residence. Deck floor elevations should be no higher than the first floor elevation. The total deck area should not exceed 25% of the livable area of the first floor of the proposed residence. Railings should be a simple picket design, fabricated from painted wood. Privacy screens are not recommended. Arbors of a simple design, constructed of wood, may be appropriate, subject to specific design. The exposed structure under the deck should be screened by landscape plantings or by wood lattice.

### 5.2.2 EQUIPMENT, BANKING AND VENDING MACHINES

Automatic teller machines (ATM) mounted on primary façades of buildings within the historic district are not recommended. Efforts should be taken to mount ATM machines on secondary façades whenever possible. The placement and layout of the ATM machine should be incorporated into the design of the ground floor. The machines should be lit using the least obtrusive light fixtures possible while still ensuring customer safety.

Vending machines installed in the public view are not recommended in the historic district.



*The ATM machine of this new bank is placed within a storefront framing system. If removed, the storefront can be restored.*

### 5.2.3 LIGHTING

Exterior lighting of additions and new buildings should be simple and in scale with the building. New fixtures should be simple, unobtrusive, and mounted in a traditional manner. Exterior recessed downlights, if proposed, should be placed to avoid dramatic light patterns on the proposed building façade. Exterior floodlights and spotlights should be avoided on principal façades. Lighting for signage should be



inconspicuous and should be restricted to reasonably low light levels. Yard lighting and parking lot lighting should be post-mounted on maximum 12-foot high posts, or mounted on a secondary façade. High efficiency light fixtures at highly visible locations that produce yellowish or pinkish light are not appropriate.

#### 5.2.4 MECHANICAL, ELECTRICAL AND COMMUNICATIONS EQUIPMENT

The mounting of louvers, registers, exhaust fans, alarm devices, satellite dishes, cable boxes, utility meters, communications equipment, and other mechanical and/or electrical devices should be avoided on principal façades. To minimize their visual impact, devices mounted on secondary façades should either be painted to match the color of the material on which they are mounted or screened by landscaping features. Air conditioning condenser units should be screened from public view.

#### 5.2.5 OUTBUILDINGS - NEW CONSTRUCTION

New outbuildings should visually relate to their historic context. Outbuildings should be simple in design, and should relate to the period of construction of the principal building on the lot. The design of outbuildings should not be overly elaborate. Depending on the placement of the building lot on the street, a proposed outbuilding will be treated as either a primary or secondary façade.



*This new garage is compatible with a historic setting through its use of traditional board-and-batten siding, gable roof form, storage loft, and placement on the lot.*

#### 5.2.6 PAINT COLORS AND SCHEMES

Paint colors used on additions should follow the color scheme of the original building. For new buildings, paint colors should be compatible with color schemes in the historic district. For new buildings constructed with traditional forms and details, exterior colors may follow Guideline 5.2.13 – Paint Colors and Color Schemes for existing buildings.

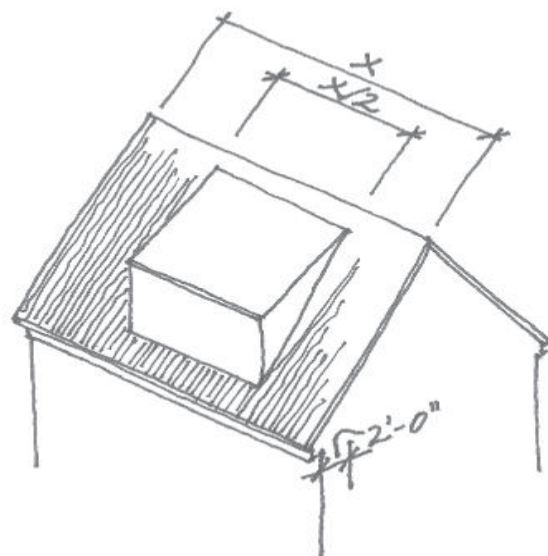
#### 5.2.7 PORCHES AND STOOPS

New porches and stoops are encouraged on streets where porches and stoops are common. On additions, porches or stoops should be simple in design and visually relate to the existing building. On new structures, porches or stoops should visually relate to the proposed building in a manner similar to the relationship of historic porches to existing historic buildings in the district.

#### 5.2.8 ROOFS - DORMERS AND CUPOLAS

Dormer design, proportions, and placement on additions and new buildings should be compatible in size, scale, proportion, placement, and detail with the historic dormers found in the Historic District. Shed dormers on principal façades are strongly discouraged except where they exist in the immediate neighborhood. The overall width of a dormer should be no wider than one-half the overall roof width.

On secondary façades new dormers should be compatible in size, scale, and proportion with the



*The overall width of a proposed shed dormer should not exceed one-half of the roof width.*



*Dormers should be carefully sized and placed to create a harmonious composition.*

original façade, and their placement should relate vertically to the building's fenestration. The overall width of dormers should be no wider than one-half the overall roof width.

Prefabricated ventilators or cupolas are not recommended within the historic district where visible from a public way.

### 5.2.9 ROOFS - FORM

To be compatible, additions and new buildings should match the form of the dominate roof form in the historic district. Generally, on historic buildings, the roof form of an addition placed on the side of a building facing a street followed the form of the principal building. Continuing the historical precedent, additions to gable roof structures that face a street should also have a gable roof. Additions on a secondary façade, can have a different roof form from the original structure. In the design of new buildings, the use of one of the historic roof forms found in the district is recommended. Roof forms not prevalent in the historic district are not recommended.

### 5.2.10 ROOF MATERIALS – ADDITIONS

The roofing material on an addition should match the original structure or be visually similar to the existing roofing. For example, a large addition to a building with a slate roof should have a roof that is slate, a synthetic slate, or a material that appears similar in color and dimension to slate. The roofing material of a one-story shed addition to a two-story slate-roof house, however, could be another historically appropriate material such as painted metal.

### 5.2.11 ROOF MATERIALS –NEW BUILDINGS

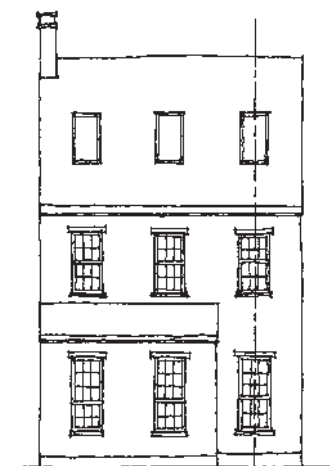
The use of traditional roofing materials such as slate and standing-seam metal is recommended on new buildings. Synthetic slates, including composite

rubber, concrete, and clay types, are also recommended. Pre-formed, pre-painted standing-seam metal roofs may be appropriate, depending on the complexity of the roof. If asphalt shingles are proposed, they should be heavy weight, dimensional shingles in a color similar to aged traditional shingles in the historic district.

### 5.2.12 ROOF - SKYLIGHTS

Careful consideration should be given to the placement of skylights.

Skylights with a low profile may be installed on secondary façades (see 5.1.3 for definition of primary and secondary façades), but are not recommended for primary façades. When proposed for use on secondary façades, skylights should be low-profile, flat-glazed construction, and mounted close to the roof. Skylights should relate vertically to the overall fenestration of the façade. The use of dormers and skylights on the same roof plane (i.e., next to each other) is not recommended



*While skylights are not recommended on primary façades, they may be added to secondary façades if they are incorporated into the overall pattern of doors and windows. Skylights should align vertically with windows in the wall below.*

### 5.2.13 SHUTTERS AND BLINDS

Shutters and blinds are generally discouraged on additions and on new buildings. If shutter or blinds are proposed, they should follow the historical precedent of historical shutters and blinds in the historic district. New shutters and blinds should be properly sized to fit the opening, and should appear operable by being mounted on proper shutter hardware. Hollow plastic or metal shutters and blinds are not recommended. New shutters and blinds should be fitted with traditional shutter hardware and should not be surface-mounted directly onto an exterior wall surface. See 5.2.35 for more information.

### 5.2.14 STOREFRONTS

New storefronts in new buildings and additions should be designed following the proportions, rhythm, and scale of historic storefronts in the historic district. New storefronts should repeat the components of historic storefronts, such as the frieze board, pilasters, display windows, and bulkheads, but may be simplified in detailing. While painted wood is generally the preferred construction of new storefronts, they may also be constructed of narrow-profile, factory-painted aluminum, especially where there are other historic metal storefronts in the historic district.



*Two storefront designs for the same building. The left design is not a literal reproduction of a period storefront, but its scale relates to historical storefronts. The right storefront lacks human scale and vertical proportions.*

### 5.2.15 WALL MATERIALS—ADDITIONS

An addition should either replicate the existing exterior wall material in type, color, and texture or be constructed of a historic exterior wall material found in the district. If wood siding is proposed for an addition, the width and type of the new siding should complement the proportions and scale of the existing building siding. Other possible new materials that would complement existing historic wood siding include cement/fiber synthetic clapboard siding that is manufactured with a smooth surface and field painted. The wall materials of an addition should be compatible with the wall materials of the existing building. Vinyl and aluminum siding are not recommended for primary facades in the historic district. Likewise, vinyl and aluminum facings and fabricated plastic or composite wood/plastic building components are not appropriate on primary façades.

### 5.2.16 WALL MATERIALS –NEW BUILDINGS

The use of historic exterior wall materials such as brick, stone, or wood siding and their related details are recommended for new construction. Recommendations for wall materials for additions also apply to new buildings (see 6.2.15). Composite wall panels, glass-fiber-reinforced concrete panels and cornices, and other contemporary wall systems may be appropriate, subject to their specific application. The principles of scale and proportion will still apply, but there are opportunities for the compatible use of new materials within the context of the historic district.

### 5.2.17 WINDOWS AND DOORS - ADDITIONS

It is recommended that the material of windows and doors in additions match the material of the window and doors in the historic structure. The proportions of windows and doors in an addition should be similar to the proportions of original openings in the existing building, or multiples of the size of original openings. Depending on the size and design of the addition, replicating the sash configuration of the original building may be recommended. For all additions, it is recommended that all openings follow the proportions of original openings or be based on clear multiples of original openings. Snap-in muntins in new windows are not recommended. Sliding glass doors are not recommended on the primary façade of an addition. (See also 5.2.34)



### **5.2.18 WINDOWS AND DOORS - NEW BUILDINGS**

Windows in new buildings in the historic district should relate to the placement and proportions of window openings in the neighborhood of the proposed new building. In a primarily residential neighborhood, windows in a new building should be of sizes and proportions similar to existing residential windows in the neighborhood. For such buildings, the total area of windows should be no more than one-third of the total wall area of primary façades. In commercial districts containing twentieth century commercial buildings, however, existing windows may be much larger. Proposed buildings in this setting should be of sizes and proportions similar to existing commercial buildings.

# Guidelines for Sustainability

## 6.1 GENERAL GUIDELINES FOR SUSTAINABILITY

By virtue of their embodied energy, historic buildings are inherently sustainable. Recycling entire buildings and entire neighborhoods maximizes the reuse of existing materials, minimizes waste, minimizes the loss of shade cover in a neighborhood, and reuses existing utility and transportation infrastructure. Because they were built when central heating and especially mechanical air conditioning either did not exist or were very primitive, historic buildings incorporate numerous climate-mitigating, sustainable features. These include porches, operable shutters, shared party walls, massive masonry walls, passive ventilation systems, natural daylighting, and other passive energy-saving devices.

As part of an overall national strategy to make all buildings more energy efficient and more environmentally friendly, energy standards and code requirements are applied to all building construction projects, including new buildings and the rehabilitation of existing buildings. While this environmental ethic is good, energy codes are based on simplistic models utilizing modern wall and fenestration systems, and often fail to recognize and account for the more complex energy conservation features built into historic buildings, such as thermal mass. In historic districts, a balance must be struck between maximizing energy conservation and preserving the historic character of individual building components, buildings, and streetscapes.

### *Changing Technologies*

These guidelines address the challenges of incorporating sustainable features into historic buildings and historic districts. Beyond any specific guideline, the most important general guideline is Standard No. 10 of the *Secretary of the Interior's Standards for Rehabilitation*, "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." Consistent with this principle, a historic district's requirements for the placement of solar collectors is far less important than its requirements for replacement windows because of the principle of reversibility: The solar collector can be removed in the future and the historic property will return to its previous appearance, while replacement windows result in the permanent loss of the original window sashes. An array of solar collectors in a backyard may be perceived as an eyesore, but when the collectors are removed, the site can return to its previous state.

Abandoned shutter dogs or awning hardware on a historic building are a testament to changing technology and reversibility. Fabric awnings were often added to existing windows and porches to reduce solar gain, but were later removed, leaving behind only their mounting hardware. Sustainable technology will continue to evolve, with new hardware and new technology becoming less expensive and more widespread, and older systems abandoned. In more recent times, the trombe wall was retrofitted to numerous existing buildings but receives little attention in the literature today. Abandoned solar water heaters may be seen on many public buildings and private residences because of the problems inherent in piping water from rooftops to interior plumbing systems as well as advances in competing photo-voltaic collectors. In conclusion, because technology changes so rapidly, no sustainable feature should be added to a historic building or site that cannot later be undone without harm to the resource.

## 6.2 DAYLIGHTING

Daylighting, defined by the Whole Building Design Guide (WBDG) as the controlled admission of natural light - direct sunlight and diffuse skylight - into a building to reduce electric lighting and to save energy, was an important aspect of building design prior to the invention of electric lighting. Daylighting

has been rediscovered for both energy-saving reasons and for reasons of increased worker productivity and human comfort. Daylighting is particularly applicable to loft building conversions, and through the innovative use of skylights and light tubes, may be utilized in residential buildings. Daylighting solutions in loft buildings should be interior, and for residential buildings, guidelines for skylights apply (See 7.2.3).

### 6.2.1 COATINGS FOR NEW AND EXISTING GLASS

Daylighting is reliant on windows in walls and roofs. One means of controlling light emitted through windows is coatings on glass. Reflective and tinted coatings are not recommended for new and existing window glass in the historic district. Such coatings change the relationship of the building interior to the street, analogous to a person wearing sunglasses indoors. Coatings also change the scale of window openings in a wall, making the overall wall appear more monolithic and lacking in human scale. There are, however, sophisticated coatings that significantly reduce solar heat gain and glare while retaining the visual properties of clear glass. Such coatings, when used on new buildings, have no impact on the historic district.

### 6.2.2 AWNINGS

Awnings are used to shade windows from direct sunlight, reducing glare and solar heat gain. Although once a common residential element, most awnings today are used to shade storefront windows. See 5.2.2 for a discussion of commercial awnings. Residential awnings remain an appropriate method of shading windows, provided they are simple in design, and are striped or solid color, using colors appropriate to the period of the building.



*Canvas awnings became popular for residential and community buildings during the early 20<sup>th</sup> century. This passive measure reduces solar gain and allowed windows to remain open during rainfall.*

### 6.2.3 SKYLIGHTS

Skylights, light monitors, light tubes, and other forms of overhead natural lighting can provide natural lighting to areas of buildings that are remote from perimeter walls. In former industrial buildings, light monitors are important architectural features that should be preserved. For skylights proposed for existing sloped roofs, see 5.2.28. For skylights proposed for roofs in new buildings and additions, see 6.2.12. Skylights proposed for flat roofs, where not visible from the ground, have no impact on the historic district.

## 6.3 DURABLE MATERIALS

Material durability is an important principle of sustainability. The wood species selected for exterior woodwork should be rot-resistant and hold paint well. Historic wood window sashes and shutters were



*Tinted glass is not recommended for historic windows. Coatings on glass change the scale of window openings, making the wall appear more monolithic and lacking in human scale. Also, the connection between building interior and the streetscape is lost.*







*Despite inconsistent paint maintenance, the durable, old-growth heart pine used in the 200-year old moldings of this dormer are repairable, accept paint readily, and offer a more reliable service life than new woodwork. Left: Following paint removal and prior to woodwork restoration; right: completed dormer.*

constructed with old growth softwood lumber that is no longer available. Because of the durability of this original wood, repaired sashes and shutters generally outlast new sashes and shutters. Finding suitable porch flooring is also problematic. Porch flooring, fabricated from solid polyvinylchloride or composite wood/plastic resin and formed in traditional tongue-and-groove profiles, may be an appropriate substitute material for painted wood. Likewise, smooth, field-painted polyvinyl chloride (PVC) trim may be an appropriate substitute material for painted exterior woodwork.

## 6.4 GEO-THERMAL HEATING AND AIR CONDITIONING

Ground-source heat pumps, commonly referred to as geo-thermal heating and air conditioning, are applicable to historic structures under certain circumstances. For historic structures with a ducted, all-air, heating system, the change-over to geothermal will have minimal impact on the structure. The change-over will improve the exterior appearance of the site because geo-thermal heating and cooling eliminates the need for outdoor condensing units. However, to drill wells for ground-source heat pumps, the site must be large enough and accessible enough to accommodate a large drilling rig. Most urban sites cannot accommodate such a large truck, so opportunities for geo-thermal systems are largely limited to structures in lower-density neighborhoods. (See 5.2.11 for a general discussion of mechanical, electrical, and communications equipment.)



*To drill wells for ground-source heat pumps, the site must be large enough to accommodate a large drilling rig.*

## 6.5 GREEN ROOFS

Green roofs, defined as roofs vegetated with densely-spaced plants that shade the roof deck, reduce heat islands on a neighborhood level, reduce cooling loads for a building, and reduce storm water runoff. They are largely limited to flat roofs, and typically are not visible from the street. Existing roof framing often requires reinforcement to support the additional load of the plantings and retained water, and roof membranes and roof assemblies must be carefully selected to withstand constant wet conditions. Although there are historic examples of vegetated sloping roofs in North America, they are rare and all rural. Except for historic districts that contain historic



*Where there is adequate structure and drainage, flat roofs on buildings in the historic district may be vegetated.*

examples of vegetated sloping roofs, sloping roofs should not be vegetated. Vegetated flat roofs have no visual impact on the historic district unless the roof has no parapets or the vegetation is taller than the parapet. Visible vegetation on existing flat roofs is generally not recommended, but may be appropriate for new buildings and additions.

## 6.6 PASSIVE VENTILATION SYSTEMS

Prior to the advent of mechanical ventilation, passive ventilation systems were employed in all types of occupied buildings. Operable windows, sometimes equipped with insect screens, provided passive ventilation for many historic buildings. Buildings were sometimes built with passive ventilation systems that included wall registers and brick air ducts that discharged through the roof in what appear to be chimneys. Attic spaces were ventilated by means of gable end louvers or sheet metal gravity ventilators. Passive ventilation remains a viable means of conserving energy and is a component of sustainable new design. It is recommended that operable windows and historic roof ventilators be retained. However, modern turbine ventilators and power roof vents are not recommended for roof slopes on primary facades. Continuous soffit vents fabricated from perforated aluminum or vinyl are not recommended where visible.

## 6.7 RAINWATER COLLECTION SYSTEMS

Collecting rainwater on-site for use in garden irrigation reduces storm water runoff and conserves water. Rain barrels placed at the bottoms of downspouts do little to reduce storm water runoff, but may be a plant-watering convenience. However, rain



*Ornamental sheet copper gravity ventilators were commonly employed on institutional buildings prior to mechanical air conditioning. Often still functional for attic ventilation, they should be preserved.*

barrels placed on the sidewalk in front of row houses or commercial buildings are not recommended. Underground rain water collection systems can be built large enough to make an impact on stormwater. Roof water piped to a large tank buried in the ground has no visual impact following construction, but has the potential to disturb archaeological resources. Like geo-thermal heating and air conditioning systems, the site must be large enough for a water tank and accessible enough to accommodate excavating equipment required for installation.



*Although invisible after installation, an underground rainwater collection tank requires a property of adequate size and accessibility.*

## 6.8 SOLAR PANELS

Solar panels first appeared in the 1970s in the form of solar water heaters. Solar water heaters decreased in popularity because of the problems inherent in piping





*Although placing solar panels on secondary roofs is preferable, they are permitted on principal roof slopes when no other technically feasible option is available. A rectangular array such as the one on this converted barn (left) is preferable to the U-shaped configuration on the right.*

water from rooftops to interior plumbing systems as well as advances in competing photo-voltaic collectors. Wind power, hydro, and solar photovoltaics are the three principal renewable energy sources in the world. Solar panels are built as modular units that are grouped together to form an array. A solar array may be ground-mounted on an open metal framework that secures the panels at an angle best suited to maximize solar collection, or the array may be mounted on the roof of a new or existing building. The National Park Service and the National Trust for Historic Preservation have developed guidelines for solar panels, as follows:

- a. *Locate solar panels on the site of a historic resource* [rather than on the roof of the resource]. This guideline is only achievable in low-density neighborhoods and rural areas, and the visual impact of a ground-mounted array must be considered. Installing an array in the front yard of a historic property is not recommended.
- b. *Locate solar panels on new construction*. If mounting an array on the ground is not feasible and if the planned project includes new construction, placing the array on the roof of the new construction is preferable to the existing historic building.
- c. *Locate solar panels on non-historic buildings and additions*. If the historic property has outbuildings or a historic building has non-historic additions, placing the array on one of the non-historic roofs is preferable to the historic building.
- d. *Place solar panels in areas that minimize their visibility from a public thoroughfare*.

The roof of the primary façade is the least-preferred location for a solar array (see 5.1.5 for a description of primary and secondary façades). Where possible, solar panels should be placed on the roofs of secondary façades and on flat roofs where their visible impact will be less. For all sloping roofs, the solar panels should be low-profile, flat panels that are mounted parallel to the roof plane and held back not less than 18 inches from any roof ridge, hip, penetration (such as a chimney or dormer) or eave. Arrays should be laid out as simple rectangles where feasible. “H,” “L,” “T,” and “U” configurations are not recommended.

- e. *Avoid installations that would result in the permanent loss of significant, character-defining features of historic resources*. Solar panel installations should be reversible. Technical obsolescence for any solar panel is assured, so any installation should be built in a manner that it can be entirely removed and replaced with the newest technology without harm to the character-defining features of the historic building.
- f. *Require low profiles*. See 6.8.d above.
- g. *On flat roofs, set solar panels back from the edge*. Because the solar panels on a flat roof must be mounted on a metal frame to maximize the capture of solar energy, the height of the frame is important. A solar array installed on a flat roof is very similar to rooftop mechanical equipment, and its visibility from the street should be minimized. The array should be held back approximately 8 feet from the primary façade



of the building, depending on the height of the building.

## 6.9 WIND POWER

Although wind power is one of the three principal renewable energy sources in the world, wind machines are rarely placed on buildings or in densely settled neighborhoods. Exceptions to this may be coastal locations where continuous breezes justify ground-mounted wind turbines. Because of the amount of torque generated by a tower-mounted wind turbine, they require a substantial structure to support. This support is best achieved by means of a steel tower anchored directly to a concrete foundation. Because of structural requirements, it is not feasible to place on existing roof structures; therefore, the appropriateness of a roof-mounted wind machine is not an issue in historic districts. Free-standing wind machines of a scale similar to historic wind machines may be appropriate to rural historic districts.



*The windmill was a common feature on American farmsteads. Where sustained breezes justify the investment, roof-mounted wind turbines are allowed in*



*Custom-color, three-track storm windows are now available as flush units that are placed in the shutter rabbet of the historic window frame.*

replacement window industry invented and the green building community supports because the outcome is measurable.

While replacement windows are an appropriate solution for severely deteriorated historic windows, the vast majority of existing historic windows can achieve equal performance levels through a combination of repairs, weatherstripping, and storm windows. For guidelines relating to windows, see 4.2.27 through 4.2.31.

## 6.10 WINDOW UPGRADES

Windows have become the central focus of energy inefficiency in existing buildings. Despite empirical evidence to the contrary, the popular press overwhelmingly singles out historic wood and steel windows as the greatest energy loss problem in existing buildings. The same press encourages replacement windows as the preferred option for upgrading historic windows. Historic windows are portrayed as drafty, poorly-fitting, in need of paint, and single-glazed. The recommended solution is always replacement windows, a solution that the

# *Guidelines for Preserving Historic Streetscapes*

## **7.1 GENERAL GUIDELINES FOR PROTECTING HISTORIC STREETSAPES**

### **7.1.1 GENERAL**

A primary purpose of the Historic Preservation Ordinance and these Design Guidelines is to preserve the historical character of landscapes, and streetscapes within the historic district. Streetscapes are the public spaces formed by buildings along streets in an city, town, or village setting. These outdoor, linear rooms have buildings as walls, street and sidewalk paving as flooring, the sky as a ceiling, lighting provided by the sun by day and street lights by night, and furnishings consisting of vegetation, planters, building stoops and steps, benches, trash receptors, automobile signage, and other accessory

items. Streetscapes are dynamic and change with the weather, time of day, and season. The public perception of a neighborhood or historic district is formed by the quality of the streetscapes. The quality of a streetscape is formed by both the character of the buildings that define the street space and/or the character of the outdoor ground surfaces, vegetation, walls, fences, and furnishings that enrich the space.

### **7.1.2 RESIDENTIAL STREETSAPES**

The residential streetscape of uniformly spaced houses on a tree-lined street is the single most character-defining feature of Beaver Borough. The Borough Shade Tree Commission has contributed much to the protection of the tree canopy throughout the borough. There are several variations of the residential streetscape, including the following:



*This block of 3rd Street follows the residential streetscape pattern of block with moderate setbacks, set on a terrace above the sidewalk.*





*This block of 5th Street follows the residential streetscape pattern of blocks with moderate setbacks, set on a terrace above the sidewalk.*

- Blocks with deep setbacks and flat front yards, on wide streets.
- Blocks with moderate setbacks, set on a terrace above the sidewalk, on wide and narrow streets.
- Blocks with moderate setbacks and flat front yards, on wide and narrow streets.
- Blocks with minimal setbacks on narrow streets, creating the most intimate streetscapes.
- Blocks with the houses or porches built on the sidewalk line.

The setback of houses and character of original blocks is dependent on topography and the 1792

layout of the Borough. Blocks with deep setbacks occur on streets with original 100-foot wide right-of-ways, such as 2<sup>nd</sup> and 4<sup>th</sup> Streets, Beaver Street, and College Avenue. Blocks with moderate or shallow setbacks occur on the later or 25-foot wide right-of-way streets, such as Taylor Avenue, Wayne Street, and Bank Street.

It is recommended that above all else, new buildings follow the streetscape form of the block on which the property is located. This form includes two critical elements: setback and building mass.



*This block of Dravo Avenue follows the residential streetscape pattern of blocks with moderate setbacks and flat front yards.*



*This block of Sharon Road follows the residential streetscape pattern of blocks with houses or porches built on the sidewalk line on narrow streets.*





*This block of 4th Street follows the residential streetscape pattern of blocks with moderate setbacks, set on a terrace above the sidewalk on a wide street. Because of the street width, each side of the street forms its own one-sided residential streetscape.*



*This block of Bank Street, running west from Wayne Street, follows the residential streetscape pattern of blocks with minimal setbacks on narrow streets, creating the most intimate streetscapes in the historic district.*



*This block of 5th Street, although entirely suburban in character, follows the pattern of blocks with moderate setbacks and flat front yards on wide streets.*





*New houses and garages along Bank Street. Despite the attractive street trees, the placement of the garage alongside of or in front of the new dwellings is incompatible with the residential streetscape pattern of the historic district.*



*This block of Second Street follows the patterns of blocks with deep setbacks and flat front yards on wide streets.*



*This block of Beaver Street follows the pattern of blocks with moderate setbacks and flat front yards on a wide street.*



*One of the more urban blocks in Beaver, this block of Wayne Street follows the pattern of blocks with minimal setbacks on narrow streets.*





*This block of Beaver Street, looking north from 2nd Street, follows the pattern of blocks with deep setbacks and flat front yards on wide streets.*



*This block of College Avenue opposite College Square Elementary School, which might be described as “mansion row”, has some of the deepest front yards in the Borough.*



*Beaver Street is the eastern gateway to the 3-block long commercial core of 3rd Street.*

### 7.1.3 COMMERCIAL STREETSCAPES

The commercial streetscape of 3<sup>rd</sup> Street is most intact in the three blocks between Beaver Street and Insurance Street, where it is comprised of densely packed 2- and 3-story buildings with retail on the ground floor and office or residential use above. On the south side of 3rd Street, several 19th century commercial buildings have been replaced with one-story commercial buildings and parking lots. Despite these gaps, the cohesiveness of the three-block commercial core of 3rd Street remains strong. To the east and west of the core, 3<sup>rd</sup> Street transitions to highway commercial, with several vestiges of earlier streetscapes. Because of the width of 3<sup>rd</sup> Street, within

the core each side of the street creates its own commercial environment, tied together by the uniform street lighting and street trees on both sides, views of churches on both sides, and a good system of crosswalks.

It is recommended that new buildings proposed both in the 3-block commercial core and beyond both ends but within the historic district, adhere to the urban form of the 3-block core and not allow suburban development to expand. This urban form is created by contiguous brick buildings, 2- or 3-stories high, built on the sidewalk line.



*North side of 3rd Street at Wayne Street. Although the recent corner building lacks architectural character, because of the pattern of storefronts, doors and windows, it succeeds at the most basic level by being a two-story brick box that is built on the property's lot lines.*





*Quay Square and Irvine Park are the west gateway to the 3rd Street Commercial core. (Source: Google maps)*



*3rd Street commercial core, looking south. (Source: Google maps)*





*On the south side of 3rd Street, several 19th century commercial buildings have been replaced with one-story commercial buildings and parking lots. Despite these gaps, the cohesiveness of the three-block commercial core of 3rd Street remains strong.*

## 7.2 SPECIFIC GUIDELINES FOR PROTECTING HISTORIC STREETSCAPES AND LANDSCAPES

### 7.2.1 ACCESSIBILITY

These guidelines pertain to the addition of exterior elements required to provide accessibility to historic buildings in the Historic District, and are based on the *Americans with Disabilities Act (ADA)* and accessibility provisions of International Building Code. Building accessibility for individuals with disabilities should be achieved without compromise to historic materials or to character-defining features of a historic building or site. A ramp or vertical access lift should not be placed on a primary façade

of a historic building where it can be avoided.

If the only feasible placement of a ramp or lift is on a primary façade, efforts should be made to minimize its visual impact on the façade, and the building owner should work with the HARB and the Code Enforcement Officer to achieve accessibility without visual intrusion. Sometimes accessibility devices can be concealed effectively within a traditional building element. For example, a vertical platform lift could be built within what appears to be a traditional porch, or a ramp can be integrated into an entrance terrace. Pressure treated wood railings and exposed structures are not recommended.

Where possible, a building addition to a public building should be designed to include features that



*Examples of successful ramps. Left: The shop entrance requires only a short ramp and the use of brick paving masks the presence of the ramp. Right: Porches provide a natural screen for a new ramp.*

make up for any accessibility deficiencies of the original building. This approach can eliminate the need for intrusive alterations to the original building.

All new buildings except private homes and churches are required by law to be accessible to persons with disabilities. New buildings in the Historic District should be designed with integral accessibility features, so that changes in level are accommodated within the new building, not at the building exterior.

## 7.2.2 DRIVEWAYS AND OFF-STREET PARKING

Off-street parking areas should be carefully planned to protect the historic character of the district. The removal of mature landscaping and trees to provide parking areas is discouraged. If a new parking area or driveway is required at a location that is currently vegetation, grass-block pavers, clay brick, Belgian blocks, or crushed stone are encouraged.

## 7.2.3 FENCES

Wood picket, vertical board, wood stockade, and ornamental iron fences are found in the Historic District. Chain-link fences and plastic fences are not recommended in the Historic District except on rear areas of lots. In general, new fences should be compatible with the specific streetscape and comply with the zoning ordinance. New fences along street fronts should be designed to allow views of the yard and building. New fences for rear and side yards may be more opaque. Gates should be designed to swing into the private walkway or driveway, not onto the public sidewalk. Fences along side and rear lot lines may be constructed of rough board, plank, or welded wire fabric, but fences near dwellings should be more refined or ornamental.



*A dry-laid stone wall and painted wood-picket fencing are important visual elements of the streetscape.*

## 7.2.4 RETAINING WALLS

Existing historic retaining walls should be preserved or restored. New retaining walls that are visible from a public way should be built with materials traditional to the Historic District. Railroad ties, pressure-treated lumber, and decorative concrete units are not recommended retaining wall materials.

## 7.2.5 SIDEWALKS

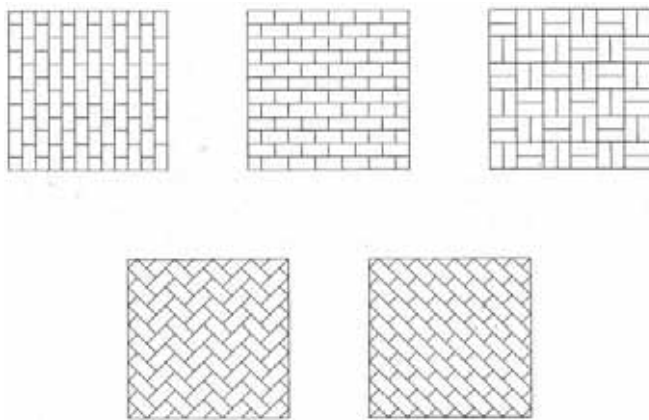
Surviving historic brick sidewalks, most of them laid in a herringbone pattern, should be preserved. New walks should be constructed from materials traditional to the historic district.



*A rare surviving example of brick street paving, sidewalk and edging (Canal Street). Note the varying brick bond patterns: Running bond for the street; herringbone for the sidewalk.*



*Brick street and sidewalk paving at the corner of Bank and Wayne Streets. Preservation of surviving historic brick paving is a Borough policy.*



*Preservation and maintenance of historic brick sidewalks is highly encouraged, including replication of the prevalent, existing brick pattern.*

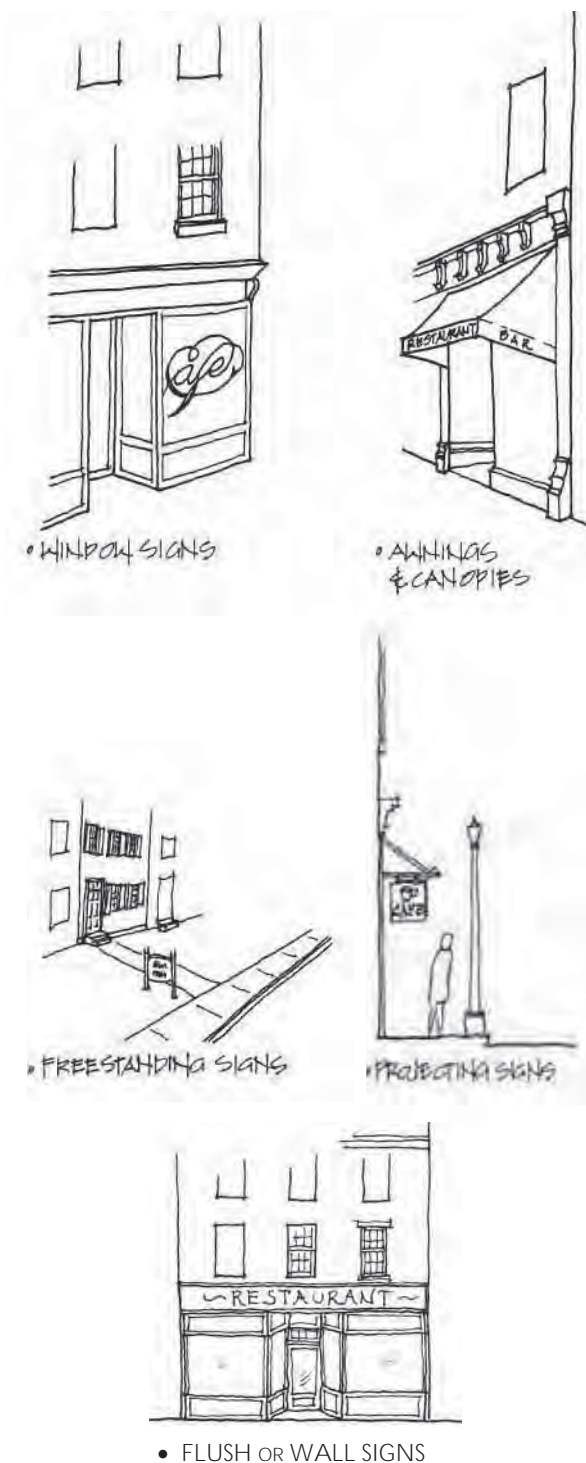
## 7.2.6 SIGNAGE

Signs should be compatible with the scale, proportion, form, and architectural detailing of the building to which they are applied. The Borough signage ordinance dictates requirements for signage. Projecting signs (hung perpendicular to the wall on a decorative bracket) and wall-mounted signs that are rectangular, square, or oval are appropriate to the majority of historic buildings. Free-standing signs are appropriate for buildings that are set back from the front lot line and fronted by landscaping. A traditional sign type such as wood with either carved or painted lettering is highly encouraged. Signs should not obscure any architectural detail. Appropriate colors for signs were traditionally intense versions of building colors— high-gloss bottle greens, olives, golds, and burgundies on a neutral background. On commercial buildings with a storefront, signs should be placed in the signboard area (frieze) located above the storefront windows and below the upper-story windows.

Corporate logos and standard corporate lettering styles that are non-traditional should be de-emphasized in the signage design for a historic building. Creative graphic solutions, in which the corporate logo or corporate lettering style is a secondary element, are recommended.

Where signage lighting is required, gooseneck or hidden lights are recommended. Internally illuminated signs are generally not recommended, except back-lit individual pin-mounted letters.

Street address numerals should be simple in style, with characters not more than 4 inches high. Script styles and the spelling-out of the address are not recommended.



*Diagram of sign types.*





*Period street lighting on 3rd Street, installed as part of a comprehensive Borough improvements project that included lighting, sidewalk paving, street trees, benches, and other improvements.*

## **7.2.7 STREET AND YARD LIGHTING**

Site lighting should be compatible with the Historic District, and may include either traditional (period) lighting fixtures, as employed on 3rd Street, or simple modern fixtures. Yard lighting and parking lot lighting should be post-mounted on maximum 12-foot high posts. High-efficiency fixtures such as mercury vapor or low-pressure sodium are not recommended because of their light color.

# Appendices

## A. GLOSSARY OF ARCHITECTURAL TERMS

**architrave:** 1) The lowest horizontal element of a classical entablature; 2) The ornamental moldings (trim) around windows, doors, and other wall openings.

**asymmetrical:** Not symmetrical

**baluster:** A shaped, short vertical member, often circular in section, supporting a railing or capping.

**balustrade:** An assembly consisting of a bottom rail a row of balusters and a top rail. See Figure 2 for a roof balustrade.

**bay:** A regularly-repeated main division of a building design. A building whose façade is five windows wide may be described as a five-bay building.

**bay window:** A window structure projecting beyond the main wall plane; if attached to the building above ground level, properly called an oriel. See Figure 1.

**blind:** A louvered shutter that excludes vision and direct sunlight, but not indirect light and air, from a house. See Figure 8.

**bond:** The setting pattern of bricks or stones, such as common bond, Flemish bond, etc.

**bracket:** A projecting support placed under an architectural overhang such as a cornice; often ornate. See Figure 1.

**brick mold:** The wood trim between a window frame and wall masonry.

**capital:** The top member (cap) of a column.

**casement sash, casement window:** A window sash which is side-hinged; a window having casement sashes.

**casing:** The exposed architectural trim or lining around a wall opening.

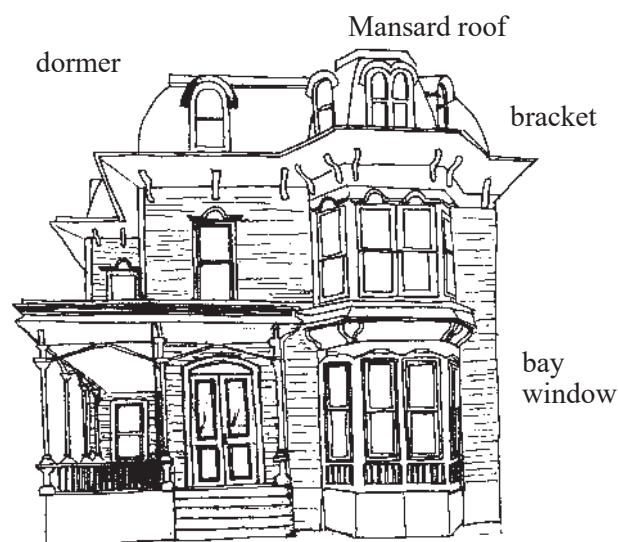


Figure 1.

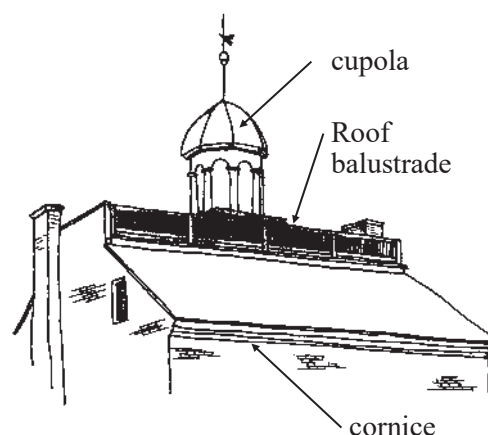


Figure 2.

**clapboards:** Narrow boards applied horizontally to an exterior wall, each of which overlaps the one below it to create a continuous skin over the wooden frame.

**classical:** 1) Decorative elements deriving directly or indirectly from the architectural vocabulary of ancient Greece and Rome; 2) architectural harmony based on the principles of ancient Greek and Roman architecture.

**column:** A long vertical structural member that supports a load; in classical terms, a cylindrical support having a base, shaft, and capital.

**cornice:** Strictly, the upper projecting part of an entablature; in general terminology, the exterior assembly that closes the joint between the wall and roof of a building.

**cupola:** A structure set on a roof ridge, with a dome or hipped roof. See Figure 2

**doric:** One of the 5 classical orders, column usually without a base and with a simple capital.

**dormer:** A roofed structure with a vertical window that projects from a pitched roof. See Figure 1.

**double-hung sash window:** A window with two vertical sliding sashes, each closing half of the window opening.

**door surround:** Decorative treatment at the sides and top of a door. See Figure 3.

**eave:** The lower part of a roof that projects beyond the wall.

**elevation:** The perpendicular view of a side of a building; an accurate drawing of one side of a building that represents its true dimensions in the plane perpendicular to the line of sight. See figure 4

**ell:** A wing or addition extended at a right angle from the principal dimension of building, resulting in an "L" shaped plan.

**entablature:** The horizontal member carried by columns, composed of architrave (bottom), frieze, and cornice (top). See Figure 5.

**façade:** The exterior front face of a building; usually the most ornate or articulated elevation.

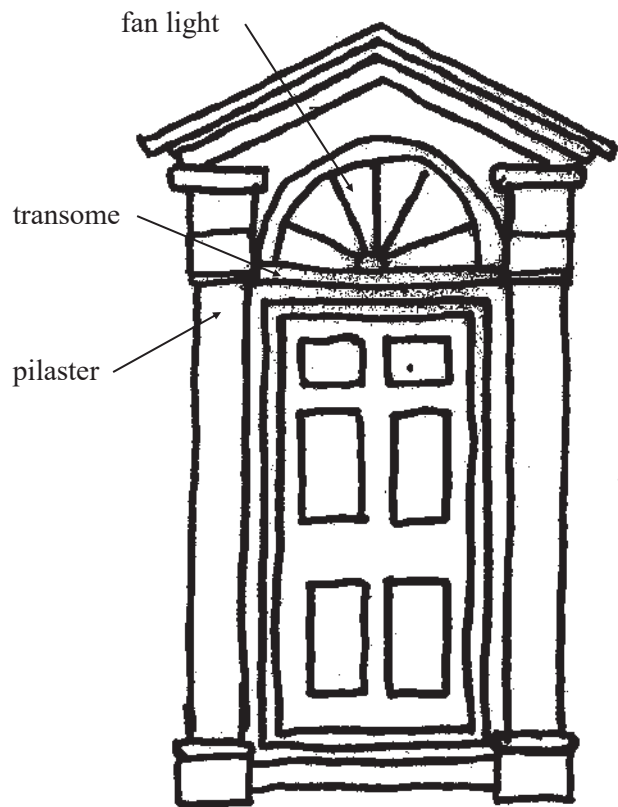


Figure 3.

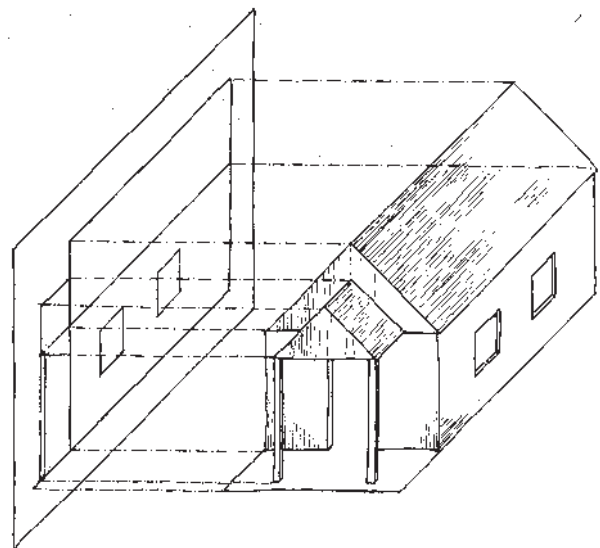


Figure 4.



**fanlight:** A half-circular or half-elliptical window; often placed over a door.

**fascia:** Any long, flat horizontal band or member.

**fenestration:** The arrangement and design of window and door openings in a building.

**French door:** A door with a top and bottom rail, stiles (sides), and glass panes throughout most of its height.

**frontispiece:** An ornamental portal or entrance bay around a main door.

**gable end,:** The end wall of a gable-roofed building. See figure 6.

**header:** In brick masonry, a brick laid so that its end is exposed in the finished wall surface. See Figure 7.

**hip:** The external angle at the intersection of two roof planes; a hip roof has roof planes that slope toward the eaves on all sides of the building.

**hood:** A projecting cover placed over an opening to shelter it.

**In-kind.** Replacement building component matching the original component in material, size, profile, texture, and color.

**light.** A pane of glass in a window sash.

**lintel.** A horizontal structural member that spans an opening, for example a window lintel.

**Mansard roof:** A roof that is double pitched, the lower being much steeper, designed to allow a full story height within the attic space. See Figure 1.

**mass:** Bulk or three-dimensional size of an object.

**massing:** The combination of several masses to create a building volume; organization of the shape of a building, as differentiated from wall treatment, fenestration, etc.

**mullion:** A vertical member separating windows, doors, or panels set in series; often used for structural purposes.

**muntin:** A slender member separating panes of glass in a window sash.

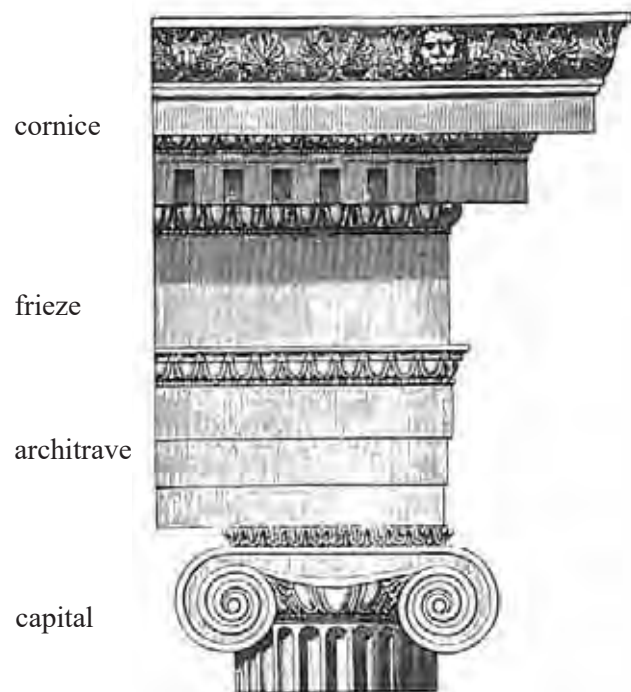


Figure 5.

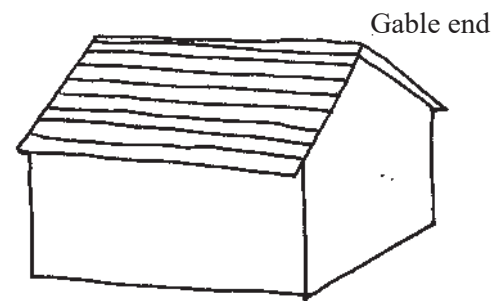


Figure 6.

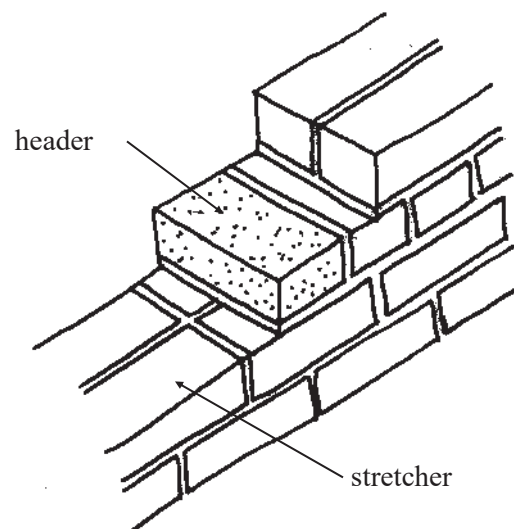


Figure 7.

**order:** In classical architecture, one of the five orders: Tuscan, Doric, Ionic, Corinthian, and Composite.

**oriel window:** A window structure projecting beyond the main wall plane attached to the building above ground level. See Figure 8.

**Palladian window:** A three-part window consisting of a prominent center window unit, often arched, flanked by smaller windows. See Figure 9.

**pane:** A flat sheet of glass cut to size for glazing use in a window; also called a **light**.

**panning:** The wrapping of window trim, door trim, cornices, and other exterior woodwork with aluminum or vinyl sheeting.

**parapet:** A low wall at the edge of a roof or balcony; the portion of a fire wall or party wall above the roof level.

**parge:** A coating of cement-based plaster (stucco) applied over rough masonry work.

**pediment:** In classical architecture, the triangular gable end of a roof above a horizontal cornice; a similar triangular form over a door or window. See Figure 10.

**pergola:** A garden structure with an open wood-framed roof, often latticed.

**picket fence:** A fence formed by a series of vertical pales, posts, or stakes and joined together by horizontal rails.

**pilaster:** A flat vertical element applied to the wall surface that simulates a classical column.

**pitch, roof:** The slope of a roof; usually expressed as a ratio of vertical rise to horizontal run (inches vertical in 12 inches horizontal, for example 5 in 12 pitch).

**plan:** A two-dimensional view of a building, or horizontal section of it, seen from above; hence, a precise drawing showing the arrangement of design, including wall openings and dimensions. See Figure 11.

**porch:** A structure attached to a building to shelter an entrance or to serve as a semi-enclosed space, usually roofed and generally open-sided.

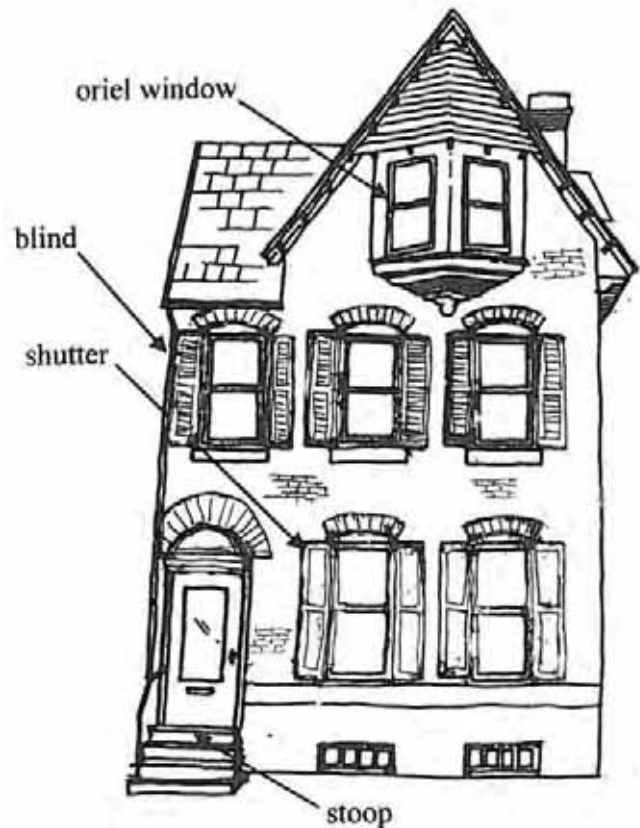


Figure 8.

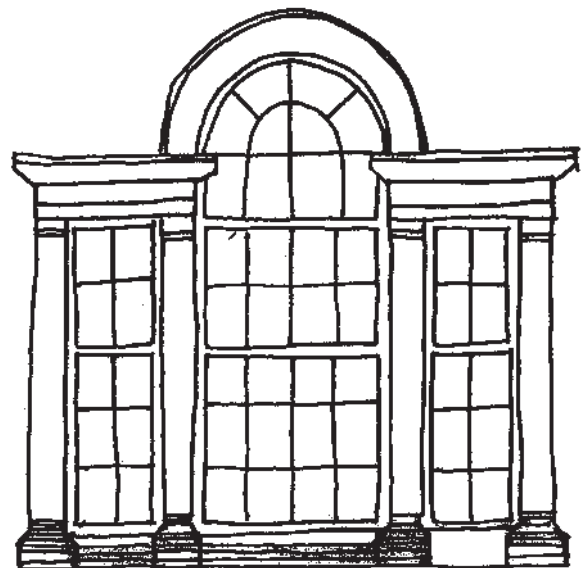


Figure 9.

**proportion:** The relation of one dimension to another; usually described as a numerical ratio; in architecture, proportions determine the creation of visual order through the coordination of shapes in a design.

**quoin:** A masonry (or simulated masonry) unit applied to the corner of a building; often slightly projecting. See Figure 12.

**rhythm:** In architecture, the repeated pattern of building elements such as doors and windows.

**ridge, ridge line:** The horizontal line formed by the juncture of the upper edges of two sloping roof planes.

**sash:** The movable framework holding the glass in a window.

**sealed insulating glass:**

**segmental arch:** An arch in which the arched portion is less than a semi-circle.

**shutter:** An external movable screen or door used to cover a wall opening, especially a window; originally for security purposes; often confused with louvered blinds. See Figure 8.

**sidelight:** A framed area of fixed glass alongside a door or window opening.

**sill:** The horizontal lower member of a window or other frame.

**simulated divided light sash:** A wood sash glazed with a single pane of sealed insulating glass, to which is glued a beveled wood muntin grid at the exterior and a molded wood muntin at the interior, to simulate the appearance of a true divided light window sash.

**site plan:** An accurate scaled drawing of a site (lot) as if seen from above, describing the property boundary and orientation, the location of buildings, driveways, walks and other constructed site improvements, the retained vegetation, and new plantings and finished grade contours.

**skylight:** A glazed opening in a roof plane that admits light.

**stoop:** An uncovered platform and steps at an entrance. See Figure 8.

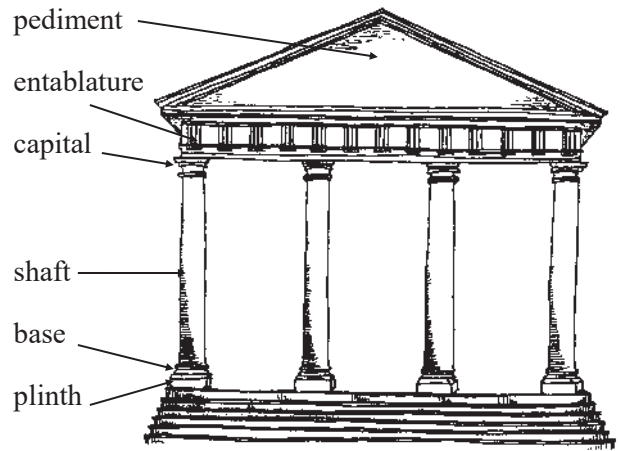


Figure 10.

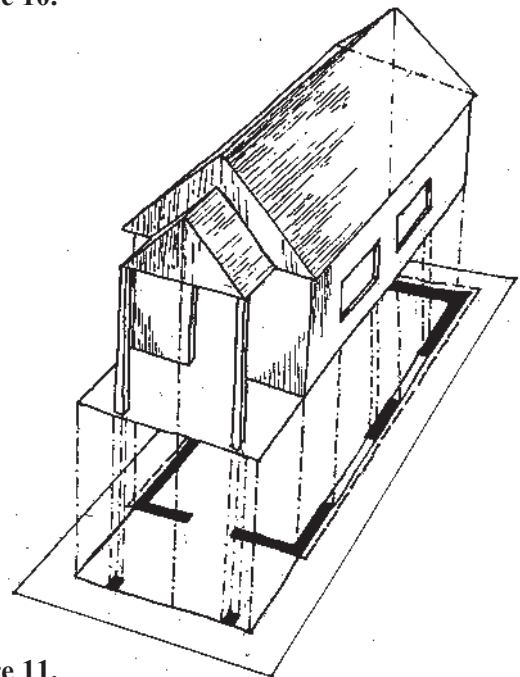


Figure 11.

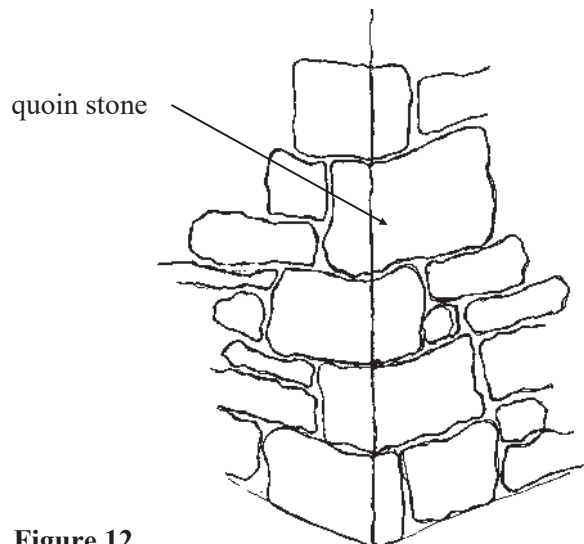


Figure 12.



**streetscape:** A setting or expanse consisting of the street, landscaping, and buildings along a street, as seen by the eye in one view.

**stretcher:** A brick laid with the long side visible in the finished work. See Figure 13.

**string course:** A horizontal course of masonry or wood trim which projects from a wall. See Figure 14.

**symmetrical:** A similarity of form or arrangement on either side of a dividing line.

**transom:** A horizontal bar of wood or stone separating a door from a transom window above it. See Figure 14.

**vernacular:** A mode of building based on regional forms and materials.

**water table:** A horizontal course of masonry or wood trim separating the foundation walls from the exterior walls above. See Figure 14.

(Glossary definitions are in part based on *Historic Architecture Sourcebook* by Cyril M. Harris, Ed., New York: McGraw-Hill Book Company, 1977)

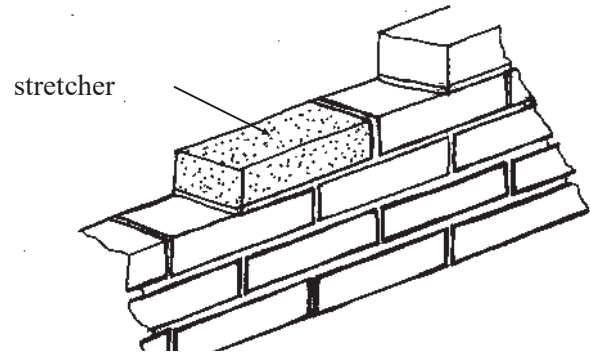


Figure 13.

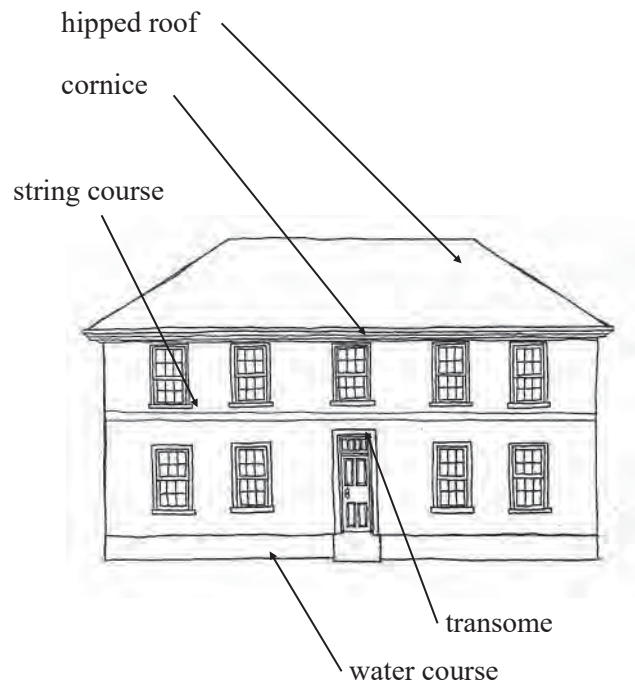
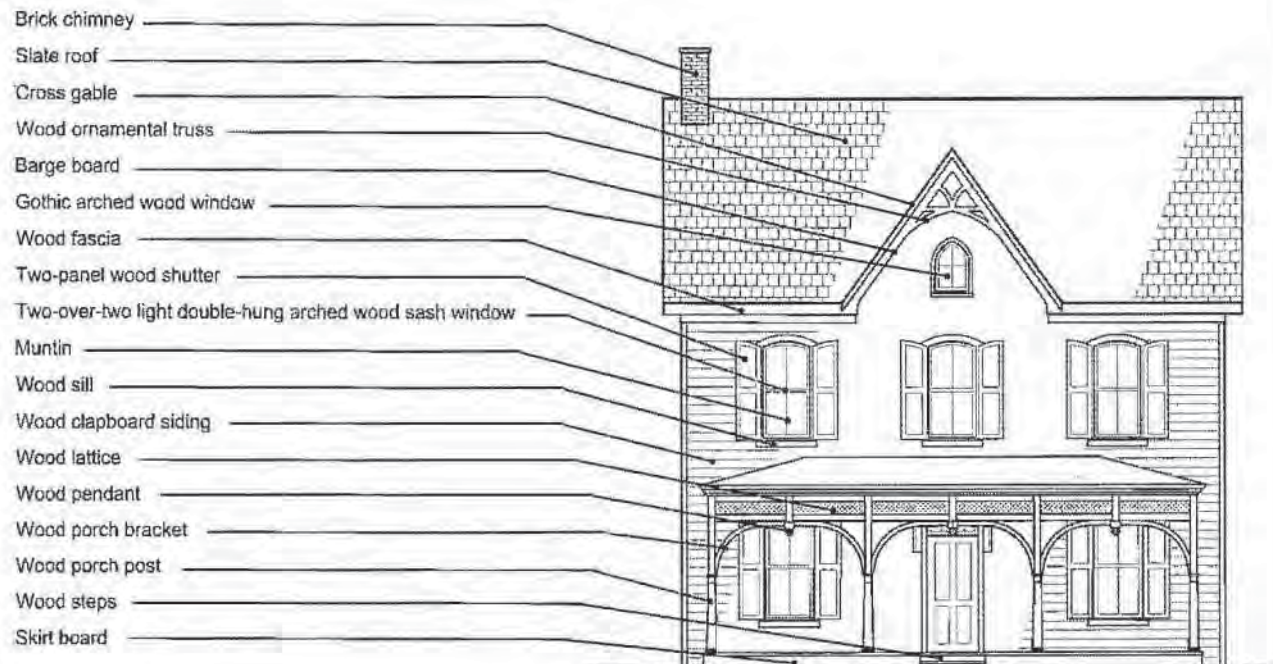
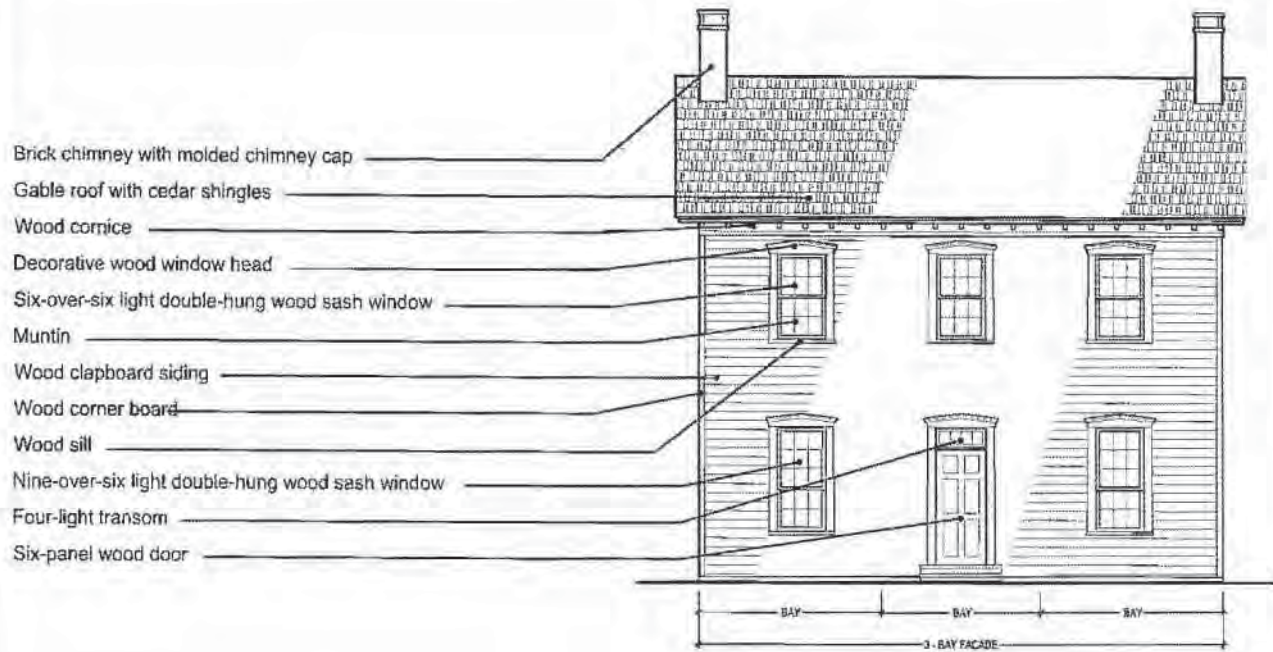


Figure 14.

## GLOSSARY OF TERMS



## B. THE SECRETARY OF THE INTERIOR'S STANDARDS FOR REHABILITATION

The following Standards are to be applied to specific rehabilitation projects in a reasonable manner, taking into consideration economic and technical feasibility.

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 historical 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 historic 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 archaeological 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.

## DEFINITIONS

The following definitions are included in the Secretary of the Interior's Standards, and are useful for distinguishing between various levels of construction activity relating to historic buildings and properties.

**Preservation** is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of a historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project