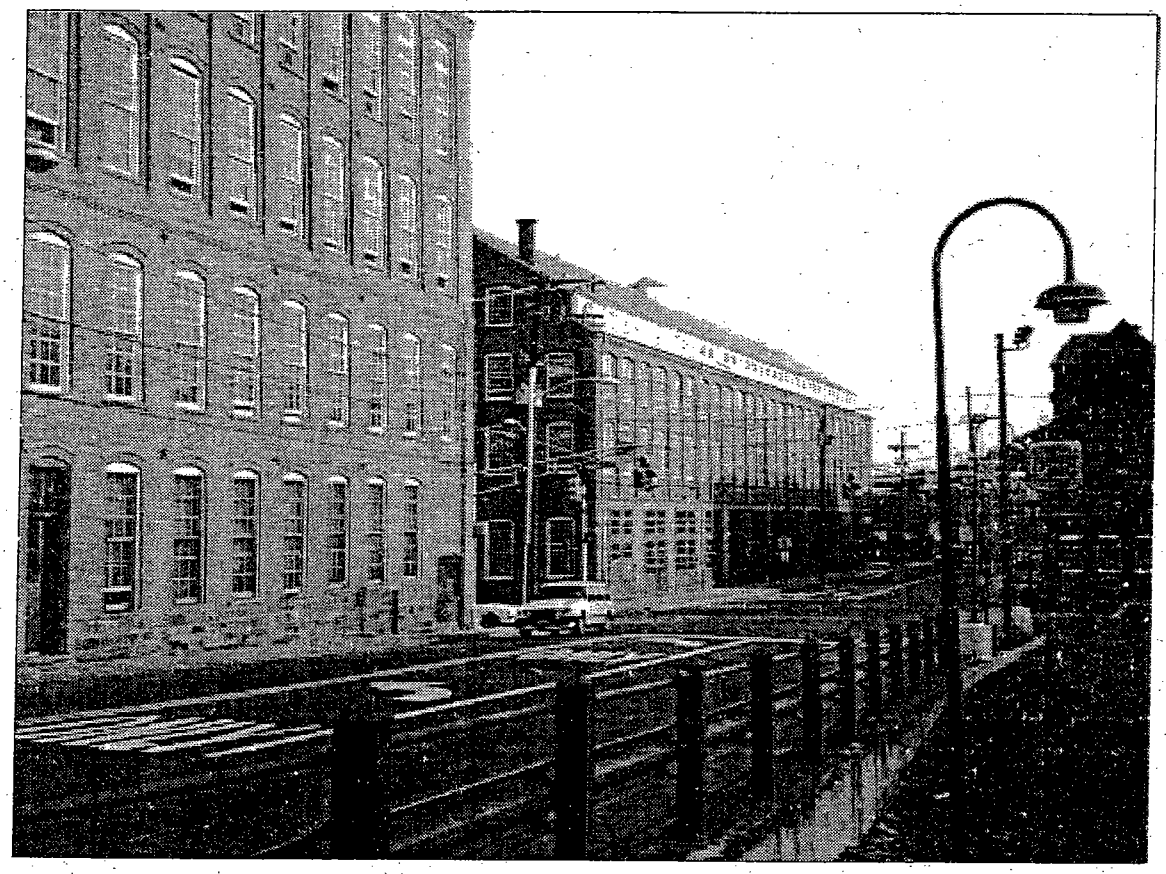
Design Guidelines

for the

# Great Falls National Historic Landmark District

## Paterson, New Jersey



submitted to the

National Park Service
Philadelphia Support Office
Philadelphia, Pennsylvania

and the

City of Paterson
Historic Preservation Commission
Paterson, New Jersey

submitted by

John Milner Associates, Inc.
535 North Church Street
West Chester, Pennsylvania 19380

July, 1999

# Introduction

The Design Guidelines for the Great Falls Historic District are a part of the New Jersey Urban History Initiative, a National Park Service project intended to provide planning and development assistance related to historic preservation in several of New Jersey's historic urban areas, including Paterson. The project is being administered by the Philadelphia Support Office of the National Park Service on behalf of the City of Paterson. The city's Department of Community Development, Office of Redevelopment, and the Paterson Historic Preservation Commission ("the Commission") are overseeing the project for the city. John Milner Associates, Inc. has been engaged as primary preservation planning consultant to prepare the zoning analysis and the design guidelines, and has been assisted in its work on the zoning analysis by planning consultants Norman Day Associates.

The purpose of this project is to provide a working design guidelines document that will present detailed design criteria, specific to the local Great Falls Historic District ("GFH District"), that will assist the Commission in the review of projects within the district. This working document is intended for several audiences: the Commission itself, and the property owners, other residents, and developers within the district. The design guidelines are intended as well to raise the general level of awareness, understanding, and discourse regarding preservation and design issues within the district.

# Acknowledgments

John Milner Associates, Inc., the preservation planning consultant for the preparation of the Design Guidelines for the Great Falls National Historic Landmark District, is appreciative of the assistance and guidance given the project by Flavia Alaya, J. R. Frank, and Mike Wing of the Paterson Historic Preservation Commission, and Alisa McCann, Phyllis Ellin & Bill Brookover of the National Park Service. Frank Blesso, Redevelopment Director for the City of Paterson, provided invaluable background into the more recent history of planning efforts within the district, as well as insights into current development issues. Carl Mecky and Glen Chin have also served with the project's working committee. Ms. Lucy Marcolini of the city's engineering department provided the most current maps available from the city. Mr. Thomas Shadiak, Zoning Officer, Mr. Allen Brown, Construction Official, and George Evans, Assistant City Engineer, also provided useful information regarding the administration of the district.

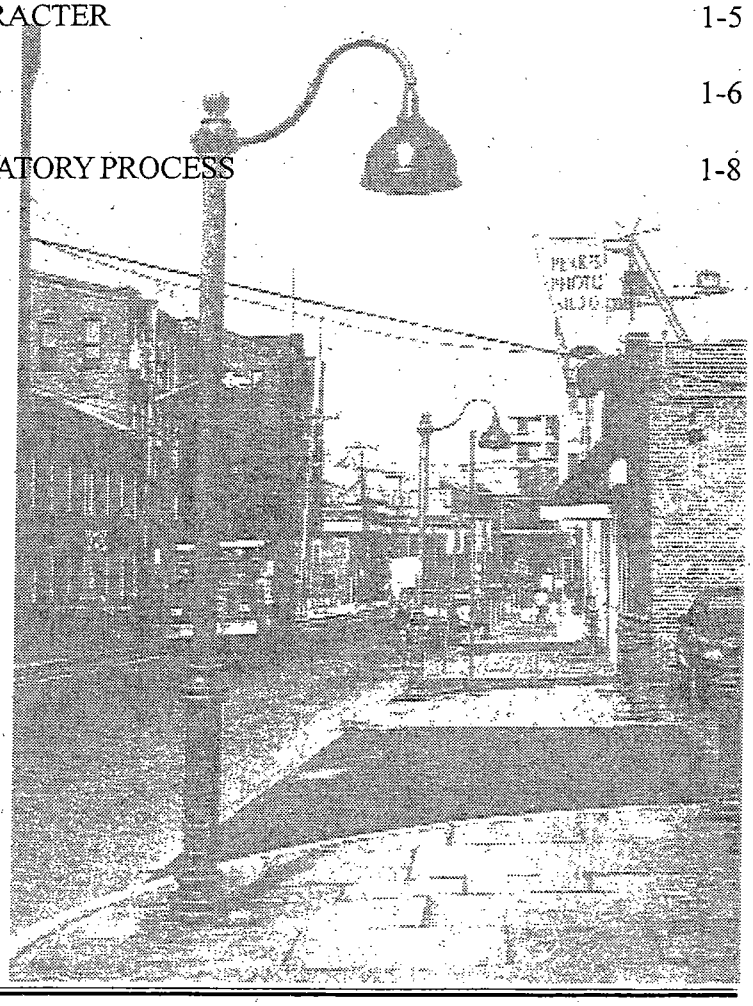
The Design Guidelines was prepared by members of the staff of John Milner Associates. Philip Scott wrote the text and Gillian Goodwin prepared the illustrations. Kathryn Bowers edited the document and Jeannette DiStefano & Oriel Francis executed the graphic layout. Peter Benton provided oversight.

# Table of Contents

# Chapter 1

# Great Falls Historic District: Background





# Chapter 1

# Great Falls Historic District: Background

## History of Development/Historic Significance

The city of Paterson has its origins in the founding in 1791 of The Society for Establishing Useful Manufactures (S.U.M.). Led by Alexander Hamilton, the nation's first Secretary of the Treasury, the S.U.M. was dedicated to the idea that a strong industrial base would be the best means to guarantee the stability, strength, and independence of the young Republic. Identifying New Jersey as the likely location, several sites were scouted along the Passaic, Delaware, and Raritan Rivers, with the Passaic proving to be the most feasible. Ambitious schemes were put forth for a "national manufactory," one involving the purchase of over eighty square miles of territory and another the construction of a seven-mile transportation and hydraulic canal/raceway from above the Great Falls to tidewater at the present location of the city of Passaic. Having failed to convince the US Congress to establish and subsidize a national manufacturing center, Hamilton and the S.U.M. prevailed upon the New Jersey legislature to incorporate the S.U.M. as a private concern, and to grant it broad powers to determine development along the Passaic, including tax incentives.[1]

Financial concerns, as well as the implication of the S.U.M.'s governor in a scheme that induced the country's first stock panic and resulted in the first economic depression, led to the S.U.M.'s decision to downscale the project. In 1792, the S.U.M. authorized the purchase of 700 acres for the nation's first planned industrial city, located directly adjacent to the Great Falls in order to take advantage of the vast water power generated by the 65-foot hydraulic head of the Passaic River where it breaks through the Watchung Mountains. Later that year, Pierre L'Enfant, who had recently completed the design for the nation's new capital city, Washington, DC, was engaged to design and oversee construction of both the hydraulic system and the city of Paterson itself. His scheme was also somewhat grandiose, involving a huge Roman-style arched aqueduct that would divert the entire flow of the Passaic and include a tow path and cartway. Ten houses were constructed by the end of 1792, with fifty more foundations dug.

[1] Hamilton's proposal that the mayor of Paterson be appointed "for life" by the Board of the S.U.M. was rejected by the legislature, and Paterson was unincorporated and unchartered until forty years later in 1831. Indeed, the first strike in Paterson was in 1794, and had to do with the absence of adequate schools for workers' children. Later, under Roswell Colt, the S.U.M. would not pay for street improvements. In today's terms, Paterson's origins are essentially as a speculative industrial park, though a supremely visionary and significant one.

As work on the hydraulic system proceeded, it became clear that a professional manager would be required for the operation of the entire industrial complex. In 1793, Peter Colt was hired as the superintendent of the entire operation. L'Enfant, difficult in person and then absent during the winter of 92-93, was relieved of his responsibility for everything except the construction of the hydraulic system. When it became clear that the aqueduct would not be complete in time to operate during that manufacturing season, L'Enfant was dismissed and left Paterson, never to return, taking with him the drawings for the hydraulics system as well as his plan for the city of Paterson. The drawings are said to have been lost in a fire.

It was left to Colt to complete construction of the hydraulic system by modifying L'Enfant's design, eliminating the costly aqueduct and substituting a reservoir contained by an earthen embankment. The S.U.M.'s first cotton mill began spinning operations in July of 1794. When Colt left to work on the project that would become the Erie Canal, his management acumen was missed. Production problems due to a fundamental lack of understanding of the manufacturing process led the S.U.M. to cease operations in 1796. By 1801, the site had been virtually abandoned; Paterson's population of 500 had fallen to 43.

From that point forward, the S.U.M. became essentially a real estate development and power utility, providing the essential water power to its industrial tenants and customers. In 1804, the Old Yellow Mill was constructed, the first manufacturing concern that was not controlled by the S.U.M. A paper mill, its brownstone foundations are still visible where they were incorporated into the rear portion of the Essex Mill. When Roswell Colt took over in 1809, he encouraged the further development of cotton mills. Peter Colt returned to Paterson in 1811, and when the war of 1812 erupted and the United States was cut off from trading partners, the need for domestic goods increased and Paterson was poised to expand and diversify its production capacity.

The need to provide and repair the machinery for Paterson's textile mills gave rise to a machinery industry as early as 1812 when Thomas Rogers founded the first of his several concerns. In 1832, the Colt Gun Mill began to produce revolvers. In 1836, Rogers won a contract to reassemble a steam locomotive that had been manufactured in England and disassembled for shipping to the United States. In the absence of international patent law, he studied the locomotive, made patterns from each of the parts, and produced Paterson's first locomotive in 1837. Three locomotive companies in Paterson were responsible for 80% of all locomotives produced in the United States during the 19th century. By 1873, the Rogers Company alone employed 1,650 workers and produced a locomotive every two days. The silk industry would supplant the machinery industry in Paterson, increasing 370% to become a $14 million per year industry during the 1870s, and employing one-third of the nation's silk workers. The silk boom continued until 1919.

In order to accommodate the burst of industrial activity, the S.U.M. had to alter and expand the raceway system several times during the course of the early 19th-century. When in 1838 Colt's earthen embankment failed and the reservoir had to be abandoned and infilled, the ultimate layout of the raceway system most resembled L'Enfant's original plan. Interestingly, the earliest mills were at approximately the

level of the middle raceway. Expansion moved both down and up, making the original tailrace into the lower raceway and raising the head with a new dam and turning the water south to make the upper raceway. In its final form, the raceway system was capable of delivering water sufficient to develop 2000 horsepower. When the S.U.M. switched to hydroelectricity in the early 20th-century, its four modern turbines were able to generate 6500 horsepower.

As Paterson's industries grew and diversified, so did the population who provided the labor. Between 1850 and the turn of the century, the population increased from 11,000 to 105,000, growing by an average of 50% per decade. Residential development, some of which is still in place, occurred immediately surrounding the industrial area and expanded south and east. The S.U.M. had stipulated in 1792 that houses be 18 feet wide, 24 feet deep, and 12 feet high to the plate, with cellar and garret. The stipulation that houses be of brick or stone may have resulted from L'Enfant's grand vision, for it appears that many of the houses within the Great Falls Historic District were of wood frame construction. The absence of skilled labor and the explosive need for unskilled labor offered opportunity to the immigrants who are a critical part of Paterson's history. The Irish and English certainly dominated during the 19th century, giving way to the Italians, but several other ethnic groups were in Paterson as well. The 20th century finds Paterson continuing to accommodate diverse immigrant groups, with a substantial Spanish-speaking population.

The key determinant of the urban design of the area comprised by the Great Falls Historic District was the layout of the hydraulic system. Essentially, buildings were situated to take best advantage of the hydraulic power that was delivered by way of the raceway system. Although the upper raceway included locks to allow barges to be floated right up to the mills, most mills were dependent upon the system of surface streets for receiving raw materials and shipping finished goods.

Although L'Enfant left with the plans, it appears that the layout of the district was quite ordered throughout its development. An 1836 view of the Rogers, Ketchum and Grosvenor works shows a relatively small-scale orderly operation in a rather bucolic setting with farm fields, split-rail fencing, and haystacks in the background between the factories and the embankment of the Morris Canal. A photograph from 1860 looking south down Spruce Street shows the same buildings in place but with several more lining what is now a discernible street. In the early 1870s the Rogers Works mounted a substantial rebuilding campaign, transforming itself into a large-scale operation with separate large buildings to house the different industrial processes including pattern making, foundry, blacksmithing, turning, planing, and erecting. An 1897 view shows the Rogers Works completely built out on its site with substantially built large and small buildings occupying virtually all the available space. Indeed, insurance maps from this period show a very densely developed industrial precinct, clustered around the power supply and hemmed in by the residential districts directly adjacent. The dense industrial character of the district, almost campus-like in its singularity of purpose and earnest intent, must have been unparalleled anywhere in the country.

As an important industrial center and the home of European immigrants already educated in organizing workers, Paterson was the site of historic labor unrest that focused on anti-child labor legislation, safety in the workplace, a minimum wage, and reasonable working hours. The drama that played out in Paterson in the great silk strike of 1913 included some of the most important early figures in early 20th century American labor history. From the balcony of the Botto House, the leaders of the Industrial Workers of the World (the IWW or "Wobblies") rallied workers during the Paterson silk strike of 1913, a critical juncture in the history of the American labor movement. The strike also signaled the beginning of the decline of Paterson's industrial base and the end of its powerful contribution to the nation's economy.

The significance of the Great Falls Historic District cannot be overstated. The first planned industrial city in the country, Paterson represents one of the founding father's attempts to put into practice the central political idea of independence. Paterson's physical form and engineering accomplishments are the products of some of the best minds of the late 18th century, including Alexander Hamilton, Pierre L'Enfant, and Peter Colt. The existing buildings include one of the best and most concentrated collections of early industrial buildings in the country.

The significance of the district was formally recognized in 1970 with the listing in the National Register of the Great Falls of Paterson and the S.U.M. National Historic Landmark District, the boundaries of which were extended in 1975 and again in 1986. The locally-zoned Great Falls Historic District was created in 1978.

## Description of Physical Character

Given the importance of the topography to the history and interpretation of the Great Falls Historic District—the dramatic waterfall, rock outcroppings, and riverside park land, the engineering of the raceway system, and the substantial and dignified mill buildings set among open spaces and interspersed with ruins and abandoned buildings—it is perhaps most appropriate to think of the character of the district in terms of a diverse and evocative landscape. With the loss of many of the historic mill buildings that once clustered around the Great Falls, the landscape as it is has taken on a significance of its own. America's industrial revolution has been likened to a machine in the garden; in Paterson, the machine is rusting as the garden reasserts itself. The portrait is both tragic and poetic.

One of the distinctions of the Great Falls Historic District is that cause and effect are so clearly evident; the power source at the falls is linked by the raceways to the industrial buildings. The raceways are the linear argument that explains the transparent logic behind the design of the place, connecting the mill buildings that support the argument. The central engine of the place, the Great Falls has determined everything. An element of mystery comes from its being rather hard to find, tucked away within its basalt chasm.

The Great Falls Historic District is fundamentally about work, *industry* in its truest sense. It is not merely an industrial landscape, but a landscape of industry. The district bears eloquent testimony to astounding feats of engineering and construction, to ingenious manufacturers, and to the courage, creativity, and drudgery of untold lives spent within the mills. It is also about the human propensity to harness the forces of nature, to put water and gravity and stone to work. The district retains the sense of having been one large factory driven by one powerful engine, an image completely consistent with Hamilton's vision of a centralized national manufactory.

The physical character of the district is quite varied. The district includes almost 3/4 of a mile of the Passaic River, with significant portions of open space both on the north side of the river and above the upper raceway surrounding the reservoir. At its southwestern extent, the district includes a rather nondescript commercial strip along McBride Avenue; along its eastern flank it borders the primary central business district of the city. The district includes intense industrial activity in historic mill buildings along Spruce Street and Van Houten Street, commercial and residential uses in the renovated Franklin, Essex, and Phoenix Mills, large open spaces where mill buildings have been lost along Market Street, the large Allied Textile Printing complex severely damaged by fire and left in a state of ruin that gives a strong hint of just how densely built out the district once was, and the serene walkway along the upper and middle raceways. The district also includes a very large trolley/bus barn in use by New Jersey Transit, small-scale residential houses along Mill Street, and neighborhood commercial buildings at Van Houten Street.

## Development Pressures

With several large building sites available, excellent access to major transportation routes, good public transportation service, a location directly adjacent to the central business district, and the appeal of being a National Historic Landmark District, the Great Falls Historic District is under a great deal of development pressure. Change and growth are the necessary dynamics of a healthy economy and vital community. While the Great Falls Historic District represents a significant potential contributor to the economic development of Paterson, both as a development site and as a tourist attraction, development must be directed and channeled in a manner that complements and is consistent with the historic character of the district. To damage the historic character of the district will be akin to killing the goose that lays the golden eggs. It should be noted that development pressure refers not only to the changes that result from growth and new construction, but includes the loss of existing resources.

There are several large construction projects that have been proposed for sites within the district including retail and income-based housing at the Hamilton Mill site, the rehabilitation and addition to the New Jersey Transit Bus Garage, a parking garage on the site of the Grant Locomotive Company erecting shop site on Market Street (currently a large parking lot between the Cooke Locomotive Administration Building and the Union Works Building) and medium-density residential development at the Allied Textile Printing site. The rehabilitation and restoration of the severely damaged Public School #2 is completed. This severely deteriorated building will be adapted for reuse as a child development

center, with a newly constructed link to the present adjacent school, and the open part of the site being used as outdoor play space. Handled properly, each of these projects represents an opportunity to contribute to the retention of the overall character of the district.

The district also is threatened by further loss of industrial use and by incompatible use. The city has had increasing difficulty in attracting industrial enterprise to the Great Falls Historic District. Access to the district is excellent from a number of major highways, and there is a large labor source in Paterson, but the buildings themselves do not lend themselves easily to modern industrial processes. The buildings along Spruce Street and along Van Houten Street, the areas of most dense industrial use, are on very tight sites and have little parking. The loss of industrial activity is a critical threat to the unique character of the Great Falls Historic District; it is also detrimental to efforts to interpret Paterson's industrial past.

Probably the most devastating development pressure within the Great Falls Historic District has been "demolition by neglect." Vandalism, fires, and deterioration due to the elements have resulted from neglect and have, in a relatively short period of time, severely eroded the integrity of the district. It is sobering to look at a late 19th-century insurance map, a 1974 plan of the district, and a 1996 map, and to realize how much has been lost in the last quarter of a century. As of this writing, there are at least two significant buildings within the Great Falls Historic District that are open to the elements and seriously endangered—the Cooke Locomotive Administration Building and the Addy Textile Mill. With these two exceptions, standing buildings within the Great Falls Historic District are either highly desirable for rehabilitation or in good condition, or both.

The issue of density within the Great Falls Historic District is a critical one. At its peak, the area now comprising the district was densely built up with industrial buildings, as can be seen along part of Spruce Street. That density has now eroded due to the loss of many of the historic industrial buildings. The medium- and large-scale development projects presently proposed will have enormous impact on the density of the Great Falls Historic District. The design of these projects will be essential in preserving and even strengthening the historic character of the district. While most zoning is created to prevent over-development, in the Great Falls Historic District under-development could be just as damaging, and may be more likely to occur.

The complement of appropriate density is the importance of open space to the district. Several areas of the district are designated as park land and will most likely remain open. Development should proceed in a manner that links the open spaces and allows views into and out of these open spaces so that the topography which is so important to understanding the history of the district is not obscured.

Finally, the city of Paterson, more than many northeastern cities, continues to suffer from the withdrawal of industries. The resultant lack of resources plays itself out in myriad ways. The city administrators have taken on enormous and complex burdens. The danger exists that decisions may be made expediently,

without proper planning, and with only short-term goals in mind. This could be particularly damaging to the Great Falls Historic District where decisions must be made in the context of long-term goals. What may appear to be the safest development proposal might not be the best, in the long run, for the district or the city.

## Design Review and the Regulatory Process

The Zoning and Land Development Ordinance (1978) of the city of Paterson establishes design review within the Great Falls Historic District as follows:

> No new construction, reconstruction, demolition, restoration, exterior or interior replacement, alteration or other work which would change the exterior appearance of any structure, or site including the erection or removal of signs, shall be undertaken on any historic site or landmark or within any historic district without first obtaining from the Construction Official a permit to perform such work. (Section 1211.2)

The Paterson Ordinance also establishes the Historic Preservation Commission and empowers it to review all plans for improvements within the district that are referred to it by the Construction Official, the Planning Board, and the Zoning Board of Adjustment. The design guidelines that appear in Chapters 3 through 7 of this document are a result of the Commission's charge to

> Develop and, from time to time, amend specific regulations and standards for reviewing and approving any changes to structures in the District. Such regulations and standards shall be approved by resolution of the Paterson City Council, prior to taking effect. (Section 1211.1.7)

Stated most simply, the purpose of design review is to assure that alterations to existing buildings preserve their historic fabric and character, and that new construction will be compatible with the historic character of the district. The guidelines that follow are an attempt to provide a clear means by which to discuss and evaluate the preservation of historic fabric and compatibility with historic character.

The design review process begins when a property owner files a permit application with the Construction Official for a project within the Great Falls Historic District. If the Construction Official determines that all other terms of the zoning code are met, within five days the official will forward the application material to the Commission for a preliminary sub-committee review. (If all terms of the zoning code are *not* met, the Construction Official will refer the applicant to the Division of Planning and Zoning for instruction on how to proceed with an application for review by the Planning Board or the Zoning Board of Adjustment. In the course of such review the Division of Planning and Zoning will forward the application to the Commission.)

Within seven days of the receipt of materials from the Construction Official or the Division of Planning and Zoning, the sub-committee will make a determination approving the permit if 1) the proposed work is

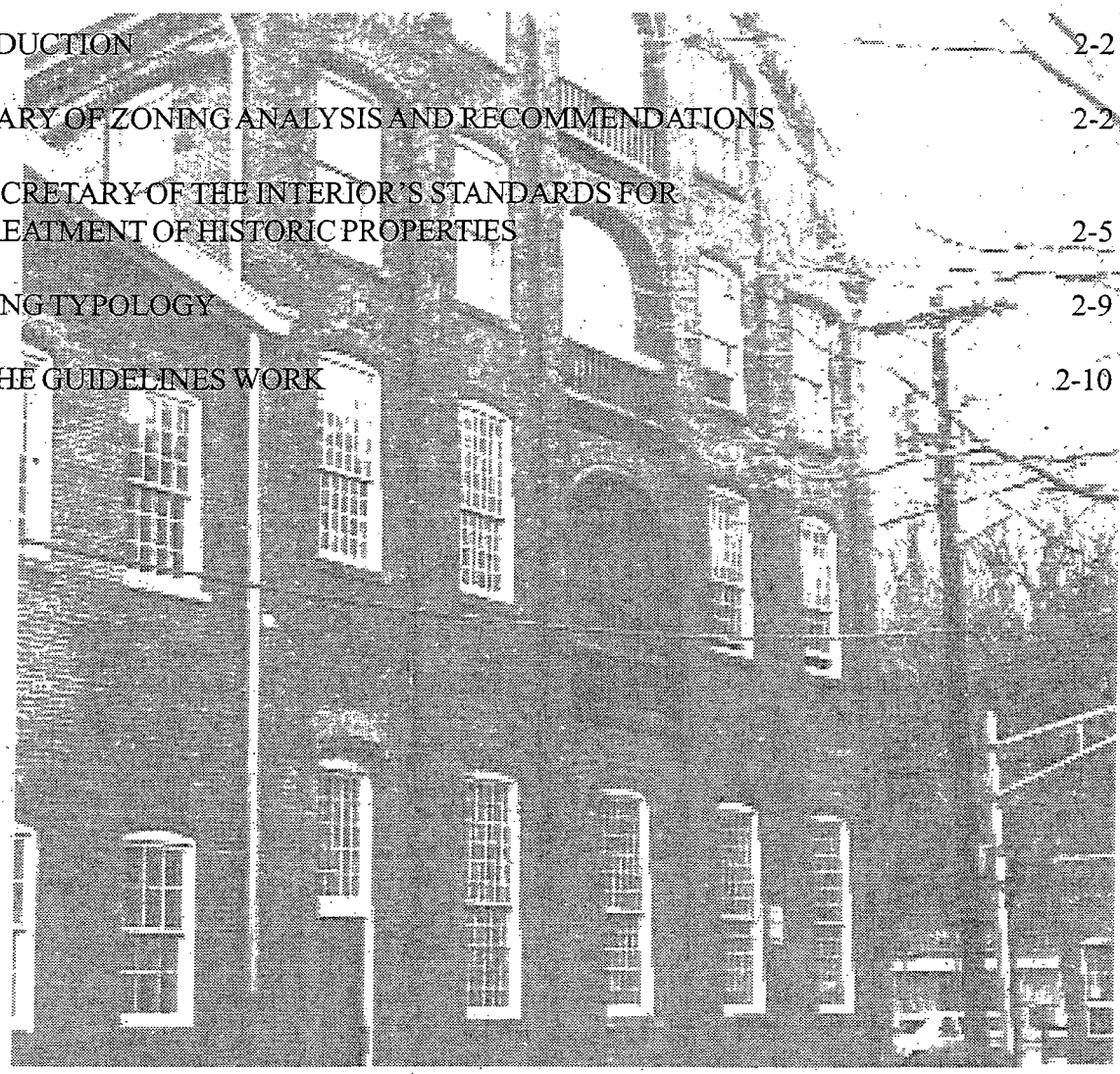
maintenance or repair exclusive of changes in design, material, color and/or outward appearance; or 2) the Construction Official has certified that the proposed work is necessary to remove or rectify a dangerous condition; or 3) the proposed work would not materially impair the historic social, cultural, architectural, or aesthetic significance of the district and refusal of the permit would impose substantial hardship on the applicant. If none of the above three conditions are met, the application will be forwarded for review by the full Commission.

Within 45 days, the Commission will evaluate the application and write a letter to the Construction Official recommending either approval, or conditional approval based upon changes in the plans that are acceptable to the applicant, or denial. If the Commission recommends denial and the application is one that requires the review of the Planning Board or the Zoning Board of Adjustment, "the Board shall give great weight and deliberation to the recommendation made by the Commission." (Section 1211.5.2)

# Chapter 2

# Preservation Approach





# Chapter 2

# Preservation Approach

## Introduction

The overall approach to preservation within the city of Paterson is to direct and define development in a manner that reconciles the growth and change that are absolutely essential for a vital community with the goal of retaining and promoting the remarkable character of the Great Falls Historic District (GFH District). Paterson, as in few other historic landmark districts, represents a setting where development has strong potential actually to improve the character of the district, restoring some of the density that has been lost. Indeed, in Paterson preservationists should embrace development as an opportunity to restore the sense of industry that is the spirit of the place. The recommendations that are included in Chapters 3 through 7 are flexible enough to allow some measure of mutual benefit to what at first glance might seem to be the irreconcilable forces of development and preservation.

## Summary of Zoning Analysis and Recommendations

The first step in the formulation of the design guidelines that follow was to analyze the existing zoning ordinance as it pertains to the preservation goals set by the Paterson Historic Preservation Commission, and to make recommendations as to where the ordinance might be revised to better serve the goals of preserving the historic character of the district.

Whether or not these suggested revisions, summarized below, are incorporated into the ordinance, both property owners and the Commission should be guided by their intent.

**Section 513.1 Intent**

- Acknowledge the national importance of the district as a historic resource.
- Refer to the intent to integrate the district into the life and fabric of the city.
- Stress the potential economic benefits that an appropriately developed historic district will offer the city.
- Acknowledge the mixed-use character of the district.

- Emphasize the importance of the street as major public spaces and the building's role as infill.
- State the pedestrian orientation of the district.
- Introduce the concept of a network of small-scale green spaces throughout the district.
- Introduce the concepts of appropriate scale and character for new construction within the district.

**Section 513.2.1 Permitted Principal Uses/ Residential Uses**

- Revise the ordinance to allow apartment buildings up to 60 feet tall or four stories in order to be consistent with that of nearby historic mill buildings. Establish limits for townhouse and garden apartment-type development. Prohibit this type of use in most of the district, particularly in the former location and adjacent to historic large-scale industrial use.

**Section 513.2.2 Permitted Principal Uses/Commercial Uses**

- Provide the restrictions on business use to allow or encourage a mix of commercial uses specific to the historic district, including stores intended to serve local residents as well as non-residents.
- Establish incentives and standards such as design guidelines, minimum or maximum square footage, maximum setback lines, a prohibition on vendor carts, a prohibition on certain kinds of signs in front window displays, and a prohibition on drive-through facilities.
- Include tourist hotels as a permitted use. Specifically, prohibit single room occupancy-type hotels. Require hotels to have facilities in addition to overnight accommodations, such as restaurants, common rooms, and conference facilities.

**Section 513.2.4 Permitted Principal Uses/Community Facilities and Services**

- Encourage the construction of enclosed multi-storied parking structures.

**Section 513.3 Permitted Accessory Uses**

- Amend Section 513.3 of the ordinance to allow and encourage signage that will enliven and contribute to the historic character of the district.

**Section 515.0 Area Yard and Height Requirements**

- Raise the height limitation of multiple-family residential structures from three stories to five and to 60 feet. Establish a minimum height limitation of three stories. Eliminate the 20-foot

minimum front yard setback requirement for all residential structures. Require lots to be built out either to the sidewalk or to the historic building line, eliminating or minimizing front yards.

- Eliminate the side yard requirement to encourage the infilling of the street wall. Create a maximum allowable side yard requirement such as 10 feet or 10% of the lot width, whichever is more, but not to exceed 30 feet total for both sides. Reduce the minimum allowable lot widths, so as to allow higher density of construction. Increase the allowable floor area ratio from 2.5 to 3 and increase the allowable lot coverage to 75%. Prohibit parking in front yards or on lots in front of any building. Restrict surface parking to rear yards and to side yards, limited to 24 cars. Side yard lots must have minimum 15-foot front yard setbacks that are landscaped to screen the lots from view.

- Where the existing street and property lines have been obliterated, such as the ATP site, they should be resurveyed and reestablished, so as to provide the ground plan for a recreation of the scale, density, and massing of that section of the GFH District. Establish a minimum height of three stories and a maximum height of four stories for buildings having business or industrial use. Prohibit the construction of one- and two-story buildings within the GFH District.

- Eliminate the minimum front yard setback requirement of 10 feet. Require lots to be built out to the sidewalk or to the historic building line, or set back only as far as there is historic precedence for on that particular block.

- The minimum lot area of 10,000 square feet and minimum lot width of 100 feet are rather small, given the large-scale precedent for business and industrial structures within the district. Mass infill buildings appropriately so that meeting the minimum requirement will not detract from the character of the district.

**Section 516.04 Area Premiums**

- Recommendation: Create an open space plan for the district. Priorities include development cost and a timetable tied to development.

- Require developers to participate in the implementation of the open space plan. For developers who propose to exceed the allowable floor area, a flexible regimen of requirements can be established, such as a fee in lieu that would be applied towards the maintenance and upkeep of public open space within the district or make specific improvements to open areas of his own property or adjacent land such as a courtyard.

**Section 802.0 Off-Street Parking Design Standards**

- Specifically prohibit parking in front yards within the GFH District. On corner lots, specifically prohibit parking on either frontage.

- Limit parking in side yard to 24 cars, with a minimum landscaped setback of 15 feet.

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

The recommendations contained within these design guidelines are based upon *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (1978, revised 1983 and 1995). The durability of the *Standards* is testimony not only to their basic soundness, but also to the inherent flexibility of their language. The *Standards* are not design guidelines; they provide a shared philosophy and approach to the solution of problems to those involved with managing the treatment of historic buildings. In and of themselves, they cannot provide a property owner or reviewing authority with specific solutions for specific problems. The *Standards* inform judgment, but do not replace it. The *Standards* have served as reference points in developing these design guidelines, and they should continue to serve as references during the processes of design and design review.

The recently revised *Standards* identify guidelines for four different **treatments** for historic properties: preservation, rehabilitation, restoration, and reconstruction. These treatments are briefly defined as follows:

**Preservation**. 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.

**Rehabilitation**. The act or process of making possible a compatible use for a property through repair, alterations, and additions, while preserving those portions or features which convey its historical, cultural, or architectural values.

**Restoration**. The act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period.

**Reconstruction**. The act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.

For the purposes of this document—intended primarily for the use of property owners and designers who are seeking guidance with regard to the design of maintenance and repairs, alterations, additions, and new construction—the treatments that are most relevant are **preservation** and **rehabilitation**.

Each treatment has specific *Standards* that go further to define general guidelines for the individual treatments. The guidelines for rehabilitation incorporate those for preservation and go on to include also guide-

lines for new construction and additions. Because they articulate basic philosophical principles which are fundamental to historic preservation and which have withstood the test of time, and because of their implications for property owners in Paterson, it is worthwhile to include an outline discussion of the Secretary's *Standards for Rehabilitation.* The *Standards for Rehabilitation* have been likened to the "ten commandments" of preservation, and are quoted in full as follows:

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

3. Each property will 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 elements from other historic properties, will not be undertaken.

4. Changes to a property that have acquired historical significance on their own right will be retained and preserved.

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

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

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

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

10. New additions and adjacent or related new construction will 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.

Standard 1, requiring *compatibility of use*, is the only standard in which the impact of a proposed reuse of a historic building is addressed. (Questions of use are typically fully and appropriately addressed in zoning ordinances and building codes.) The principle of this standard—that a proposed reuse of a historic structure for purposes other than that for which it was initially designed should have minimal distinctive architectural consequences—is to a certain extent self-evident. That is to say, reuses that will result in destructive architectural treatments are unacceptable. However, for reuses where the anticipated impact of a proposed reuse is not readily apparent, evaluation of the architectural treatment rather than the proposed use itself will still be required.

Standard 2, recommending the *retention and preservation of character-defining features*, is one of several statements in the *Standards* which emphasize preservation of as much building fabric as possible. Thus, alterations that accommodate existing original or historic building fabric are, under this standard, clearly preferable to those that require removals of such fabric.

Standard 3 recommends *historical honesty*, and is a clear endorsement of "true" versus "false" history. This standard is thus the basis for the prevention of such practices as conjectural restoration of building features or the grafting of architectural features taken from one historic building onto another. This standard also provides a clear basis on which to discourage, if not prevent, the practice of building new buildings in an historicized idiom.

Standard 4, which requires the *acknowledgment of physical evolution* of historic buildings, is a critical component in the evaluation of treatments for a historic building which has undergone many changes. This standard not only accepts but values the fact that most historic buildings contain the record of their own evolution and thus are valuable records of changes in taste and use. This standard would provide the basis for discouraging such practices as replacing historic metal roofing with wood shingles, even in cases where a wood shingle roof is known to have originally existed. It would also discourage tearing down a late-19th-century addition to an early-19th-century mill building.

The clear implication of this standard is that, unless it is intended that a building undergo an accurate restoration to a specific period based on adequate documentation, it is best to recommend repair and/or replacement of historic building features *in-kind*, whether or not they are part of the building's first construction period.

Standard 5 requires *preservation of the distinctive components* of historic buildings, and is a straightforward endorsement of preservation whenever possible. Standard 6 requires *repair rather than replacement* where possible and, where it is not, *visually matching replacements*. These two stan-

dards articulate the strong preference in preservation for retaining the authentic materials, object, or building fabric, and not just something that replicates the real object. These two standards are particularly relevant to Paterson, where the distinctive components of the relatively unornamented buildings are integral to their design and construction.

Standard 7, by its *prohibition of damaging chemical and physical treatments*, reflects an awareness—often gained through painful experience—that certain treatments can irreversibly damage the historic fabric that the preceding standards are intended to protect. Sandblasting in particular, whether of wood for paint removal or masonry for cleaning, can irretrievably alter the surface characteristics of historic materials and thereby destroy not only visual characteristics but physical ones as well, and may accelerate further deterioration. Power washing and overly acidic chemical cleaning of masonry can also cause irreversible damage.

Standard 8 requires *preservation and protection of archeological resources*, and generally comes into consideration only when excavations are associated with a project. This standard clearly recognizes that historic properties will in all likelihood have associated archeological deposits, and recommends that efforts should be made to consider and protect those resources to the extent feasible. Considerations of expense and the likelihood of the presence of archeological resources must dictate the extent to which this standard affects the planning of privately-funded projects. It should be noted, however, that for projects within the National Historic Landmark District that involve federal or state funds, archeological mitigation will be required. It must also be noted that there are archeological resources virtually everywhere within the district.

The goals of Standards 9 and 10 are *compatibility, differentiation, non-destructiveness, and reversibility of additions, alterations, and new construction.* Both standards are intended to minimize the overall damage to historic fabric caused by building additions and to insure that new work will be differentiated from but compatible with existing structures, in order to protect the historic integrity of the property.

The same federal regulation which promulgates the *Standards* explicitly states that they are intended to be "applied to specific rehabilitation projects in a reasonable manner, taking into consideration economic and technical feasibility." Thus, the level of craftsmanship and detail as well as the quality of materials that are proposed for any rehabilitation project should be commensurate with the structure to which they will be applied. From the standpoint of the Secretary's *Standards*, successful rehabilitation neither "improves" the original design nor detracts from it.

It is important to reiterate that the Secretary of the Interior's *Standards for Rehabilitation* provide a philosophical framework for the planning and evaluation of preservation activities. As summarized above, that framework is one which emphasizes preservation of historic building fabric, honesty of historical expression, and reversibility. It is a philosophical framework which assumes that historic buildings are repositories not only of visual satisfaction but also of information, and that as such, it must be possible to "read" the information they contain without having it clouded by conjecture.

## Building Typology

Most of the buildings within the Great Falls Historic District were built for utility; the axiom that form follows function is particularly true within the district, and manufacturing was the primary function. What is remarkable about the architecture of the district is the evolution of building types driven by functional exigencies, as opposed to any kind of stylistic expression. The design guidelines that follow are based more on an evaluation of the types of buildings that are typical to the district than on a consideration of their style. A brief consideration of those building types follows.

The ***mill buildings*** that are the primary built image of the district are perfect expressions of their function. Sturdily built of stone and brick bearing walls and heavy timber trusses, the buildings were intended to be strong, fire resistant, flexible to provide for changes in the manufacturing process, with several large openings to provide daylight illumination for the manufacturing process. The repetitive bays reflect the need for an undifferentiated interior; it is as though having determined an ideal bay size, the mills could have been extruded forever. Ornamental details were kept to a minimum and were usually driven by functional imperatives. The brick corbelling (stepped projections) at the roof provided increased bearing for the heavy timber trusses (a wood cornice would provide a horizontal route for the spread of fire). Arched window openings did not require wood or steel lintels which would have been subject to damage by fire. The older mills are three and four stories, reflecting to some extent the fact that vertical movement of raw and finished materials was not desirable until the development of the elevator later in the 19th century.

The ***office buildings*** associated with the mills are much more detailed and finely scaled, although still fairly subdued. The facades of the Cooke Locomotive Company Office Building and the Rogers Locomotive Company Administration Building are carefully articulated, as befit their role as headquarters for important industries. The Cooke building is three stories and five-and-one-half bays wide and sits on a rusticated brownstone base. An elaborate brownstone surround at its entrance and brownstone belt courses at the level of window sills and heads are quite elegant. The Rogers building is two-and-one-half stories high and six-and-one-half bays wide with a granite watertable and window sills and steel lintels ornamented with medallions. The brick corbelling at the cornice features dentils that also appear in the roof dormers. The absence of vibration in these buildings permitted the floors to be supported on brick arches, providing increased fire protection.

The majority of ***residential buildings*** within the Great Falls Historic District are quite modest, often wood frame structures whose wood clapboard has been covered at least once, most prominently by aluminum or vinyl siding. Two and three stories tall and two or three bays wide, the houses have lost much of their original integrity. They serve to illustrate how close the workers lived to the mills, as well as the rather intimate scale of the neighborhoods immediately adjacent to the industrial district.

There are also several neighborhood ***commercial buildings*** within the district. These for the most part are typical late-19th and early-20th-century buildings, some with living quarters above. They vary in size, scale, and style, and include a few one-story buildings. They are consistently built to the scale of the residential structures, fill their frontage completely, and are built out to the sidewalk.

## How the Guidelines Work

The design guidelines present three categories of treatments: approved, not approved, and not recommended.

- Those treatments that are "**approved**" are consistent with the sound and accepted preservation practices that are based upon the Secretary of the Interior's *Standards* outlined above. Permit applications that propose approved treatments will receive letters of recommendation for approval from the Historic Preservation Commission.

- **"Not recommended"** treatments are practices that do not reflect the best preservation approach but whose deleterious effect to existing historic fabric or the character of the district may be minimal. The number of "not recommended" treatments proposed and their cumulative effect on a building's historic fabric and appearance will be carefully evaluated by the Historic Preservation Commission. Permit applications that propose "not recommended" treatments may or may not receive letters of recommendation for approval from the Historic Preservation Commission depending on the final impact of these treatments on the building specifically and the district in general.

- Those treatments that are "**not approved**" are practices that will cause outright harm either to existing historic fabric or to the character of the district, or both. Permit applications that propose "not approved" treatments will receive letters of recommendation for denial from the Historic Preservation Commission.

The design guidelines are intended to provide as much flexibility as possible to the property owner, to the designer, and to the Commission members charged with reviewing building permit applications. It is not the intention of these design guidelines to prescribe one method or treatment, but to present a hierarchy of treatments for consideration. That is, given a particular problem or issue, what is the relative value of the range of possible treatments? It is understood that some recommended treatments will have a higher upfront cost than other less highly recommended treatments, but it is sometimes the case that better preservation practices are less expensive over time. As always, a premium is placed on the retention of existing historic fabric.

It is important to note that the specific guidelines are intended to provide guidance to property owners and to the members of the Commission who review building permit applications. But the review itself must be wholistic, considering the pros and cons of the entire project. A project that includes

the use of several "not recommended" treatments may be approved if the overall project represents a net gain for preservation within the district.

**Remember:**

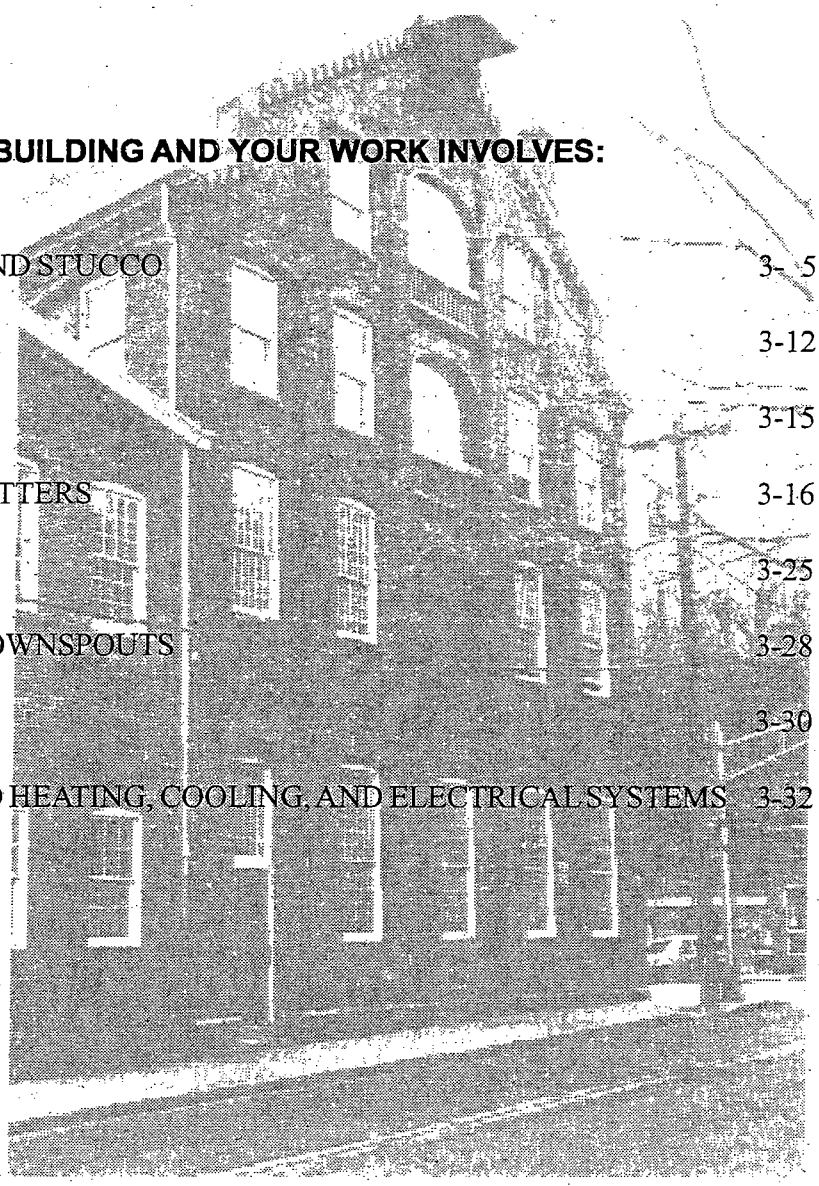
✓ Projects that propose "approved" treatments will result in a letter from the Historic Preservation Commission recommending approval of a building permit application.

✗ Projects that propose one or more "not approved" treatments will result in a letter from the Historic Preservation Commission recommending denial of a building permit application.

- Projects that propose one or more "not recommended" treatments will be evaluated for their overall impact on the character of the structure and the GFH District as a whole. Depending upon that evaluation the Historic Preservation Commission may issue a letter of recommendation either approving or denying your building permit application.

# Chapter 3

# Maintenance, Repair, Preservation and Restoration of Existing Historic Buildings

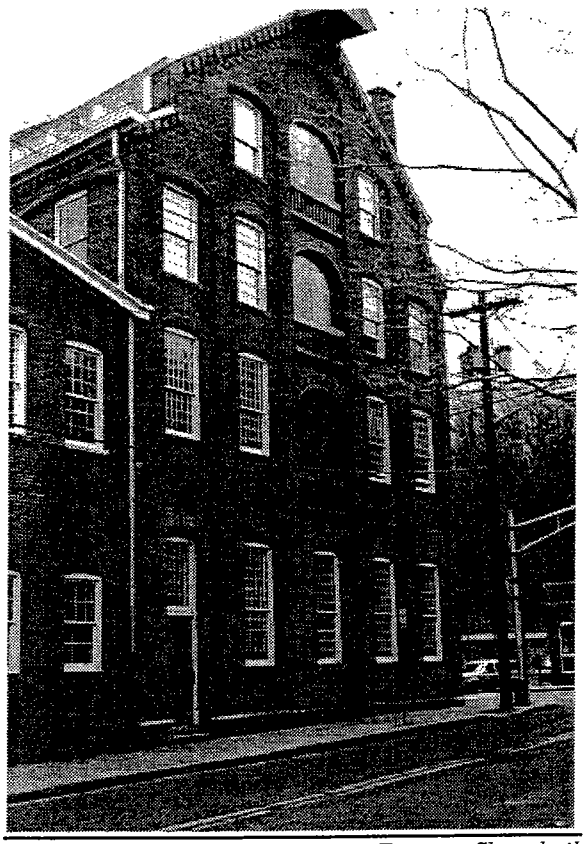


**IF YOU'RE WORKING ON A BUILDING AND YOUR WORK INVOLVES:**

# Chapter 3
# Maintenance, Repair, Preservation, and Restoration of Existing Historic Buildings

## Introduction

Design guidelines for maintenance, repair, preservation, and restoration are intended to provide standards for a range of treatments to existing historic buildings within the Great Falls Historic District (GFH District). It is hoped that while these guidelines will both suggest and require certain historic preservation practices, they will also educate the residents and property owners of Paterson as to the proper maintenance and care of their historic buildings.



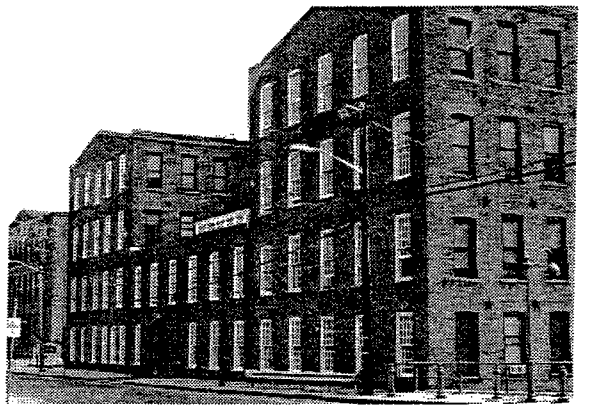
*The Rogers Locomotive Company Erecting Shop, built in 1871, presently the site of the Paterson Museum.*

The flexibility of these guidelines recognizes that there are several solutions to most problems. Further, while one solution may be favorable to another, there may be circumstances—financial or otherwise—that make a particular treatment difficult or impossible to undertake. These guidelines thus recognize the financial constraints on any property owner and that the favored preservation practice may be beyond the means of some.

The flexibility of the guidelines is linked to the building permit process. For most types of treatments, guidelines are grouped under the categories of "Approved," "Not Approved," and "Not Recommended." Guidelines that are "Approved" represent the best preservation practice—that is, those treatments that are most respectful of existing historic fabric. Projects that follow the "Approved" guidelines will receive a letter recommending approval from the Historic Preservation Commission. Projects that employ one or more "Not Approved" treatments will receive letters recommending denial of the building permit, unless there are extenuating circumstances that warrant approval. Projects that employ treatments that are "Not Recommended" may or may not receive a letter recommending approval

or conditional approval, depending upon the evaluation and determination by the Historic Preservation Commission of the overall impact of those treatments on the character of the structure and the GFH District as a whole.

These guidelines recognize that healthy cities grow and change, that Paterson will continue to grow into the 21st century, and that it is not, nor should it be, the intention of the city to restore the GFH District to an earlier period of time. These guidelines are based on the commitment that growth and change must be complementary to historic preservation, and vice versa. While preservation sometimes conflicts with growth and change, it has been the widespread experience in towns, small cities, and large cities throughout the United States that a downtown with a unique historic character will attract new development. Conversely, the financial resources that new development brings to a city or town can support the goals of historic preservation by providing jobs that make home ownership possible, attracting shoppers and tourists to local businesses, and contributing to the tax base.



*The Essex Mill, built in 1871 is currently used for artist*

These guidelines attempt to establish a balance between the mandate to fulfill Paterson's obligation to steward a national treasure, and the compelling forces of new development. A successful balance will be mutually beneficial to both preservation and new development. The guidelines also recognize that appropriate maintenance of historic building fabric may be the least dramatic but most important step in retaining the historic character of the Great Falls Historic District, for it is the cumulative effect of incremental losses that will erode the character of the district.

The design guidelines for existing buildings presented here are intended to preserve the distinct historic character of the GFH District. The preservation of the historic character of the district is largely a function of the preservation of the existing historic building fabric, and the negation of the cumulative effect of incremental changes that will, over time, result in the loss or obscuring of the GFH District's particular character. Therefore, these guidelines stress the retention, repair, and proper maintenance of existing historic architectural fabric.

The preservation philosophy underlying these guidelines is based on the Secretary of the Interior's *Standards for the Rehabilitation of Historic Buildings* that are discussed in detail in Chapter 2 of this document. Those standards may be summarized as follows:

- ✓ The proper maintenance of historic building fabric underlies any recommendations with regard to historic preservation.

- ✓ It is always preferable to retain and repair existing historic building fabric, rather than replace it with new materials.

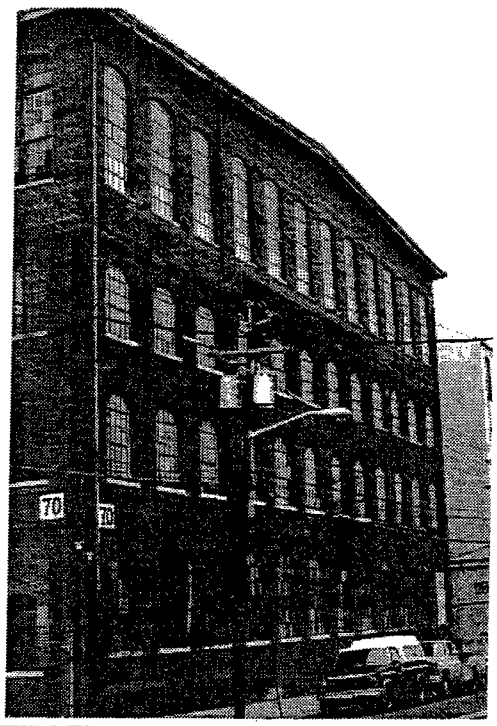
- ✓ When replacing historic building materials that are irreparably deteriorated, replacement should be in-kind, using materials and craftsmanship that match as closely as possible the existing historic fabric that is being removed.

- ✓ Restoration (returning a building to a specific, previous condition or appearance) should be undertaken only when sufficient documentation or evidence exists to determine historic conditions at a specific, significant period of a building's history. Because history accrues to buildings over time, it is recommended that later historic fabric should not be removed in order to restore a building to an earlier appearance.

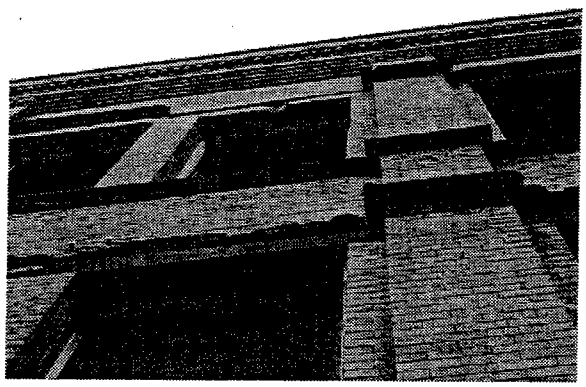
When adequate documentation is not available to restore a building accurately to a previous appearance, and the building has lost its historic integrity, speculative restoration should not be attempted. Similarly, if a historic feature has been lost previously, such as a cornice, these guidelines suggest a variety of alternative appropriate treatments including leaving the alteration in place, restoration according to good documentation, or replacement to a design and with a material that is sympathetic to the scale and character of the building.

## Masonry/Brick, Stone, and Stucco

Masonry has been used from the earliest period of building in Paterson. Masonry was chosen for the construction of the historic mill buildings because it is strong, durable, and fire resistant. Brick is the oldest and best preserved building material in the GFH District. Its warm color and soft appearance is still attractive and requires relatively little maintenance.



*The Dolphin Jute Mill main building, built in 1880. The fourth floor was added later.*



*Brownstone deterioration at window surrounds and belt courses of the Cooke Locomotive Company Office Building.*

Brownstone was used on the foundations of several buildings and for trim on some of the more decorative buildings. Brownstone was favored for its availability and ease in quarrying and carving. Brownstone's durability is not consistent. It is very soft and subject to erosion and delamination, as can be seen in several locations in the GFH District.

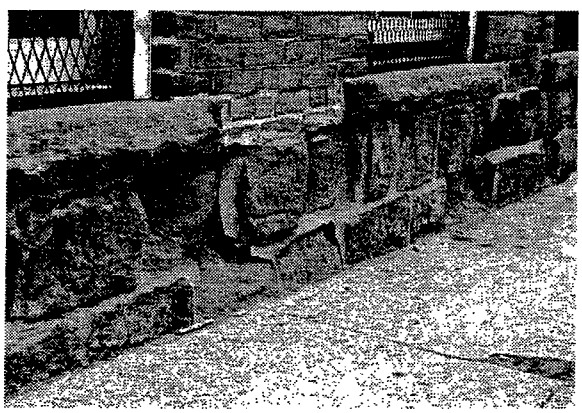
Mortar is the "glue" that holds a masonry wall together. It also acts to seal the joints between individual brick and stone units. Because bricks and stone expand and contract as they heat up, cool down, and absorb moisture, mortar must be "soft" enough to allow that movement, yet pliable enough to maintain its seal with the masonry so as to prevent moisture from entering the wall through open joints.

The durability of masonry construction is dependent upon appropriate maintenance and repair methods. Guidelines for the repair, maintenance, and rehabilitation of exterior masonry are as follows.

## Approved

✓ Where repointing is proposed, the mortar used for repointing must be equivalent to or softer than the original mortar in the masonry joints. Under no circumstances should the mortar be harder than the brick or masonry in the wall.

✓ To determine the composition for equivalent mortar, it is necessary to perform laboratory analysis of the mortar. In the absence of such analysis, a high lime content and low Portland cement content mortar will usually be compatible with most historic masonry. A mortar mix of 1 part cement, 1 part lime, and 6 parts sand (1:1:6) is frequently acceptable. Where the original mortar or masonry units are particularly soft, a mortar mix of 1:2:9 may be appropriate.



*Overly hard mortar has contributed to the brownstone deterioration at the base of the Union Works Building. As the soft brownstone expands and contracts due to temperature variation and moisture absorption, it is crushed against the hard mortar and begins to erode, leaving the mortar standing out from the face of the wall.*

## Not Approved

✗ Do not sandblast or use high pressure water wash (exceeding 500 psi) on masonry for any reason. This will remove the outer protective surface of brick, exposing the porous interior and leading to rapid deterioration.

✗ Do not use mortar that is harder than the original historic mortar.

✗ Do not change the size or tooling profile of the mortar joint when repointing brick.

✗ Prior to repointing, do not damage the brick edge or widen the joint in the process of removing existing mortar. Remove existing mortar using hand tools narrower than the width of the masonry joint.

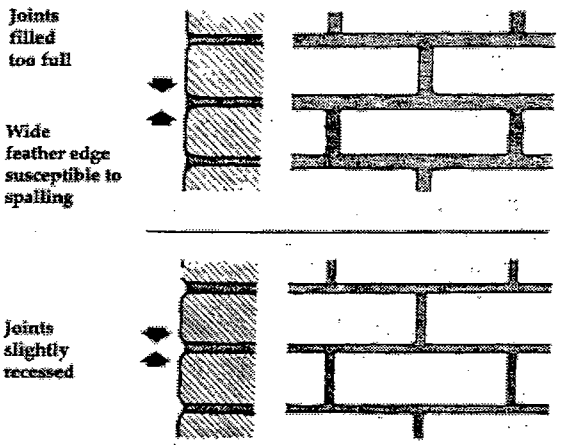
✗ Do not use modern "antique" brick for new construction. It is too regular in its contrived variability, and easily distinguished by the discriminating eye.

✗ "Over cleaning" of masonry with harsh chemicals and/or excessive water pressure will do more harm than good. Also, chemical methods will require containment and proper disposal of all run-off.

✗ Barrier coatings are not approved as a means to combat graffiti on brick or brownstone. They tend to alter the surface texture and sheen of the masonry, and their impermeability will trap moisture within the masonry wall. They are also expensive and will require frequent re-application.

**Approved cont'd...**

✓ Repointed mortar joints must match the appearance, color, texture, joint size, and tooling of the original or historic repointing, whichever predominates. Use appropriate sands to match the color and texture of existing mortar. Do not use color additives (pigments), which tend to lighten over time. Numerous test panels may be required to achieve an acceptable match. Allow test panels to cure at least one week prior to evaluating their appearance.




*Comparison of visual effect of full mortar joints vs. slightly recessed joints. Filling joints too full hides the actual joint thickness and changes the character of the original brickwork.*

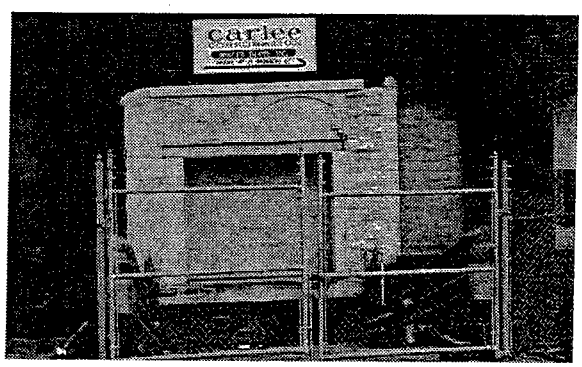
✓ Deteriorated and loose mortar should be removed manually, using non-mechanized hand tools, in order to minimize damage to surrounding masonry work. Remove mortar to a depth of two-and-one-half times the width of the mortar joint, or to sound mortar, whichever is greater.

✓ When repointing, remove existing mortar using handtools narrower than the width of the masonry joint.

**Not Approved cont'd...**

✗ Do not use masonry sealer, which traps moisture inside masonry walls, preventing them from "breathing." Moisture trapped inside masonry may have two deleterious effects. First, it may leach salts out onto the surface of the masonry, causing a chalky appearance. Second, it may freeze within the wall, expanding, pushing against the sealed surface so that it actually fractures the face of the brick or stone, causing it to spall away from the wall.

✗ Do not paint historically unpainted masonry.



*Unpainted masonry should not be painted. Note also that two window openings were damaged and reconfigured to form the large modern opening.*

✗ Do not add stucco, Dryvit, or permastone-type cladding.

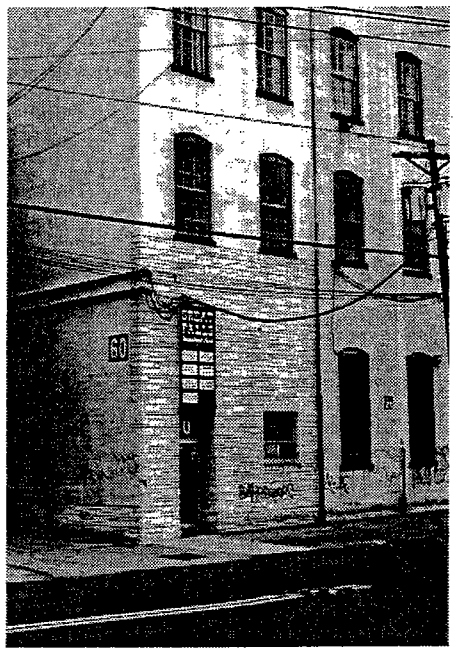
**Approved cont'd...**

✓ When replacement of an area of brick in a brick wall is required, that area should match the existing brick in bonding pattern, decorative pattern, coursing, color, size, strength, pointing, and mortar, and should be toothed or keyed to existing brickwork. Replacement brick should never be substantially stronger than the existing brick.

✓ Pay particular attention to masonry and trim detailing on the facades of residences and commercial buildings. Full photographic and dimensional documentation should precede rebuilding, if required. Retain and repair projecting and decorative cornices, if possible, or replicate in-kind. Neither remove nor cover up these features.

*When restoration of the Cooke Locomotive Company Office Building takes place, the cornice on the north wall of the building should be replaced, preferably restored to its original configuration with brick. A substitute material may also be acceptable.*

**Not Approved cont'd...**



*Permastone-type cladding is not approved within the GFH District.*

## Not Recommended

- Metal chimney caps generally are not recommended, especially on 18th and early-19th century chimneys. They are primarily mid-20th century developments.
- Epoxy-based patching mortar is not recommended for use on brownstone. It expands and contracts at rates different from brownstone, and its bond with the brownstone will fail after a relatively short period of time.
- When repointing, the use of power tools to remove existing mortar is not recommended because of the potential harm to the brick by the cutting action of the blade.

**Approved cont'd...**

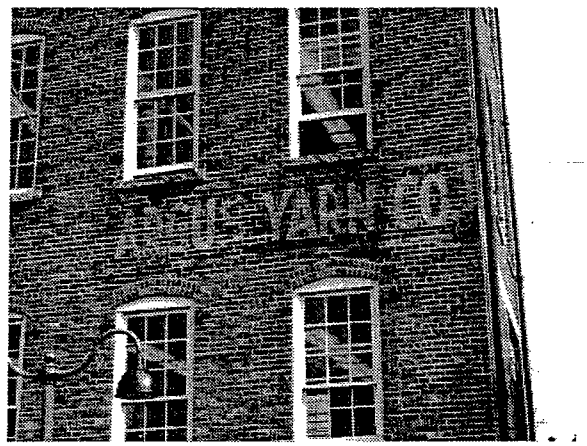
✓ Clean masonry using the gentlest means possible; often a prolonged saturation with water followed by brushing with bristle brushes will be sufficient. When cleaning, assure that historic signs, "ghost" signs, and traces of removed buildings are masked off and not damaged.

✓ A low pressure wash of 150 psi may be used with a 30° fan-tip nozzle. In no case should pressure exceed 300 psi. Masonry cleaning work should not be undertaken until temperatures will remain above 50° for 72 hours after cleaning work is complete.

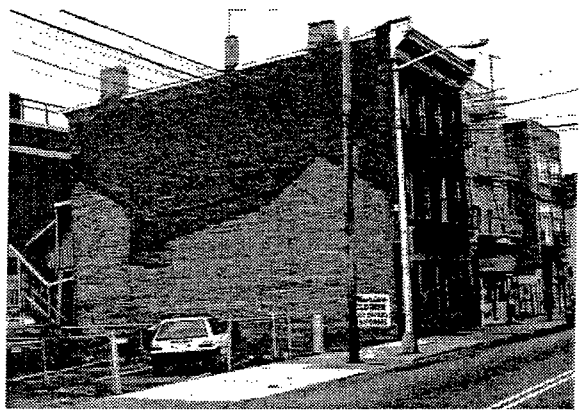
✓ Brownstone deterioration is common within the district, due at least in part to the fact that it is not a particularly durable material, and tends to spall and delaminate depending upon how it was originally quarried and laid. Because deterioration of individual units is like a chink in a wall's armor, inviting further damage due to water infiltration, it is recommended that individual deteriorated brownstone units be dressed back to sound stone and then patched using cementitious patching mortar especially formulated for brownstone, to match the color and tooling of existing adjacent stones.

✓ Prior to rebuilding any masonry wall, foundation, or chimney, carefully document the structure by photography and actual measurement to facilitate accurate duplication. Reuse as many bricks as possible.

✓ On building exteriors, use only brick that is intended for exterior work.



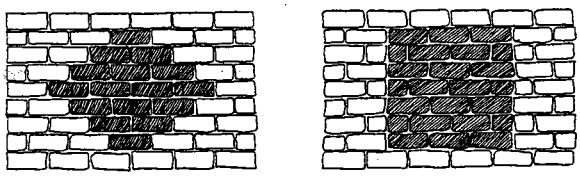
*Historic signs painted on masonry are important resources and should be retained and protected during any masonry restoration work such as cleaning or repointing.*



*The shadows left on party walls by the demolition of historic buildings are important resources and should be retained. These resources should be protected from masonry cleaning that may occur elsewhere on the building or wall.*

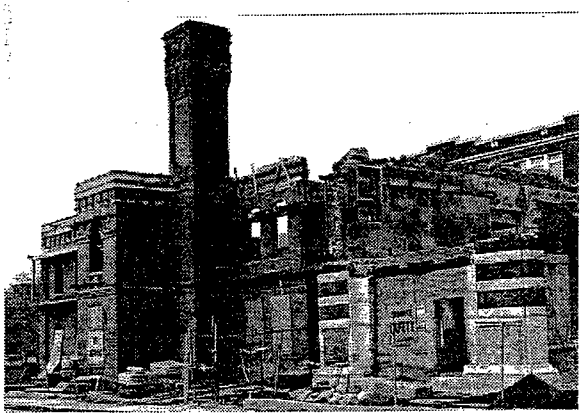
**Approved cont'd...**

- ✓ Install sloping mortar wash surfaces at the tops of chimneys to protect the chimney walls.
- ✓ If a chimney cap is required, a stone or terra cotta cap is recommended.
- ✓ Retain historic hardware on the exterior of a building. Its being left in place helps to interpret the district as a historic industrial center.

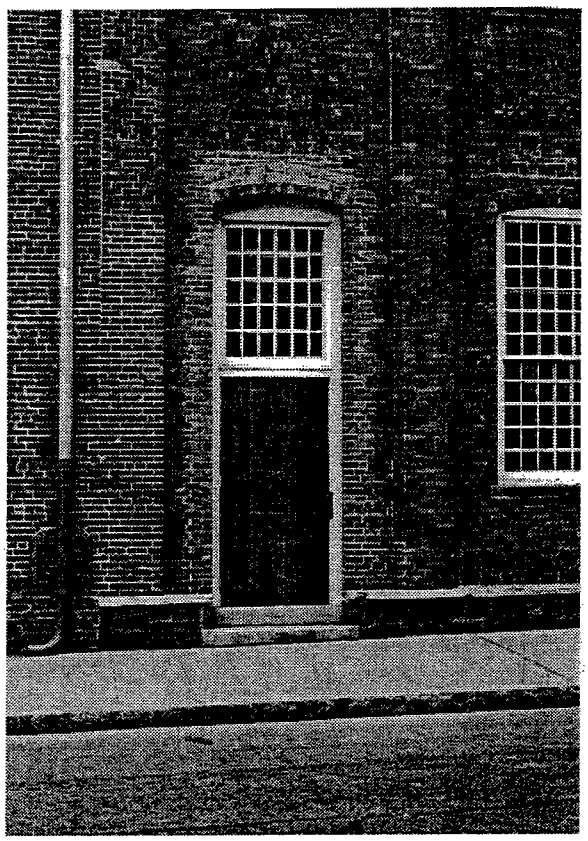


Appropriate Inappropriate

*Keying in of replacement Brick.*

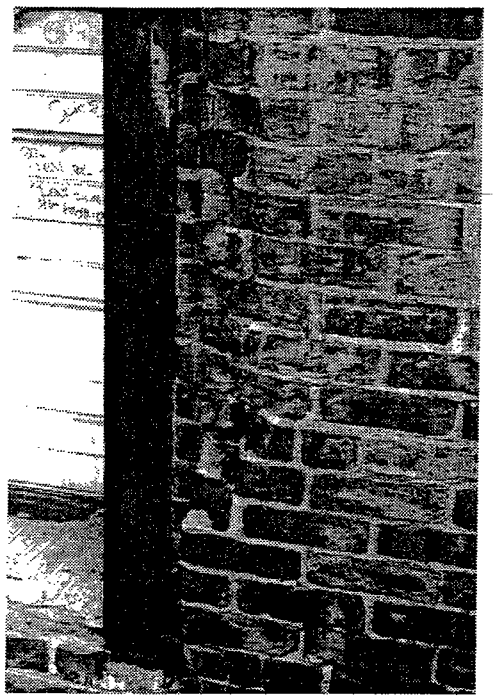


*Significant areas of masonry wall at Public School #2 are being rebuilt.*



*The replacement brick around this door has been well chosen and well installed, toothed into the brick of the adjacent wall.*

*Note the historic steel door frame that was left in place when this loading door was bricked in.*



*Typical damage to brick at a loading door, where it has not been protected by a steel bollard or angle.*

- ✓ Remove graffiti as soon as possible. Visible graffiti tends to attract other graffiti writers. Also, the longer paint cures, the harder it will be to remove.

- ✓ The best means of graffiti removal will depend upon what the graffiti material is (paint, spray paint, felt-tip marker, chalk, crayon, etc.) and what the masonry material is (brick, brownstone, granite, marble, etc.).

- ✓ Graffiti removal must always begin with the gentlest means possible. Overly harsh methods may permanently alter the masonry, even etching a shadow of the graffiti into the masonry, doing more damage to the masonry than will the graffiti. Several methods may have to be tested in order to determine an effective, non-harmful technique. (Preservation Briefs #38, "Removing Graffiti from Historic Masonry").

- ✓ Protect areas subject to wear and tear, especially at loading areas. Painted steel bollard-type protectors or simple steel angles are appropriate.

# Wood Siding and Trim

Wood siding is the "skin" of a building. Its purpose is to shed water quickly and thoroughly, thus preventing decay of the underlying structure and the deterioration of interior finishes, and to deflect sunlight and wind. Siding also plays an important visual role in establishing the scale of a building. Each clapboard or shingle casts a shadow line, adding some visual depth to the wall surface, while the size of the clapboard or shingle visually affects the mass and proportions of each building.

Directly associated with the wood siding, and with masonry as well, is the exterior trim of a building. Wood trim serves a critical visual purpose by providing architectural ornament and a functional purpose by sealing the structure at vulnerable locations. Corner boards, fascia boards, window caps and trim, architraves, and cornices are examples of trim elements that protect critical joints of a building from exposure.

The following guidelines for the repair, maintenance, restoration, or rehabilitation of wood siding and trim are as follows:

## Approved

✓ Wood siding and trim should be retained and repaired whenever possible. For areas of partial deterioration, in-kind and visually matching patches are preferable to total replacement, in the interest of retaining as much historic material as possible.

✓ If wood siding is severely deteriorated and re-siding is proposed, replacement wood siding must match the profile and exposure of existing siding. Vertical siding is a more modern application and is more appropriate to secondary structures such as sheds and outbuildings.

✓ All wood siding and trim must be painted.

## Not Approved

✗ Wavy-edged shingles are not approved.

✗ Vertical siding, both solid wood and textured plywood (T-111) must not be used on primary structures within the GFH District.

✗ The addition of Dryvit, stucco, or permastone-type cladding over existing wood, aluminum, or vinyl siding is not approved.

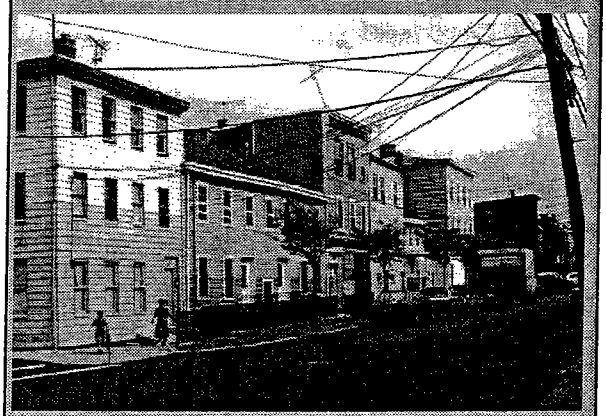
✗ Applying siding of any type over a masonry structure is not approved.

✗ Clear or opaque wood stains and clear finishes such as varnish are not approved for use on siding.

✗ Vinyl siding that is embossed with artificial wood grain is not approved. Its false texture draws attention to the artificial surface. Also, the wood siding in Paterson typically did not have raised grain, which is a feature of more rustic buildings.

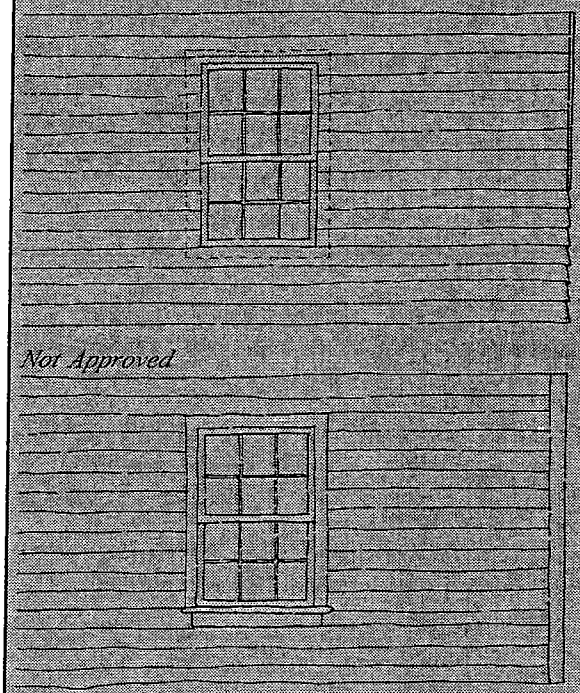
## Not Recommended

- Vinyl and aluminum siding are not recommended for use on existing buildings in the GFH District, for reasons that have to do with their potentially destructive tendency to hide deterioration and to trap moisture against the existing wood siding. They also have a significant negative visual impact in that they conceal historic fabric and their visual qualities do not duplicate historic fabric. Also, it is worth noting that aluminum siding is distinctly not maintenance free—witness the availability of aluminum siding paint for treating faded aluminum siding.



*Aluminum siding has altered the character of many of the small-scale residential buildings within the GFH District. Its use is not recommended.*

- Aluminum or vinyl siding will **only** be approved if the majority of a structure's wood siding has deteriorated beyond repair and if replacement with wood siding is not economically feasible.
- When aluminum or vinysiding is proposed for use on existing buildings, steps should be taken to minimize its impact, such as:
- Retain and leave exposed the wood trim at windows, doors, and corners. Siding should butt the trim. This may require the removal and furring out of existing trim, in order to be in the correct plane in relation to the siding. This work should be accomplished in a manner that will not damage existing trim.



*Not Approved*

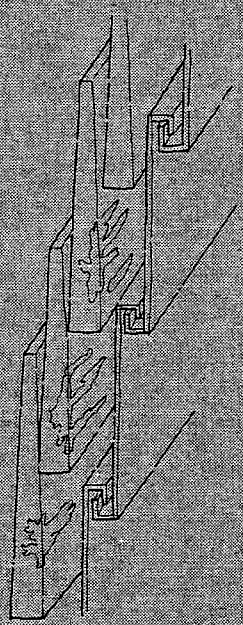
*Approved*

*Installation of Siding at Windows and Corners*

- Retain and leave exposed decorative elements such as brackets, spindle work, cornices, etc.
- If corner boards cannot be retained, use an aluminum corner that duplicates the width of the original corner board.
- Use colors appropriate to the building's historic period; do not use pastel or overly bold colors.

- Match the width of the original wood siding; i.e., 4" exposure wood siding should be covered with 4" exposure aluminum or vinyl siding.

- Maintain constant ventilation to the inside surface of the aluminum or vinyl siding. The effects of the condensation that will otherwise result will be prolonged, serious, and invisible.



*Aluminum Siding covering ongoing deterioration of historic wood siding.*

## Sheet Metal Cornices

Sheet metal cornices are in place and visible on a few commercial and small-scale residential buildings within the GFH District. Sheet metal cornices were widely available as prefabricated building elements beginning in the late-19th century, and provided a relatively inexpensive means to apply ornament to relatively simple buildings. Sheet metal cornices are susceptible to water infiltration from the roof and parapet above, and will deteriorate from the resulting rust and corrosion. There are presently several sources for ornamental sheet metal, although finding an exact match for deteriorated components may be difficult.

### Approved

✓ Retain historic sheet metal cornice material.

✓ Maintain roofs to keep water from infiltrating behind the cornice. Keep cornices painted to minimize exposure to the elements.

✓ Hand-sand, scrape, or use chemical strippers to remove paint and to prepare the sheet metal surface for repainting.

✓ Replace missing or irreparable sheet metal cornice components and ornament in-kind, if available. Replacement cornice elements should match the existing design, texture, and appearance as closely as possible. Sheet metal is the best material, but durable cast materials such as fiberglass and Glass Fiber Reinforced Concrete (GFRC) are also acceptable.

✓ Patch small holes and dents using epoxy metal filler.

✓ Refasten loose sheet metal ornament using stainless steel fasteners, which will resist corrosion.

### Not Approved

✗ Do not remove existing sheet metal cornices or individual cornice components.

✗ Do not enclose sheet metal cornices with siding material.

✗ Do not remove paint from sheet metal using abrasive blasting methods that will etch the metal.

## Doors, Windows, and Shutters

Doors, windows, and shutters are the moving parts of building exteriors. As such, they are subject to hard and frequent use. They are also critical elements in regulating the passage of light, air, rain, and people into the interior of a building.

These elements are also critical in determining the architectural character of individual buildings, particularly the historic mill buildings whose dependence on natural light required quantities of large windows. The correct preservation of existing historic doors, windows, and shutters as well as the appropriate design of their replacements is absolutely essential to the maintenance of the character of individual buildings and their context within a historic district.

The repair and replacement of existing original or historic doors, windows, and shutters should be in-kind—that is, to match existing conditions as closely as possible. Attention should be paid to the size, species, and profile of the piece or element requiring repair or replacement. Custom millwork may be required if stock millwork matching existing conditions is unavailable. Replacement of existing non-historic doors should be appropriate to the age and character of the building.

## Doors

Paneled doors were used during every period of Paterson architecture, and in every building type found in the GFH District. The technology to produce flush doors is a very recent phenomenon, having mostly to do with the development of inexpensive glues. Panel trim and moldings have varied over time as have the configuration of the panels and the use of glazing in the panels.

The doors for the mills and related buildings were massive wood panel doors. Very few historic doors remain on the mill buildings in the GFH District.

The design of doors for commercial establishments typically remained consistent during the late-19th and early-20th centuries. Shop doors were either single or double doors, often with a transom above. The doors themselves were usually paneled below with a glass pane inset above. Steel and bronze frame storefront "systems" began to appear after 1920.

The design of doors for the relatively modest residences within the district would most likely have been in the Italianate style, with more ornate elongated vertical panel shapes, glazed upper panes, and deeper and more complex molding profiles. Original doors were not observed to remain on residential structures within the district.

## Approved

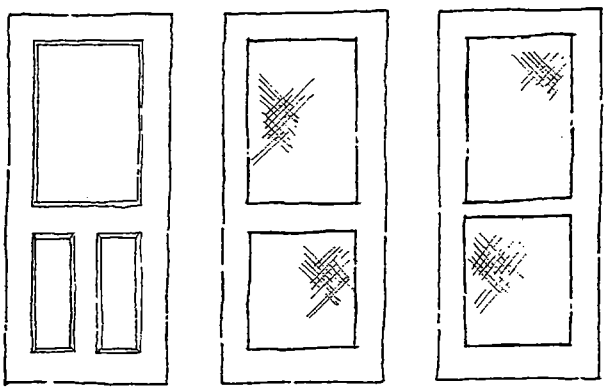
✓ Retain and repair as much historic door fabric as possible. Repair should be in-kind, to match existing size, species, profile, and configuration.

✓ If existing historic doors or screen doors are deteriorated beyond the point of repair, replace in-kind to match existing size, species, profile, and configuration.

✓ Replace inappropriate doors with doors appropriate to the period and style of the building. This will require research and may require custom millwork.

✓ Screen and storm doors should be wood and kept as simple as possible. Horizontal and vertical rails of screen doors should align and coincide with those of the door behind.

**Approved cont'd...**

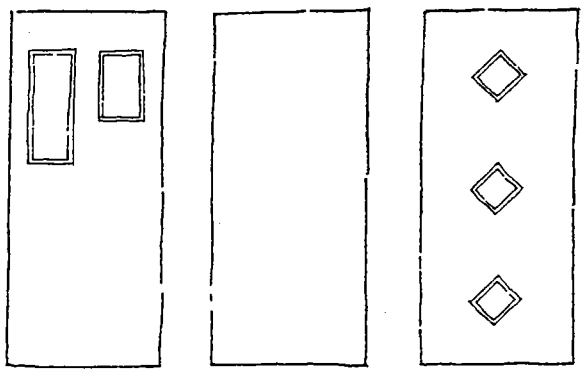


*Wood storm doors are approved.*

✓ Wood storm doors with one large opening that allow the door behind to be visible are recommended.

## Not Approved

✗ Modern flush doors are not approved on the exterior of buildings within the GFH District.



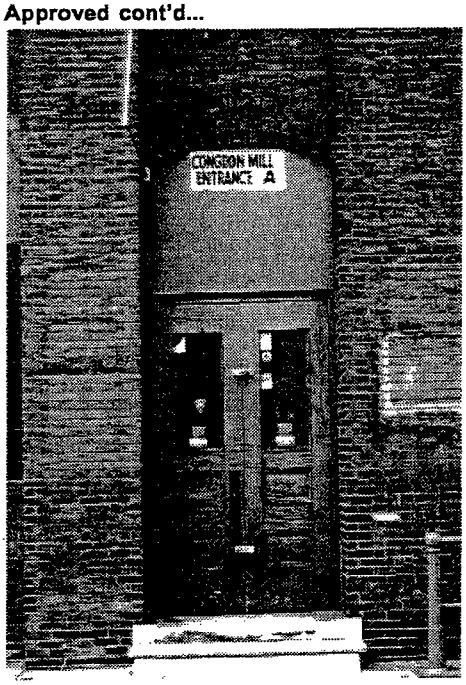
*Modern flush doors are inappropriate.*

✗ Glazed doors containing windows with snap-in muntins or masking tape to simulate divided lights are inappropriate.

✗ Enclosure of existing transoms and sidelights is inappropriate.

✗ Blocking up existing door openings is inappropriate.

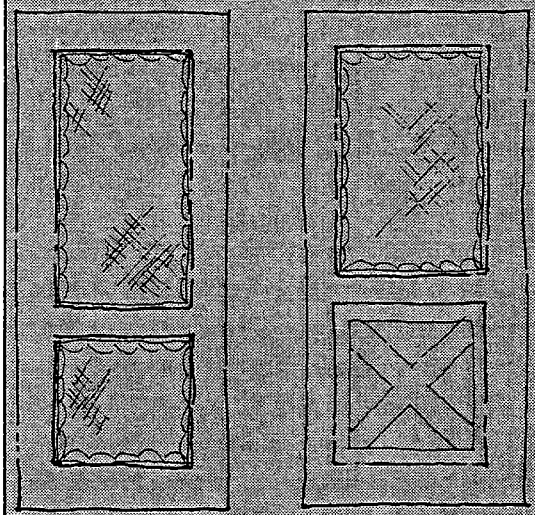
**Approved cont'd...**




*Historic doors at the Congdon Mill Building. Note that infill of transom above is inappropriate.*

## Not Recommended

- Aluminum storm and screen doors are not recommended on houses within the GFH District. If used, the color of the aluminum door should be light or dark, to match the value of the door behind.



*Modern design screen doors are not recommended.*

- Backpainting door, sidelight, and transom glass is not recommended.

## Windows

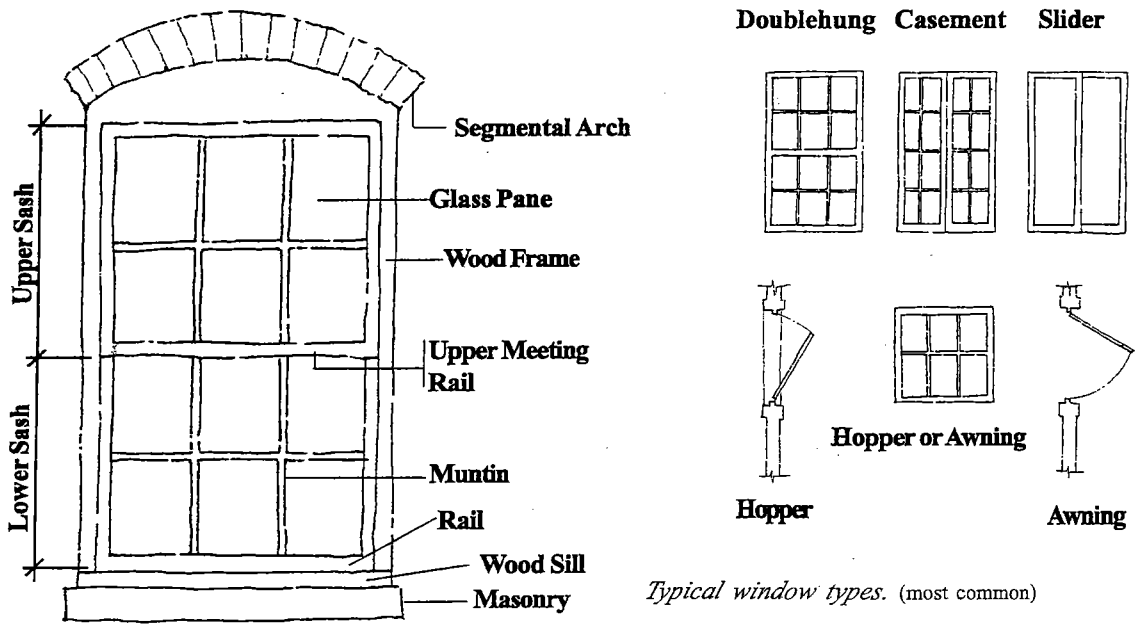
The history of window design, until recently, can be seen as a continuous attempt to increase the size of glazed openings. Thus, throughout the 19th century (especially in commercial design), opening sizes increased, glass panes got larger, and muntins got thinner.

Early window casings were usually planed out of one piece; built-up moldings became commonplace in the Federal period and were virtually standardized by the end of the 19th century.

Typically, there was a range of sizes available in any given period, so the above summary should not be considered to be without exception. It is generally the case, however, that windows in any given period were proportioned so that the width was roughly 3/4 that of the height.

Windows play an extremely important role in establishing the character of the GFH District. It could be argued that the industrial processes could not have occurred without the large doublehung windows whose transparency allowed natural light to illuminate the work place and whose operation provided the ventilation that permitted workers to labor through the warmer months. Large wood windows were supplanted or replaced by large steel industrial sash windows whose function was the same and whose presence is just as important to the character of the district. As electric lighting became available and modern mechanical systems prevailed, the expense of maintaining hundreds of windows combined with the poor security they provided led building owners to remove windows and infill openings. The loss of historic windows and the closing in of window openings have resulted in severe damage to the character of the district.

(For a discussion of awnings, see Chapter 4.)




*Typical window types.* (most common)

## Approved

✓ Repair existing historic windows with in-kind material.

✓ Return altered window openings to their original configuration.

✓ When existing historic windows are irreparable, replacement windows must be of the same materials and must replicate as closely as possible existing historic window details, including pane configuration and muntin, mullion, casing, and trim profiles.

✓ Replacement windows must have the same operating characteristics as the original windows (i.e., doublehung windows should replace doublehung windows, casement windows should replace casement windows, etc.).

✓ Replacement windows must be sized to fit exactly into the historic masonry opening.

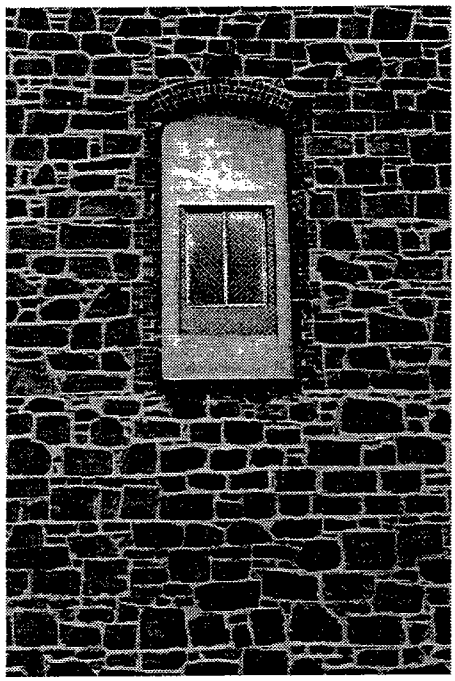
✓ Use only clear glass in existing historic or replacement windows, storm windows, and thermal sash.

✓ Historic stained or leaded glass must be repaired or restored. This work must be accomplished by a trained leaded glass artisan, using the gentlest means possible. If leaded glass panels are irreparable, and if restoration is not possible, they must be removed and stored in a manner that will allow future restoration.

✓ The rails of window screens and storm windows must match the rails of windows behind.

## Not Approved

✗ Window opening sizes and shapes must not be changed to accommodate replacement windows or to accommodate new interior furnishings or cabinetry.



*Window opening size and shape must not be changed.*

✗ Bricking up windows in a manner that obliterates or obscures the perimeter of the existing opening is not approved. The character of a building can be completely altered by this treatment.

✗ Leaving window openings vacant or unfilled is not approved.

✗ Changing the operating characteristics of windows is not approved.

**Approved cont'd...**

✓ Where increased thermal performance is required of existing windows, install interior thermal sash within existing openings. Allow for air circulation between the window and thermal sash to prevent the build-up of condensation that will accelerate the deterioration of historic wood and metal windows. On the exterior side of the thermal sash, match the color of the existing window as well as the glazed opening sizes and overall design. Metal thermal sash is recommended for metal windows, and wood, PVC, or vinyl thermal sash is recommended for wood windows.

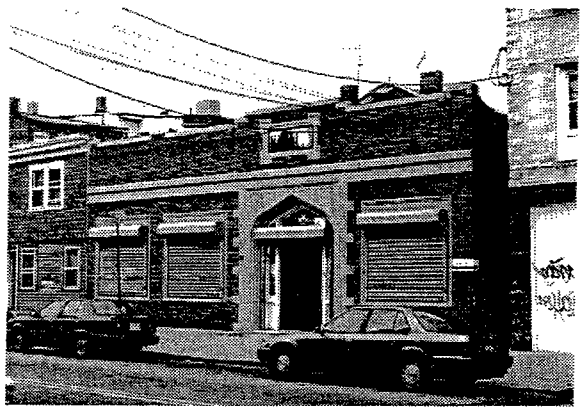
✓ Exterior or interior storm windows are also recommended. They must have slender frames and meeting rails that align with the historic windows behind, and must be painted to match the adjacent window frame and trim. Triple track storm aluminum windows are approved.

✓ Install security shutters, bars, and grates on the interior of windows.

✓ Window openings that have been previously closed up with masonry or wood, when opened back up, must be opened to the original size and filled with a window that is appropriate to the period of the building.

**Not Approved cont'd...**

*The manner in which the original window openings were bricked up at the Rogers Locomotive Millwright Shop has completely changed the character of the building.*

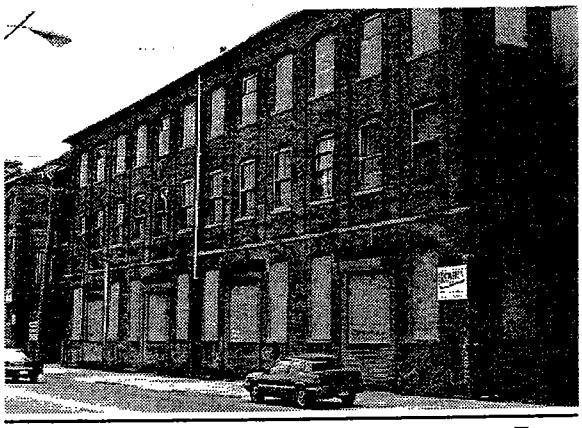


*Solid security gates and shutters on the exterior of buildings are not recommended.*

✗ Contemporary picture windows (large undivided panes of glass set in inoperable sash) are inappropriate on buildings built before 1940. (This of course does not apply to commercial storefronts.)

✗ "Panning" over existing window sills with sheet metal is not recommended.

**Approved cont'd...**



*The window openings at the Rogers Locomotive Frame Fitting Shop were bricked up in a manner that leaves the original openings discernible, but has altered the appearance and character of the building.*

**Not Approved cont'd...**

- ✗ Smoked, tinted, low-E, and reflective glass are not approved on elevations visible from the public way. The visual characteristics of each of these types of window is noticeably different from that of clear glass
- ✗ Slider windows are not approved.
- ✗ Vinyl windows are not approved for use on elevations visible from the public right-of- way.
- ✗ "Sandwich" muntins (muntins between two continuous panes of glass) are not approved.
- ✗ False muntins for divided-light wood windows are not approved. They are easily detectable from a distance.

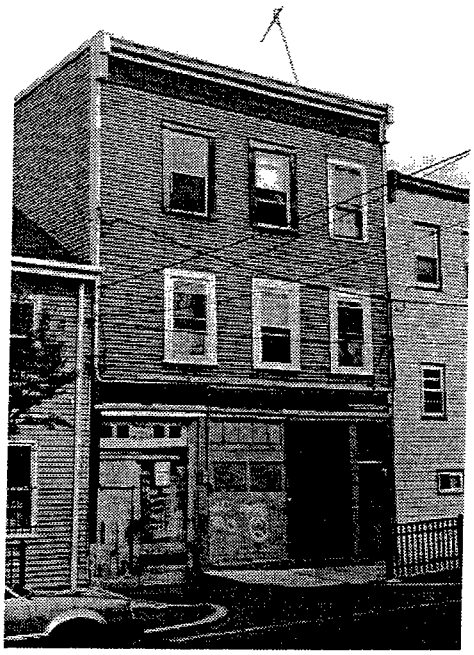
**Not Recommended**

- Air conditioners should not be inserted in windows on the primary facade of buildings in the GFH District.
- Bricking up windows is not recommended. When it is unavoidable, the infill material should be set back 2" minimum from the face of the building to retain the reading of the opening. Infill material should be installed so it can be removed without damaging existing historic fabric.
- Security grates and shutters are not recommended on the exterior of buildings. Where used, they should be of an open design, and not constructed of solid panels.
- Vinyl windows are not recommended. The longevity of their construction and material is suspect. (See also Not Approved).

## Shutters

Wood shutters were at one time common on houses within the GFH District. Their original purpose was to provide security and privacy, to permit ventilation while keeping rain and sunlight out, and to act as storm sash during heavy rains. Presently, primarily as a result of the installation of non-historic siding, shutters are not prevalent on residences within the GFH District.

There is no physical evidence, such as abandoned hardware, that mill buildings had shutters.



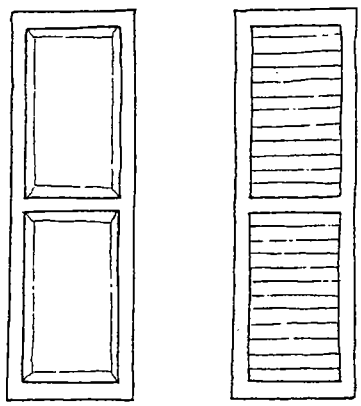
*Most small-scale residential buildings within the GFH District originally had window shutters.*

## Approved

✓ Shutters should be repaired in-kind. If shutters are irreparable, replacement shutters should match existing.

✓ Shutters should be made of wood and painted for protection. A non-obtrusive metal cap along the top edge will dramatically increase the longevity of the shutter.

✓ Louvered or paneled wood shutters are appropriate (typically paneled shutters were used only on lower floors, for security reasons).



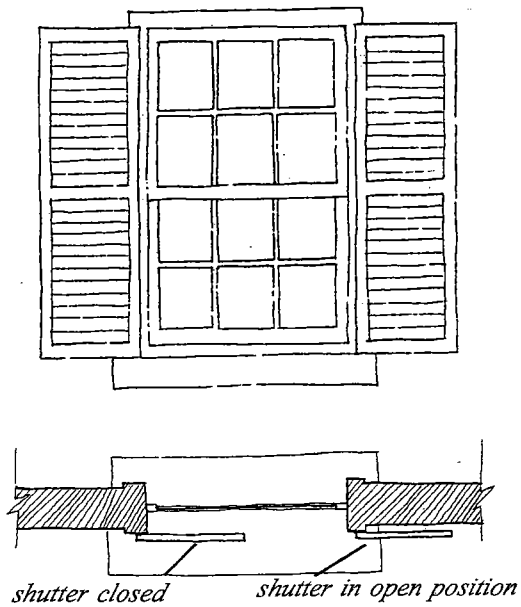
*Panneled* *Louvered*

✓ Shutters should operate or at least give the appearance of being operable, and should be large enough to cover the windows, as would have been intended originally.

## Not Approved

✗ Shutters that are too narrow or too short to completely cover the window in a closed position are not approved.

✗ Hanging shutters on windows they could not possibly cover when closed is not approved. Proper installation will entail partially covering the vertical window trim with the shutter.



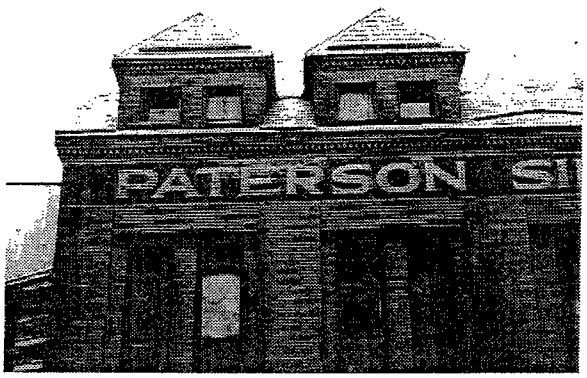

*Shutters sized and installed properly.*

**Not Recommended**

- Vinyl and aluminum shutters are not recommended.

## Roofing

There are a variety of historic roofing materials in the Great Falls Historic District: slate and wood shingles, metal roofing including copper and tin, and flat roofs. Asphalt and fiberglass shingles and cement shakes are non-historic materials that are also prevalent. It should be noted that roofing material is a wearing surface whose lifetime is finite and that various roofing materials have various lifetimes. A slate roof may be viable for more than 100 years. A good copper roof can last 60 years. Historic buildings will not retain their original roofs forever. There are, however, several basic steps that can be taken to prolong the lifetime of existing historic and new roofs.




*Slate roof at the Rogers Locomotive Company Administration Building.*

The following guidelines should inform decisions regarding building permit applications for roof work on buildings within the GFH District.

### Approved

✓ Whenever possible, retain and repair historic roofing material in-kind and match existing, whether original to the building or not. Reuse or replace in-kind historic decorative elements.

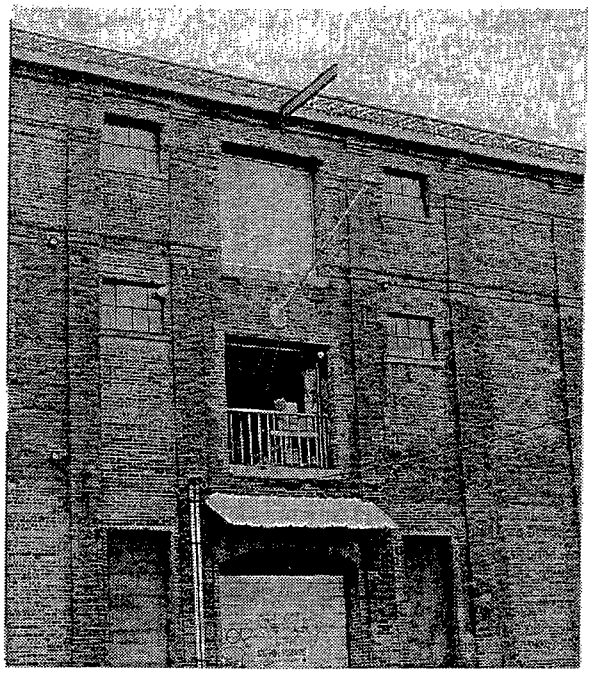
### Not Approved

✗ Do not install a new roof over an existing roof. Layering old and new roofing accelerates the deterioration of the new roof, and traps moisture that may accelerate the deterioration of the roof structure. It also visually thickens the roof and roof edge.

✗ Do not remove historic decorative elements such as roof cresting or finials.

✗ Do not change historic roof forms. New dormers and skylights must not appear on visible roof slopes.

**Approved cont'd...**



*The decorative iron fencing at the roof eaves of the Rogers Millwright Shop should be retained.*

✓ Replacement roof materials should match those existing or verifiable historic conditions. Substitute materials are best limited to non-conspicuous roof areas.

✓ Flat-seam and standing-seam metal roofs are appropriate treatments for the replacement of existing non-repairable historic metal roofs.

✓ Appropriate metal roofing material includes copper, lead-coated copper, terne-coated stainless steel, and terne metal. Painted metal roofs are also appropriate, but the paint used must be compatible with the metal roof. Colors should be limited to traditional roof colors such as red, green, and silver.

**Not Approved cont'd...**

✗ Rubber, membrane, or roll roofing must not be applied on sloped roofs intended for shingles.

**Not Recommended**

- Asphalt, fiberglass, and composition shingles are not recommended as roof replacement materials for existing historic buildings. When used, they should be monochromatic and a muted color to lessen their visual impact.
- Pre-formed metal roofing panel systems are not recommended for historic buildings. The width of the cap and trim pieces are intended for large-scale commercial applications and appear thick and heavy and out of character with the massing of historic buildings.

**Approved cont'd...**

✓ When replacing non-repairable and/or non-historic roofing of any kind, existing roofing material should be removed. This will assist in prolonging the life of the replacement roof and will maintain the thickness of the roof edge and thus minimize the effect on the proportions of the facade.

✓ Maintain historic roof forms. New dormers and skylights should be located to the rear roof slopes of buildings, not visible from a public right-of-way.

✓ Skylights should have minimal curbs and flat glass. Dormers should be appropriately scaled to maintain the dominance of the form of the existing roof.

✓ If a slate roof is beyond repair, there are several materials available that are slate substitutes. Of these, cement tiles are recommended. The owner should verify that the roof structure can support the weight of the cement tiles. It should be noted that although cement tiles are less expensive, their installation—the bulk of the expense—is roughly equivalent to that of slate. A properly installed slate roof will last 75+ years. The expected lifetime of cement tiles is only 25 years.

✓ Metal roofing should be installed in accordance with the recommendations of the Sheet Metal and Air Conditioning Contractors' National Association, Inc., 8224 Old Courthouse Road, Vienna, VA (703) 790-9890. These recommendations pertain especially to flashing details at roof edges and intersections.

## Flashing, Gutters, and Downspouts

Flashing spans the joints in a roof system, such as ridges and valleys, where a roof meets a wall, and where roofing material would be inadequate. Gutters and downspouts collect and convey rainwater off the roof and away from the walls.

The following guidelines should facilitate decisions regarding applications for architectural review certification for roofing for buildings within the GFH District.

### Approved

✓ Use 1/2-round or plain rectangular sheet metal gutters and plain round downspouts. Metal may be copper, lead-coated copper, terne-coated stainless steel, terne metal, or aluminum.

✓ Pole gutters and built-in gutters are often the original roofing condition, especially on older structures, and therefore are recommended. These have the advantage of being historically compatible and are visibly less obtrusive than hung gutters. Some exploration will be required to determine the original gutter condition.

✓ Maintain gutters so that water does not infiltrate into masonry walls.

### Not Approved

✗ Corrugated down spouts are inappropriate in the GFH District.

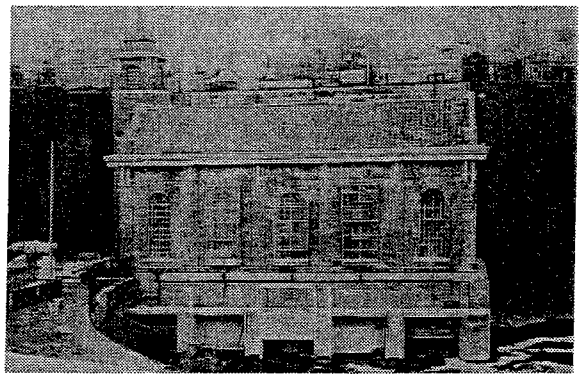
✗ Architectural "K"-style gutters are inappropriate in the GFH District.

✗ Vinyl gutters and downspouts are inappropriate for use in the GFH District. Their life expectancy is short and their lower initial installation cost does not represent a long-term savings.

✗ It is inappropriate not to replace lost downspouts. Uncontrolled roof drainage will, over time, cause severe damage to masonry and building interiors.

*The downspout missing at the roof scupper allows rainwater to wash down the exterior wall of the building, and to collect along the foundation. This condition will accelerate the deterioration of the brick and foundation wall, and will likely be a source of dampness in the basement.*

**Approved cont'd...**



*Insufficient maintenance of gutters and downspouts is the most likely cause of the water infiltration that has discolored the walls high on the S.U.M. hydroelectric plant.*

## Not Recommended

- Extensive areas of visible metal flashing should be avoided. In some masonry and stucco conditions, metal flashing may be covered over by mortar or stucco.
- Galvanized steel gutters and downspouts are not recommended as they rust and deteriorate quickly. The rust will stain adjacent surfaces. If used, galvanized steel gutters should be allowed to weather prior to the application of rust-inhibiting paint.

## Painting

Paint is the final layer of finish applied to a building's exterior. It plays a critical role in the appearance of a building and in protecting the building from rain, snow, and sunlight. It is a sacrificial layer, requiring re-application every 5-10 years. As such, paint colors are also the aspects of a building's design that are the most subject to changes in taste over time. It is not unusual for a 100-year-old building to have a paint build-up of 10 or more colors, several of which may be considered "historic." It is therefore difficult to prescribe paint colors rigidly.

The existing surface must be prepared to allow the paint to bond both mechanically and chemically with the surface to be painted. Proper preparation will give the best surface possible for paint adhesion that will not damage the underlying historic material. In addition, virtually any paint applied prior to 1965 will almost certainly contain lead, a known toxin.

It is worth noting that, with appropriate preparation and careful application, painting is extremely labor intensive. The cost of paint is a relatively small portion of the overall expense of repainting, and the quality of paint varies widely. It is often significantly more cost effective to prepare surfaces carefully and apply a higher quality (and usually more expensive) paint, thus creating a better bond and a more durable finish.

### Approved

✓ Changes in tastes in color generally accompanied changes in architectural style, and so it is often most appropriate to paint a historic building in its original color scheme. The only way to be certain regarding original paint colors is to undertake a paint seriation study. This must be undertaken by specialists as it involves examining a cross section of paint chips under special light conditions to ascertain the specific color, hue, and value of a paint layer.

✓ Generally, given the utilitarian nature of the mill buildings and the modest nature of the residential structures, straightforward paint schemes using subdued colors are most appropriate.

✓ Because of ongoing refinements and improvements in modern paint formulas, the differ-

### Not Approved

✗ Textured paint is not approved on the exterior of historic buildings within the GFH District.

✗ Painting of previously unpainted masonry is not approved.

✗ Unpainted, stained, or clear finished wood is not approved for historic buildings within the GFH District.

✗ Paint removal techniques that may damage historic fabric, such as using a disc sander or abrasive wheel, high pressure water blasting, sandblasting, or a blow torch, is inot approved. Each of these techniques can scar or scorch wood and the difficulty in controlling the method increases the likelihood of lead contamination.

**Approved cont'd...**

ence in quality and longevity between oil-based and latex exterior paints has become minimal. It is still the case that latex may be applied over oil-based paints but the reverse is not true. However this application requires the use of an alkyd primer for the new latex to bond to old oil paint layers. Once latex paint is applied to a building, it must be stripped before oil-based paint can be applied satisfactorily. Both latex and oil-based paints are recommended in the Paterson GFH District.

✓ Prepare paint surfaces manually using a scraper, wire brush, and/or sandpaper. An orbital or reciprocating electric sander may be used, but a disc sander will cut across the wood grain and will damage the wood. Scraping should not gouge or otherwise mar the wood or other substrate. At areas of bare wood or chipped paint, sand paint edges to a feather edge. Brush off and wipe down all surfaces carefully to remove dust prior to painting.

✓ Always apply a primer coat.

✓ Two finish coats are recommended.

## Energy Conservation and Heating, Cooling, and Electrical Systems

It is the contention of these guidelines that historic preservation and energy conservation are completely compatible and mutually supportive. Moreover, some non-historic energy conservation innovations, such as storm windows and insulation, may be sympathetically incorporated in both historic buildings and new construction in the GFH District.

Mechanical, electrical, and communication systems are non-historic, though essential, additions to the GFH District. As such, they are often best hidden or screened from view. Their undisguised presence may compromise the integrity of the historic character of an individual building or vista.

*Some attempt should be made to minimize the impact of mechanical, electrical, and plumbing systems upon building exteriors. In the case of the S.U.M. Administration Building, electrical conduit, a vent stack, a louver, and several wires have been affixed to the northwest wall of the building.*

The following guidelines should be considered in permit applications involving energy conservation measures and/or mechanical/electrical systems for buildings within the GFH District.

## Approved

✓ All glass in any window should be clear glass rather than tinted, reflective, or low-E.

✓ Awnings are appropriate on commercial and residential buildings. These should be of canvas, and may be colored or striped. Their shape and slope should be simple, to conform to the form of the opening. (See Chapter 4.)

✓ The installation of batt insulation with a vapor barrier should occur either from the exterior when siding has been removed for replacement, or from the interior if plaster from exterior walls has been removed. The vapor barrier is always placed towards the warm side of the assembly being insulated.

✓ Air conditioning equipment should be screened by plantings, lattice, or brickwork, so as not to be visible from the street.

✓ Roof-top solar panels should be located so as not to be visible from a public right-of-way.

✓ Exterior and interior storm windows are approved; see windows section, above.

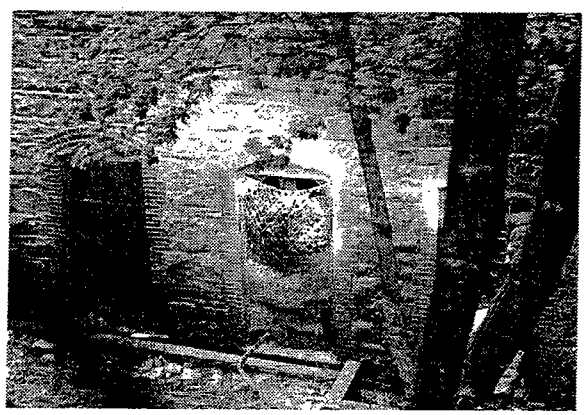
## Not Approved

✗ Do not add vestibules to the primary facades of buildings, unless there is historic precedent for a vestibule. The expense of the construction will probably not be recovered through energy savings, and the addition to the entrance facade will significantly alter the building's character, proportions, and massing.

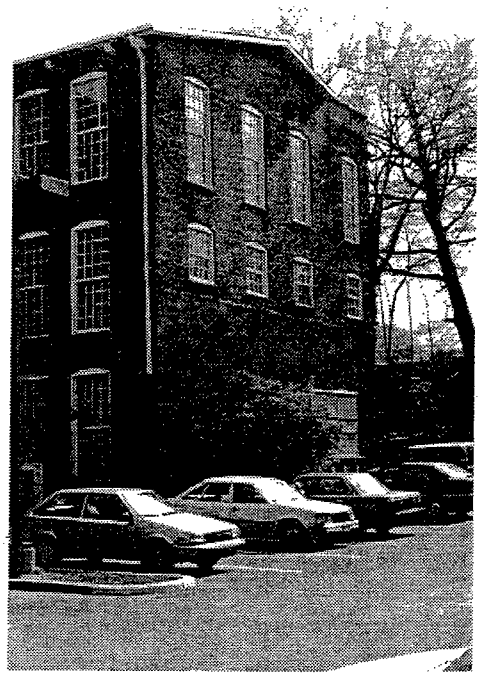
✗ Modern aluminum doors and storm doors do much harm to the character of historic buildings. They are not approved on historic mill buildings.

✗ Do not install ventilation fans that deposit material on historic masonry.

✗ Blown-in insulation is not approved as it cannot be installed with a vapor barrier. Without a vapor barrier, moisture from condensation will collect within the walls, causing their deterioration.



*Mechanical equipment should not be permitted to deposit material onto historic masonry.*



*The cooling tower at the rear of the Franklin Mill site is well screened from Mill Street.*

✓ All mechanical equipment, whether on grade or roof-mounted, including TV antennas and satellite dishes, should be located so as to be screened from the street and raceway park. Where possible, consolidate several antennae on any one building into one antenna. If necessary, sight-line studies should be performed to assist in the selection of unobtrusive locations for such equipment.

**Not Recommended**

- Replacing existing historic windows is not recommended for the sole purpose of improving energy conservation. Interior thermal sash or exterior storm windows are more effective in conserving energy, and permit the historic wood windows to remain in place.

- The addition of aluminum and vinyl siding to existing structures is not recommended as an energy conservation strategy. In addition to the loss of historic character and features, the application of siding prevents inspection of underlying historic fabric, thus concealing the early indicators of what may be serious deterioration due to moisture or insects.

- Also, there is a great deal of controversy as to whether siding is in fact an effective insulator. A study performed by the US Department of Housing and Urban Development in Providence, Rhode Island, showed an energy conservation related pay-back period of 30 years for aluminum siding, while the pay-back for storm doors, storm windows, and attic insulation was 4.5 years. For strategies for mitigating the damage caused by adding aluminum and vinyl siding to a historic structure, see "Wood Siding and Trim," above.

- Adding vestibules to non primary facades is not recommended, unless there is historic precedent.

- Aluminum storm doors on residential buildings are not recommended.