



Guidelines for Renovations and Additions to Historic Buildings
Building on Hartford's Historic Heritage



City of Hartford, Connecticut
Eddie A. Perez, Mayor

Acknowledgments

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The City of Hartford wishes to thank the many towns in Connecticut and other New England states whose previous publication of documents such as this provided text, illustrations and inspiration used in the creation of these Guidelines.

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EDDIE A. PEREZ
MAYOR

December 2006

To the Residents of the City of Hartford:

I am pleased to provide this resource book to homeowners and commercial and industrial property owners. The guidelines will assist you in maintaining and enhancing the rich architectural heritage of the City. I congratulate all who worked to produce this resource.

Historic Preservation efforts help maintain and increase residential property values as well as contribute to the overall appearance of our City. Historic Preservation efforts can be an economic development tool in our business districts. Historic Preservation often is a catalyst to economic growth.

I encourage residents and commercial property owners alike to call upon the City Planning staff and the Historic Preservation Commission to assist you in your use of these guidelines.

Very truly yours,

A large, stylized handwritten signature in dark ink, appearing to read "Eddie A. Perez".

Eddie A. Perez
Mayor

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Introduction

The City of Hartford has a rich architectural heritage. The historic significance of our neighborhoods and our downtown were chronicled by the Hartford Architecture Conservancy more than 30 years ago.

There are more than 4,000 buildings within our city that contribute to our rich heritage.

In 2005, a special Historic Preservation Ordinance Task Force worked to bring about our Historic Preservation Ordinance. The guidelines included in this booklet are intended to assist residents in meeting the requirements of that ordinance as well as to guide overall design of developments in historic districts.

At the same time, the guidelines will serve to assist residents and City officials in building a better Hartford together. The acknowledgement page lists all those who have participated in this effort.

For forms and procedures relating to renovations and alterations to historic buildings, new or existing buildings in historic districts or any proposed demolition of a historic building or any building in a historic district, please contact the **City Planning Division, 250 Constitution Plaza, Hartford, CT 06103-1822, 860-757-9040, www.hartford.gov/development/planning**

Table of Contents

Introduction	iv	Designing for Missing Elements	23
Why Preservation? Why Preservation Guidelines?	2	▪ <i>Siding</i>	24
A Summary of The Secretary of the Interior's Standards	3	▪ <i>Ornamentation and Trim</i>	25
Steps to Achieving the Standards	4	▪ <i>Windows and Doors</i>	26
Defining "Visible From The Street"	5	Designing Alterations and Additions	27
Hartford Styles	7	▪ <i>Massing and Location</i>	28
▪ <i>Greek and Gothic Revivals</i>	8	▪ <i>Scale and Solid/Void</i>	29
▪ <i>Italian Villa and Italianate</i>	9	▪ <i>Design Examples</i>	30
▪ <i>Second Empire and Queen Anne</i>	10	Alterations to Commercial Buildings	31
▪ <i>Neo-Classical Revival and the "Perfect 6"</i>	11	▪ <i>Mixed-Use and Reuse</i>	32
▪ <i>Tudor Revival and Bungalow</i>	12	▪ <i>Mixed-Use Residential Over Commercial</i>	33
▪ <i>Colonial and Georgian Revivals</i>	13	New Construction and Alterations, Downtown	35
▪ <i>Commercial, Apartment, Cultural and</i>		▪ <i>Infill Buildings</i>	36
<i>Landmark Buildings</i>	14	▪ <i>Façades</i>	37
Repairing, Preserving and Replacing Your Building's		▪ <i>Storefronts</i>	38
Exterior Elements	15	Designing New Buildings in Historic Districts	39
▪ <i>Masonry and Stone 1</i>	16	▪ <i>Massing and Height</i>	40
▪ <i>Masonry and Stone 2</i>	17	▪ <i>Setback and Relationship to the Street</i>	41
▪ <i>Siding and Trim</i>	18	▪ <i>Roof Forms and Materials</i>	42
▪ <i>Windows and Doors</i>	19	▪ <i>Retail Big Box Stores</i>	43
▪ <i>Wood Decorative Elements</i>	20	▪ <i>Retail Small Box Stores</i>	45
▪ <i>Roofing</i>	21	Appendix	47
▪ <i>Entrances and Porches</i>	22	▪ <i>Technical Guidance for Homeowners</i>	48
		▪ <i>Glossary</i>	58

Why Preservation?

- To protect and enhance the attractiveness of the City
- To protect and enhance neighborhood character
- To stabilize and increase property values

Why Preservation Guidelines?

- To promote responsible preservation practices
- To create a mechanism to identify, preserve and enhance historic buildings
- To provide a resource of information and expertise for educational purposes
- To foster appropriate use and wider public knowledge and appreciation of areas, sites, structures and features



Detail of The Richardson Building on Main Street

Summary of the Secretary of the Interior's Standards for Rehabilitation

- **Preserve** the distinguishing character of your property. Removal or alteration of historical materials or architectural features should be avoided.
- **Repair** rather than replace deteriorated architectural features whenever possible.
- **Duplicate** original features by matching them in composition, design, color, texture and other visual qualities whenever replacement is necessary.
- **Honor** the proportions, scale, color, texture and quality of the original when new materials are introduced.
- **Treat** with sensitivity distinguishing stylistic features and examples of skilled craftsmanship, which are scarce today.
- **Provide** a use for your building compatible with the original use so that minimal alteration to the building and its environment is necessary.
- **Give** careful consideration before removing additions and alterations made after your building was built. They may have value as part of the history of the building.
- **Recognize** your building as a product of its time. Alterations to create earlier appearances, for example adding colonial windows to Victorian houses, is inappropriate.
- **Preserve** the essential form and integrity of the original building when making new additions and alterations.
- **Design** new additions to be compatible in size, scale, color and material, but not to mimic previous styles.



The Linden Building on Main Street

Steps to Achieving the Standards

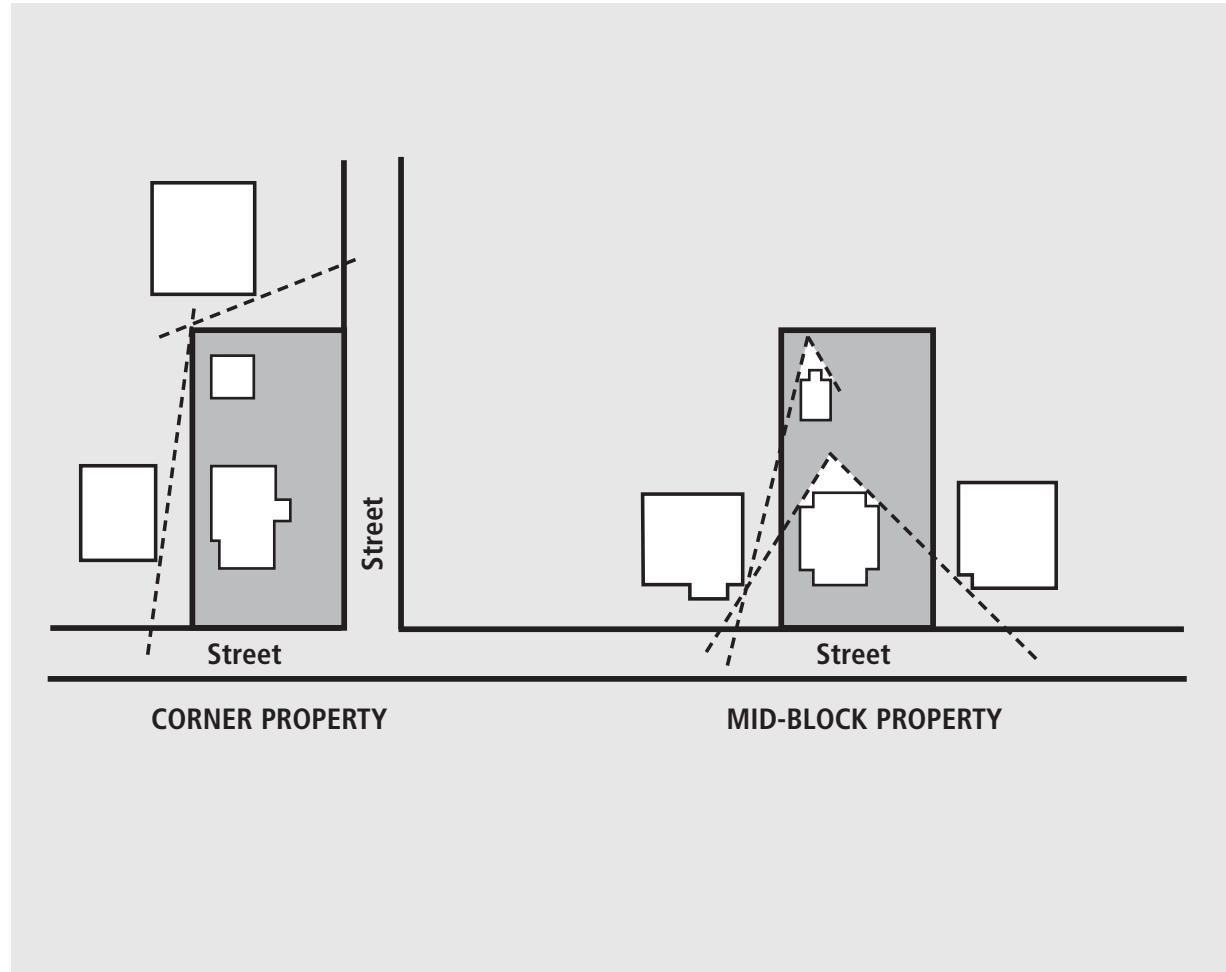
- Identify the style of your building, if you can (pages 7–14).
- Identify parts of the building that will be visible from the street and that are significant, such as porches, windows, surface materials and the shape of the roofline (page 5).
- Repair, protect and maintain the historic features and materials. Replace missing character-defining features with elements and materials which match the original as closely as possible (pages 15–22).
- Design and construct your alterations and additions to complement and enhance your existing building (pages 27–30).



A Tudor Revival house on Prospect Avenue

Defining “Visible from the Street”

The shaded areas are considered visible from the street(s) and are therefore subject to these guidelines.



Introduction to Hartford Styles



A Bungalow on Ridgefield Street



An 1896 Duplex on Imlay Street



The Linden on Main Street

Introduction to Hartford Styles



Alden Street

GREEK REVIVAL 1820 TO 1860

- Larger vertical window panes — 2/2, 2/1
- Symmetrical placement of windows
- *Gables* facing street, *triangular pediments*
- Columned *porticos*, recessed entries
- Supporting *pilasters* at corners
- Wide *entablatures* and moldings



Allen Place

GOTHIC REVIVAL 1830 TO 1860

- Tall narrow windows, vertical panes
- Asymmetrical plan, *bay windows*
- Steeply pitched roofs, tall *dormers*
- Pointed arch *porticos*
- Decorative woodwork
- Jigsaw *gingerbread*
- Variety of *shingle/clapboard/brick* patterns

Hartford Styles



Wethersfield Avenue

ITALIAN VILLA 1830 TO 1880

- Style based on Italian country villas
- Windows often have *lintels* or wood *window hoods*.
- Shallow roofs — *eaves* and *gables* have *brackets*.
- First floors have taller windows, *attics* have short windows below *eaves*.
- L-shaped single family plan
- Arched *porticoes* with classical details
- Central towers or *widow's walks*



Wethersfield Avenue

ITALIANATE 1840 TO 1880

- Compact, rectangular plan, often stacked multi-family, 2 to 6 units
- Windows have arched or flat *lintels* or wood *window hoods*.
- Shallow pitched roofs with large *overhangs* and *brackets*
- First floors have taller windows, *attics* have short windows below *eaves*.
- Arched *porticoes* with classical details

Hartford Styles



Fairfield Avenue

SECOND EMPIRE 1860 TO 1890

- Double pitched *mansard* roofs pierced with dormers
- Tall, low-arch windows, central towers
- Shallow roofs above *mansard* with *eave brackets*
- French *scroll* ornamentation
- Molded *window caps*
- Ornate cast iron and wrought iron railings or *cresting*



Wethersfield Avenue

QUEEN ANNE 1875 TO 1915

- Variety of forms, textures, materials, colors
- Asymmetrical, complex plans
- Projections, *bay windows*, towers
- 12/12 pitched roofs, dormers
- Encircling porches, *leaded stained glass*
- Decorative woodwork, brickwork, *terra cotta*, *rusticated* foundations

Hartford Styles



Kenyon Street



Park Terrace

NEO-CLASSICAL REVIVAL 1875 TO 1915

- Variation on Queen Anne with classical detailing
- Triangular *pediments*, *classical columns*, *Palladian windows*
- Third story *pediment* overhangs over *bay windows* are common.
- Wide front *porches* with low *slope roofs*
- *Piers* at ends of *balustrades* are common.

“PERFECT 6” 1880 TO 1920

- Six units stacked 3 high and 2 wide.
- Typical wide, ornamental *cornice*, double *bay windows* and central front balconies
- Rear wood exit stair and balcony
- Typically *running bond brick façade*

Hartford Styles



Prospect Avenue



Fairfield Avenue

TUDOR REVIVAL 1890 TO 1920

- Brick or stone first story common with top stories of *half timber* and *stucco*
- Tall molded chimneys
- Large windows with *leaded glass*
- Heavy *buttresses*
- Arched doorways, multiple *gabled roofs*
- Contrasting *sills* and *lintels*

BUNGALOW (ARTS AND CRAFTS) 1890 TO 1940

- Low pitched *hip* or *gable hip roofs* with surrounding *verandas*
- Roof may have *eyebrow windows*.
- Exterior materials include field stone and *rough sawn shingles*.
- Vertical windows, typically arranged around chimneys or doors
- Broad *eave overhangs* with *exposed rafters* underneath

Hartford Styles



Kenyon Street

COLONIAL REVIVAL 1900 TO 1930

- Rectangular plan, two or three story
- Symmetrical *façade*, balanced windows and *dormers*, center entry
- *Hip* or *gabled roofs* parallel to the street
- A few well chosen classical details — *Doric columns*, *entablatures*, *Palladian windows*
- *Flemish* or *American bond brickwork*
- Doorways with *sidelights* and *porticos*



Westerly Terrace

GEORGIAN REVIVAL 1900 TO 1930

- Small window panes — 9/9 or 12/12
- Windows aligned symmetrically in columns and rows
- Decorative *dentil** moldings
- Paneled doors with *pilasters* and transoms
- Side gabled roofs

Hartford Styles



G. Fox & Company, Main Street



The Richardson, Main Street

DOWNTOWN COMMERCIAL BUILDINGS

- Three or more stories; often mixed use with pedestrian related functions at street level
- Styles vary. Typically architect-designed, typically *masonry* or stone exterior walls, flat or shallow pitched roofs
- Significant structures may be individually listed on National or State register.

CULTURAL, HISTORIC AND ARCHITECTURAL LANDMARKS

- Fifty or more years old
- Individually listed on the Historic Register
- Styles vary. Typically architect designed
- Historic landmarks are designated by the National Park Service.

Repairing, Preserving and Replacing Your Building's Exterior Elements

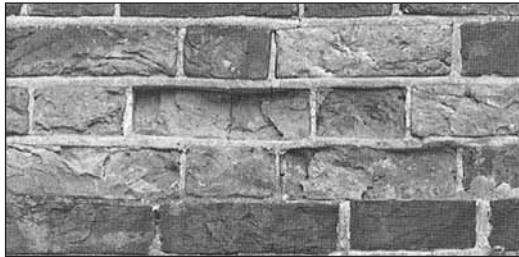


Repairing, Preserving and Replacing Your Building's Exterior Elements

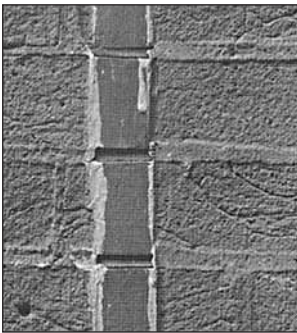
MASONRY WALLS (Brick, Stone, Tile and Concrete)

Although *masonry* and stone are durable materials, they can be damaged easily by improper cleaning. Always clean *masonry* with the gentlest effective means.

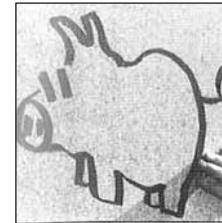
Graffiti removal without damaging the *masonry* can be difficult, sometimes requiring expert advice. One source of such expertise is Unique Industries of Wheat Ridge, Colorado. They publish a free manual containing recipes and techniques for cleaning graffiti and other stains from all types of *masonry* surfaces. To request a free copy of the manual call (800) 274-4121.



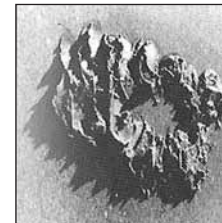
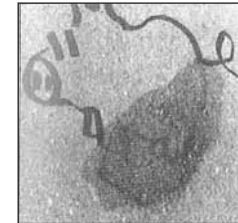
MASONRY DAMAGED BY POWER WASHING



MASONRY DAMAGED BY SANDBLASTING



GRAFFITI REMOVAL WITH IMPROPER SOLVENTS CAN LEAVE A PERMANENT STAIN.



PROPER MASONRY GRAFFITI REMOVAL USING ABSORPTIVE PASTE CONSISTING OF PAPER PULP MIXED WITH A SOLVENT. IT LITERALLY ABSORBS THE GRAFFITI OFF THE WALL.

MASONRY WALLS

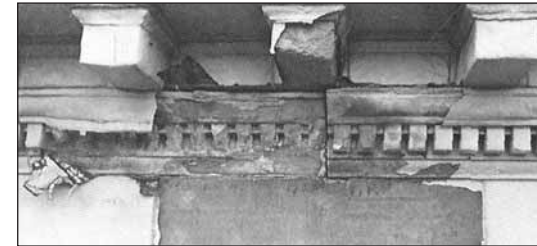
Masonry absorbs water. Abrasive cleaning and some waterproofing products change the rate of absorption. This may allow moisture to penetrate the stone or brick and cause it to deteriorate during freeze/thaw cycles.

MASONRY AND WATER DAMAGE

- Most *masonry* damage is caused by water. Repair flashings and drains first.
- Avoid the use of water repellents to repair water penetration problems. Find the source of the water.
- Repair *masonry* with recognized preservation patching materials such as Jahn 70 (polymer modified resurfacing grout).
- Replace units that cannot be repaired.

MASONRY REPLACEMENT

Replace units with materials as close to the original as possible. *Masonry* walls should be constructed using *masonry* units and mortar of consistent strength throughout to avoid cracking. Used brick is not necessarily better than new brick as the hardness of the brick may be unknown and inconsistent with the original.



MASONRY DAMAGED BY WATER



MASONRY WALL IN NEED OF REPOINTING

MASONRY REPOINTING

- Rake joints by hand to avoid damaging adjacent masonry edges.
- Repoint with mortar of similar strength to original recipe and of similar color and tooling.

WOOD SIDING AND TRIM

RECOMMENDED

Repairing wood shingles and siding

- Retains the richness and detailing of the original design
- Maintains the ventilation of the siding surface, which preserves wood framing within the walls
- May be less expensive and require no more maintenance with today's quality paints than aluminum or vinyl siding

APPROPRIATE MATERIALS

- Stucco
- Brick
- Stone
- Wood clapboards
- Wood shingles
- Fiber cement clapboards or shingles

NOT RECOMMENDED

Enclosing existing wood siding in vinyl or aluminum siding

- Covers historical detail
- Traps water vapor in old walls encouraging rot and mold
- Requires replacement to renew the look each 20 years or so
- Is difficult to repair if dented or cracked
- If vinyl siding is used, try to avoid covering wood detail and be sure to vent behind vinyl or aluminum siding.

INAPPROPRIATE MATERIALS

- Asbestos shingles
- Imitation brick or stone
- Metal siding
- Vinyl siding
- Concrete block
- Plywood or masonite siding
- Liquid vinyl siding
- EIFS (Exterior Insulation and Finish System)



RESIDED BUILDING USING APPROPRIATE MATERIALS.



INAPPROPRIATE USE OF ALUMINUM SIDING.

WINDOWS AND DOORS

RECOMMENDED

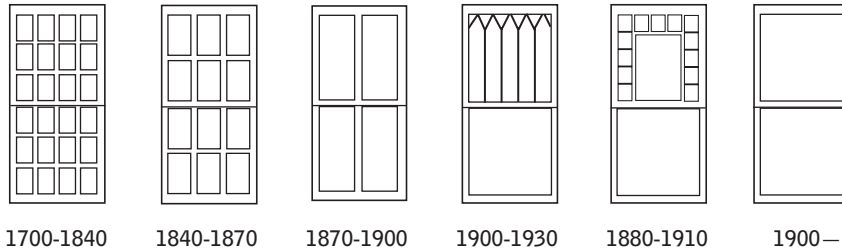
- Survey the condition of windows and doors including *sash*, glazing, wood *stiles* and *rails*, moldings, panels and trim.
- Identify your style of doors and windows.
- Consider repair and restoration first. Replace only when repair is not possible.

- Replace to match as closely as possible the dimensions and profiles of existing components such as stiles, rails, muntins, glazing bars (interior and exterior) and area of glass. Applied muntin frames may be acceptable. These guidelines apply regardless of the material of the new windows.

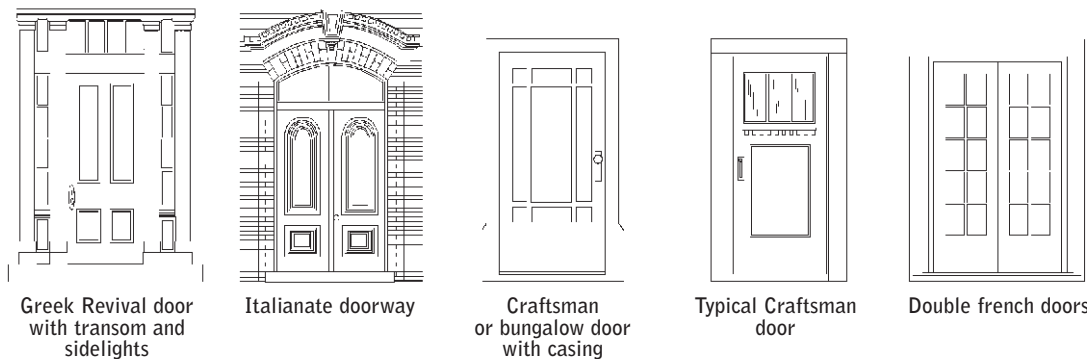
NOT RECOMMENDED

- Changing size or location of window or door openings
- Covering window trim with metal or vinyl cladding
- Replacing easily repairable wood windows and doors with metal or vinyl windows and doors

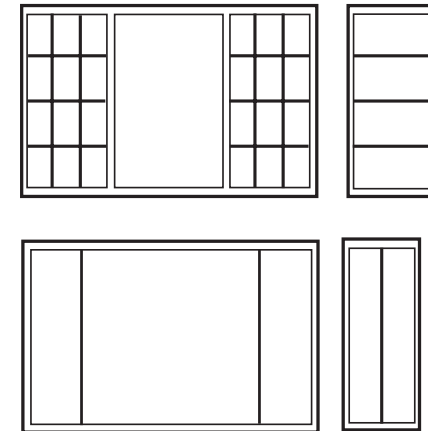
APPROPRIATE WINDOW STYLES



TYPICAL DOOR STYLES



INAPPROPRIATE WINDOW STYLES



WOOD DECORATIVE ELEMENTS

RECOMMENDED

Repairing wood ornaments and trim

- Retains the richness and detailing of the original design
- Protects adjacent and underlying structures
- Maintains your building's historic character and value
- Is easier to do today due to complete line of available preservation products



UNDERSIDE OF EAVE SHOWING MOISTURE DAMAGE

RECOMMENDED

Carefully removing paint and patching existing wood elements

- Hand scrape heavily painted wood trim and siding. Do not use harsh strippers or sandblasting, which will damage the surface of the wood.
- Sand by hand or with a vibrating sander so as not to leave circular marks on wood.
- Repair only damaged wood. Do not remove and completely replace wood elements unless they cannot be repaired.
- Evaluate all painted surfaces for lead paint prior to sanding and hire licensed abatement contractors if lead paint is found. Lead paint identification kits can be found at your local hardware store.



CAREFUL PAINT REMOVAL AND REPLACEMENT OF SIDING

NOT RECOMMENDED

Radically changing wood ornaments and trim

RECOMMENDED

Repairing and protecting your existing roof

- Clean gutters and downspouts and replace deteriorated flashings.
- Replace roofing only with matching materials.
- Check underlying sheathing and attic for proper ventilation and detailing. Overheating is a prime cause of roof deterioration.
- Check regularly for missing or deteriorated fasteners and flashings.
- Reuse durable existing materials such as slate or tile whenever possible.



A WELL MAINTAINED ROOF (FOREST STREET)

NOT RECOMMENDED

Removing or replacing roofing or roof elements which can be repaired

- Do not remove or replace cupolas, chimneys or dormers. Repair with similar materials wherever possible.
- Do not install modern elements, such as skylights, antennae or equipment where visible from the street.



ROOF ELEMENT WHICH CAN BE REPAIRED

ENTRANCES AND PORCHES

RECOMMENDED

- Retain and repair porches.
- Replace missing porch features.
- If necessary to enclose porches, enclose behind columns and railings and use divided glass to fill the original open area.



APPROPRIATE PORCH ENCLOSURE (TREMONT STREET)

NOT RECOMMENDED

- Applying inappropriate new materials
- Enclosing open porch areas that were not originally enclosed, creating an opaque façade



INAPPROPRIATE NEW MATERIALS

NOT RECOMMENDED

- Removing porches and not replacing them.



PORCH ROOF REMOVED AND NOT REPLACED.

Designing for Missing Elements

RECOMMENDED

If you have evidence of what missing elements looked like (such as identical elements elsewhere on the building or photographs of the building before the elements were lost), try to match them as closely as possible.

ACCEPTABLE

If you do not know what elements looked like, replace them with elements that are compatible in scale, color, size and material with typical detailing used in the historical style of the building. Simplified or abstracted forms are preferable if no evidence of the actual detail exists.

NOT RECOMMENDED

Replacing missing elements with elements not compatible with the style of the building, or creating fake reproductions that are not consistent with the character of the building.

Designing for Missing Elements

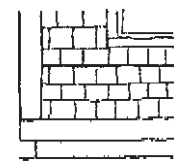
SIDING

APPROPRIATE SIDING & STYLE

- Try to identify your style.
- Look for old photographs, if available, and any physical evidence left on the building.
- Replace siding in original material or, if no evidence is available, use material and style compatible to your building's architectural character.

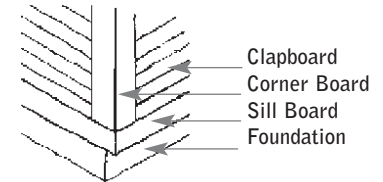


3" – 4" HORIZONTAL
CLAPBOARD



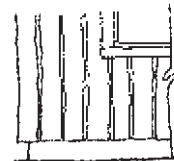
WOOD SHINGLES

CORNER TREATMENT

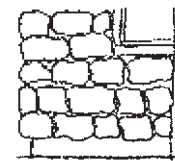


INAPPROPRIATE SIDING

- Modern styles or incompatible modern materials imitating historical styles such as vinyl or aluminum siding, thin veneers of stone or brick, and *EIFS*
- Inaccurate historical materials or patterns
- *Rustic rough sawn* or split shingles or siding not authentic to your style

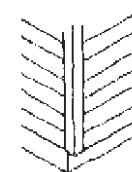


VERTICAL SIDING

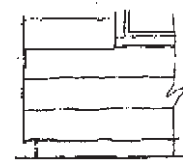


ARTIFICIAL STONE

CORNER TREATMENT



Corner Board too small,
no Sill Board



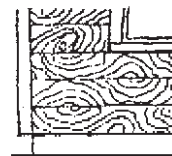
WIDE VINYL OR ALUMINUM



STAGGERED BUTT SHINGLES



Corner and
Sill Boards missing

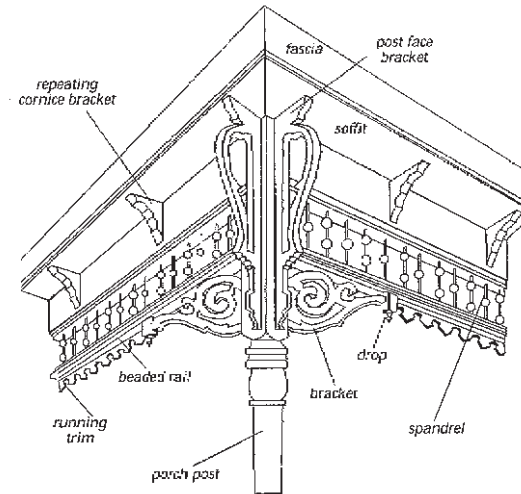


GRAINED VINYL

ORNAMENTATION AND TRIM

APPROPRIATE ORNAMENTATION

- Try to identify your style.
- Look for old photographs and any physical evidence left on the building.
- Replace ornamentation in original material and style.



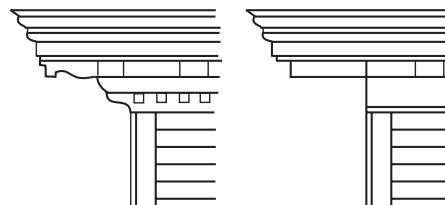
TYPICAL ORNAMENTATION: ENTRANCES AND SIDING



WHEN ORIGINAL APPEARANCE CAN NOT BE VERIFIED

- Replacing missing elements with simplified elements compatible with original style is preferable to misrepresenting historical detail.

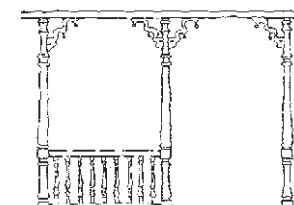
TYPICAL ORNAMENTATION: CORNICE AND EAVES



Original cornice with bracket and dentils

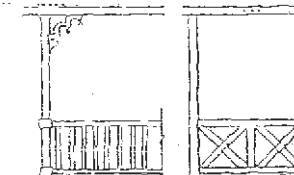
Simplified cornice compatible in size, scale, rhythm, and material

TYPICAL ORNAMENTATION: PORCHES AND RAILINGS



Original porch with sawn and turned details

PORCH FEATURES REPLACED



Appropriate Simplification

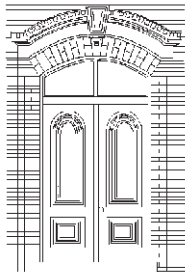
Inappropriate

WINDOWS AND DOORS

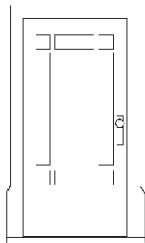
APPROPRIATE DOORS



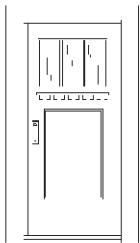
Greek Revival door with transom and sidelights



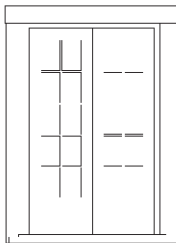
Italianate doorway



Typical Craftsman or bungalow door with casing

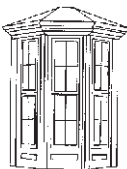


Typical Craftsman door

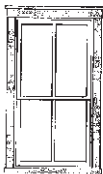


Double french doors

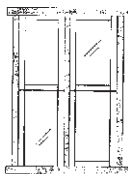
APPROPRIATE WINDOWS



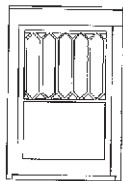
Victorian bay window



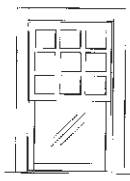
Typical Victorian two over two window



Typical Victorian paired one pane over one



Bungalow-style window

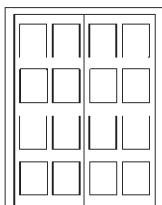
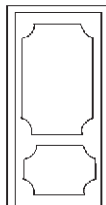
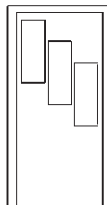
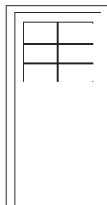
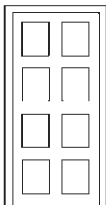
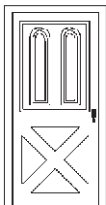


Typical Craftsman window—nine panes over one

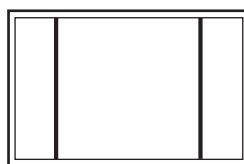
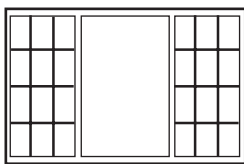


Steel casement window

INAPPROPRIATE DOORS



INAPPROPRIATE WINDOWS



Designing Alterations and Additions

RECOMMENDED

Alterations and additions which are in character with the style, detail and massing of the existing building

ACCEPTABLE

Alterations and minor additions may reproduce historical style. Larger additions may be contemporary in style and detail, as long as they are compatible in materials, massing and scale to the original.

NOT RECOMMENDED

Stylistic alterations to the original materials or design. Use of modern elements or materials not compatible with original. Covering or destroying historical elements.

Designing Alterations and Additions

MASSING AND LOCATION

MASSING

Avoid single massive forms which are not compatible with the original building's massing. Try to relate the addition to the type and variety of original forms and their composition.



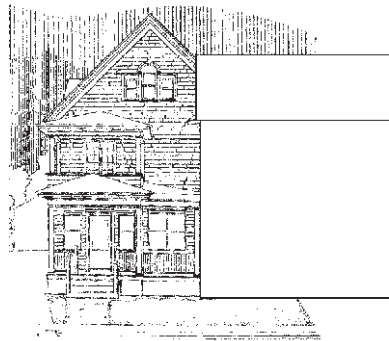
NO



YES

LOCATION

Avoid additions which obscure and/or damage the original building's features. Try to locate the additions on non-character defining sides, set back from the building, or out of view from the street.



NO



YES

SCALE AND SOLID/VOID

SCALE

Out-of-scale additions can detract from the original building. Try to match the original building's size and proportion.



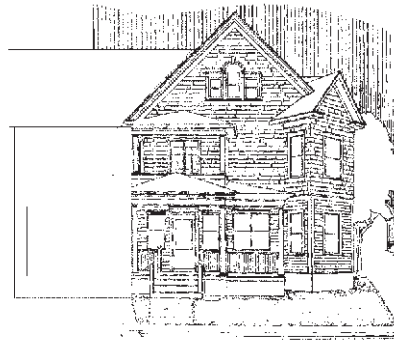
NO



YES

SOLID/VOID

Avoid a change in rhythm between the addition and the original building. Rhythm is affected by dramatic changes in wall planes, window and door placement, size, shape, symmetry, and overall composition of solids and voids.



NO



YES

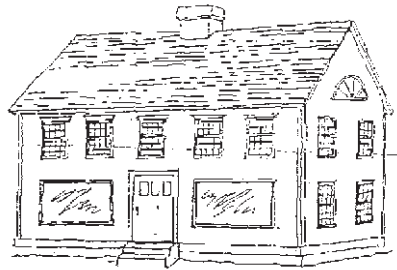
DESIGN EXAMPLES

EXISTING STRUCTURE



INAPPROPRIATE DESIGN

- Installing modern style windows and doors
- Removal of trim details
- Changing exterior material



MORE APPROPRIATE DESIGN

- Replace wood windows with simulated small pane wood windows.
- Repair *dentil* work and entry door trim.
- Replace damaged wood *clapboard* siding.
- Replace roof to match existing.
- Repoint existing *masonry* chimney.



ADDITION COMPATIBLE IN SIZE AND MATERIAL. EXISTING STRUCTURE RESTORED

Alterations to Commercial Buildings

Alterations to Commercial Buildings

MIXED AND REUSE

RECOMMENDED

- Good neighborhood commercial use maintains the integrity of the building's materials and details; integrates two or more shops into one façade.
- It respects the street line, maintains sidewalks and locates parking and loading areas behind or beside the building.



RECOMMENDED

- This mid 60's warehouse in a historic neighborhood was reused as retail space. Building was refaced with brick, and cornice, overhang and detail trim were added.
- Parking was moved behind the store, all shop façades are unified.



REUSE — INDUSTRIAL TO RETAIL

MIXED-USE RESIDENTIAL OVER COMMERCIAL

MIXED USE RESIDENTIAL OVER COMMERCIAL

First floor of residential building converted to commercial use

NOT RECOMMENDED

- Retail addition set ahead of face of original building. One story retail add-on inconsistent with building.
- Inappropriate materials and detailing.



RESIDENTIAL OVER COMMERCIAL



RESIDENTIAL OVER COMMERCIAL

New Construction and Alterations, Downtown

New construction in the Downtown Business District should be harmonious with the scale and character of the existing streetscape. Materials should convey a sense of substance and permanence, and the architecture should reinforce the impression of stateliness and dignity appropriate to Hartford's urban center.



Harmonious infill on Main Street

Downtown Guidelines

INFILL BUILDINGS

New infill buildings should be designed to harmonize with the existing character of the street or area.

■ SIZE

A new building should fill the space defined by the adjacent buildings.

■ HEIGHT

A new building should respect the continuous roofline formed by neighboring buildings.

■ MATERIALS

Materials such as concrete, steel, brick and stone convey a sense of dignity and permanence. Materials such as vinyl, EIFS and other materials of limited durability should be avoided.

■ FAÇADE RHYTHM

Along the street, the repetition from building to building of similarly positioned door and window openings creates a rhythm which should be repeated on the face of the new building.

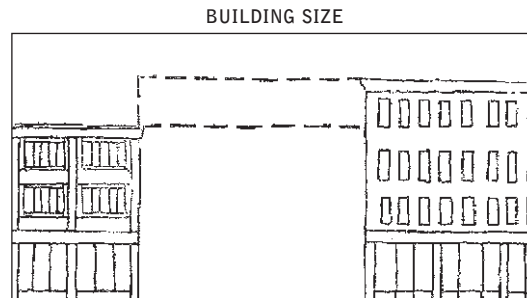
■ FAÇADE OPENINGS

The combined area of openings on the new façade should not exceed about 1/3 of the total façade area.

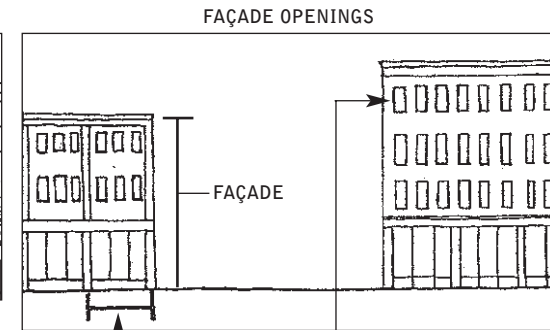
■ STREET LEVEL USES

Small scale retail spaces with pedestrian oriented façades can be used at street level to screen larger buildings which are not pedestrian oriented, such as parking garages or storage facilities.

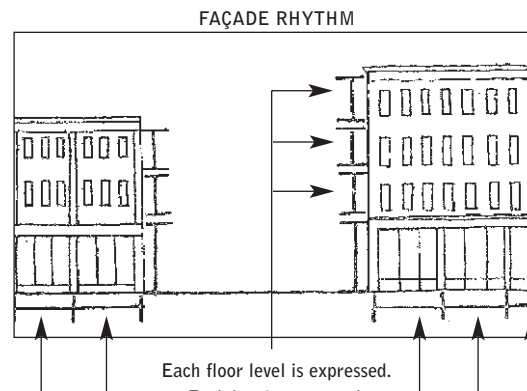
These guidelines do not preclude developing a contemporary design for new buildings. In fact, it is rarely advisable to design a new building to look like an older one.



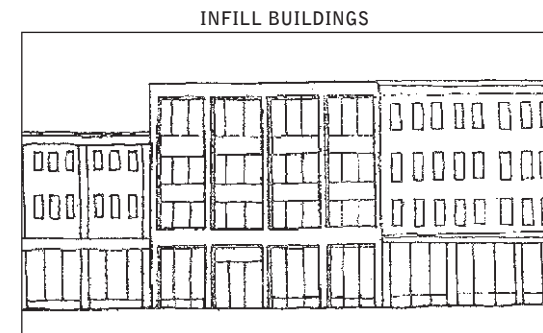
New building should fill volume and respect the roof lines defined by the adjacent buildings.



Typical vertical window openings
Vertical bay proportions
Openings not more than 33% of façade



Each floor level is expressed.
Each bay is expressed.



Contemporary infill in historic downtown

The same basic rules which govern home renovations also apply to commercial building improvements:

- Any change or addition should be compatible with the original design of the building.
- Whenever possible, retain original details and materials. If it becomes necessary to introduce new elements, or to mix old and new parts, they should harmonize with what already exists.

- Don't try to make a building look older or newer than it really is by using details from other periods. The result will always look somewhat artificial.

On appropriately renovated buildings the original details, materials and scale have been retained.

The addition of inappropriate details and materials can erode the original character of the building.

Attractive storefronts are always designed as part of the building which contains them. By relating to the style and detailing of the upper floors, the storefront becomes an integral part of the total building and actually makes a bolder, more cohesive statement.

FAÇADE WITH ORIGINAL FEATURES



CONFLICTING TREATMENTS DISRUPT FAÇADE



Variety of window treatments divides look of building.
Signs should not disturb continuous line of the lintel.

Closing in storefront detracts from building.

CHARACTERLESS MODERNIZATION OF FAÇADE



Changing and enlarging windows, covering brick with metal siding, aluminum door and windows inappropriate.

Huge lintel sign out of scale.

STOREFRONTS

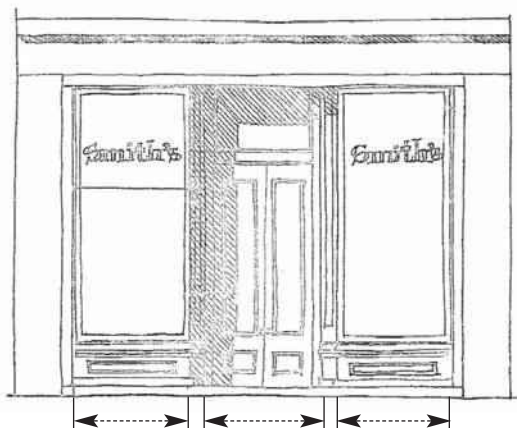
A storefront design should clearly project the product or service being offered inside. This communication is accomplished by means of signs, logos, symbols, displays and the use of exterior surface materials and colors.

The storefront's original design is the best blueprint for a renovation project. Original details and materials should be retained when possible. Decorative features such as columns or brackets which are often repeated across the face of a building give unity and character to the storefront. If it

is impossible to preserve these or other features, try to approximate the original design with different materials.

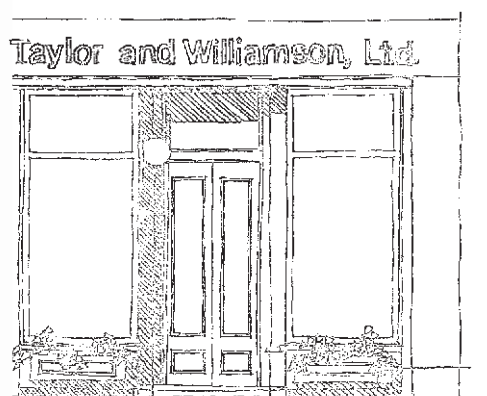
When planning a storefront renovation, remember that the storefront is a part of a larger structure and its design should relate to the building's overall character, the nature of the business and the identity of the owner. This can be accomplished by the introduction of small elements such as signs, awnings and window boxes.

ORIGINAL STOREFRONT



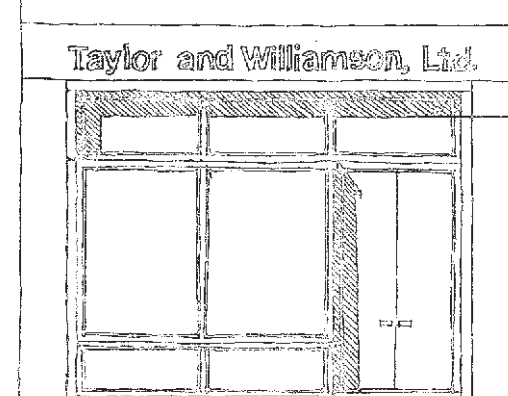
Three part division of storefront relates to design of building above
Masonry piers carried down from upper floors
Cast-iron or wood window frames; paneled wood and glass doors
Wood or cast-iron panels

SIMPLIFIED TRADITIONAL STOREFRONT



Simple painted wooden frame
Recessed entry with wood and glass doors in original style
Window boxes reflect panels of older building

APPROPRIATE CONTEMPORARY STOREFRONT



Wood or anodized aluminum frames with simple glass doors
Recessed transom windows add interest and reflect original style
Windows below sill replace the wood panels of the original

Designing New Buildings in Historic Districts

RECOMMENDED

New buildings which are a product of their own time, which are in character with the style, detail and massing of the existing neighborhood

NOT RECOMMENDED

Reproductions of historical styles not supported by direct photographic or physical evidence

NOT RECOMMENDED

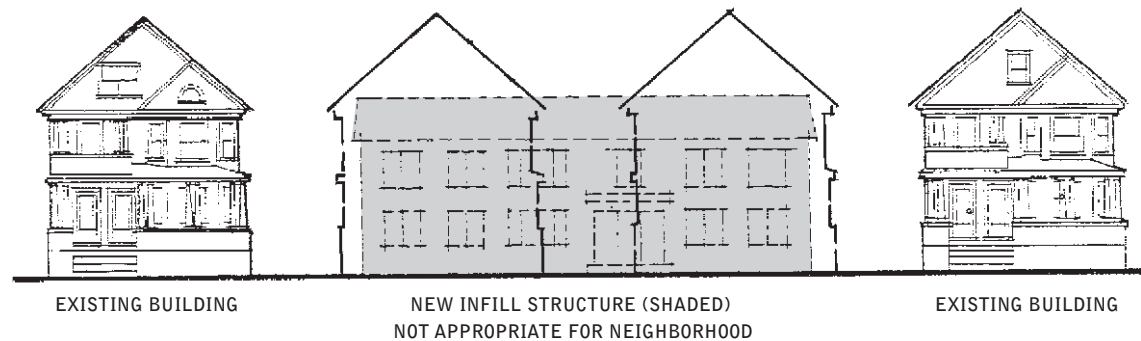
Buildings designed in conflict with the character, size, setbacks, forms or materials of the neighborhood

Designing New Buildings in Historic Districts

MASSING AND HEIGHT

MASSING

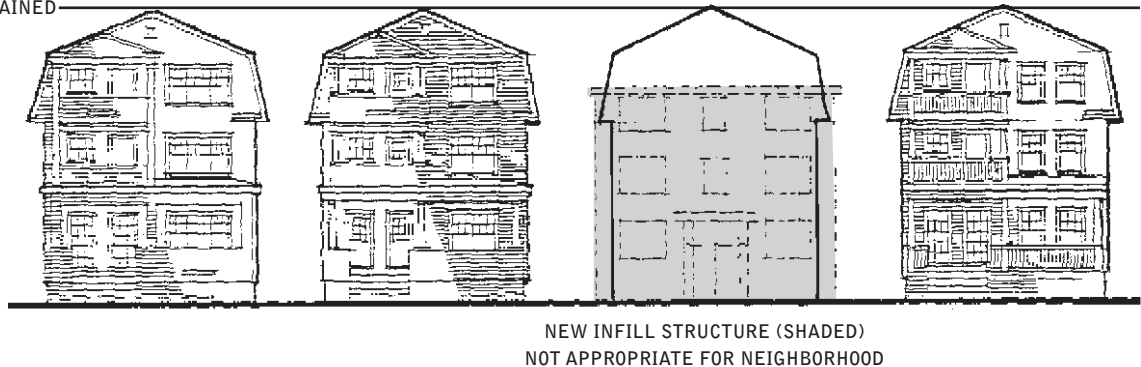
- Shaded building is not compatible.
- Outlined buildings are more appropriate



HEIGHT

- Shaded building is too low; style is not compatible with existing structures.
- Outlined building is more appropriate for the height of the existing buildings.

LINE OF HEIGHT
TO BE MAINTAINED

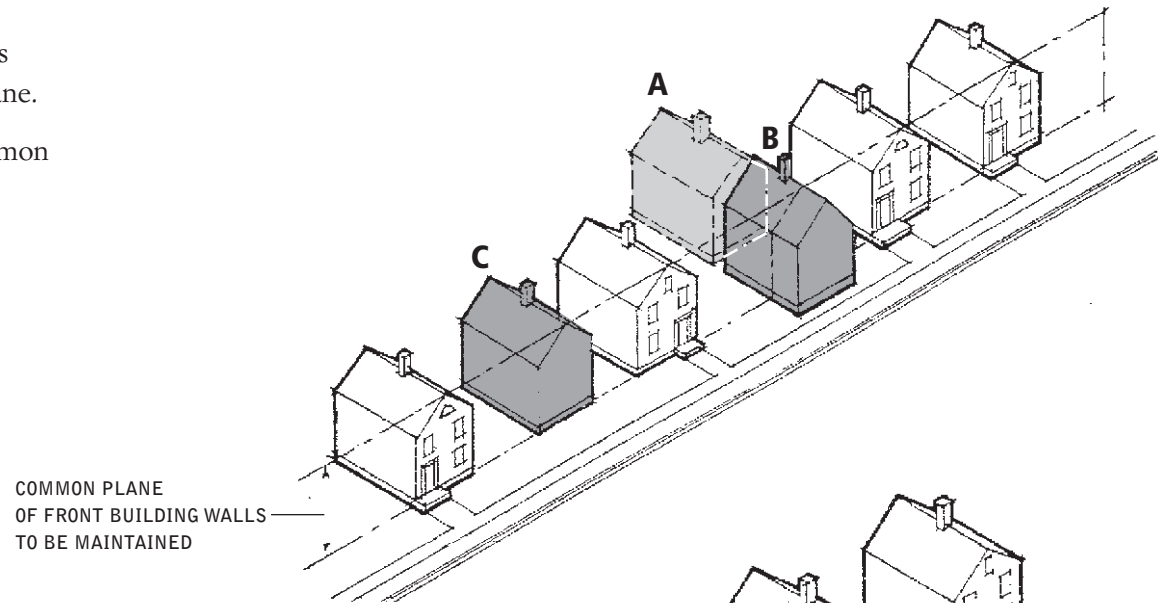


NOTE: These illustrations show the buildings along the street as being identical. This is an exaggeration to make a point. New buildings in historic settings should fit harmoniously into their context without necessarily replicating their neighbors.

SETBACK AND RELATIONSHIP TO THE STREET

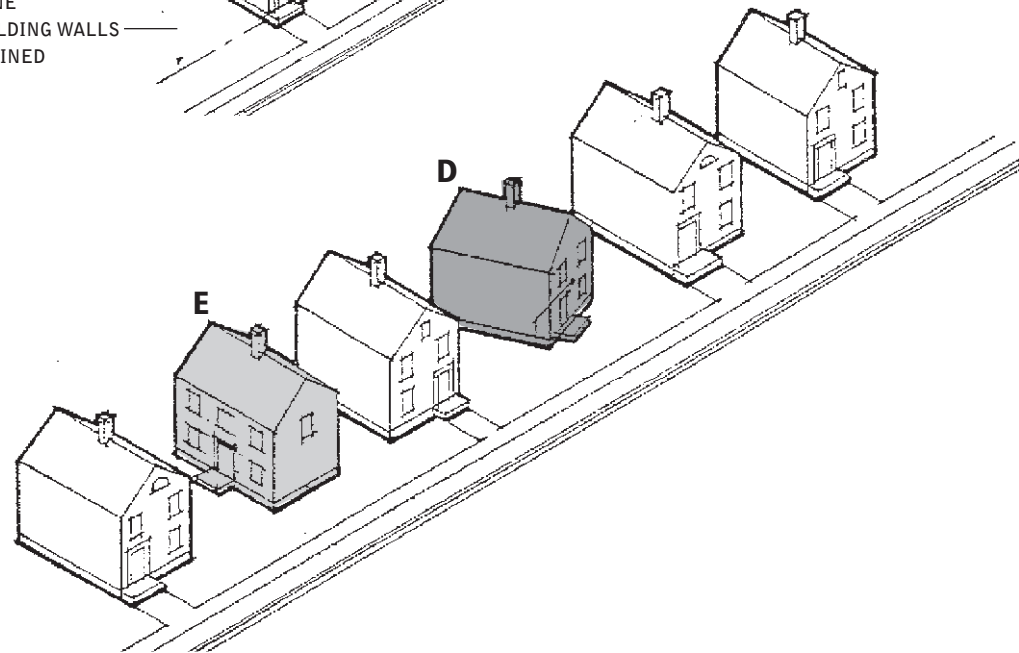
SETBACK

- Building **A** is poorly sited. Building is too far back of common building plane.
- Building **B** is too far forward of common building plane.
- Building **C** is properly situated on building plane.



RELATIONSHIP TO STREET

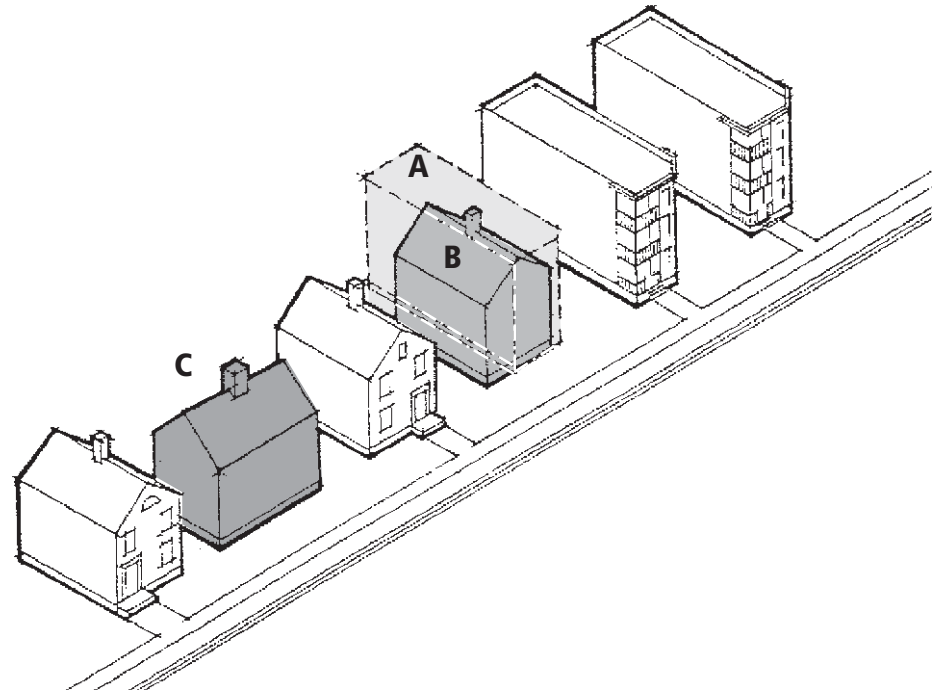
- Building **D** is not properly sited. Its relationship to the street is inconsistent with the streetscape.
- Building **E** is not properly oriented. Building front and main entrance do not face the street.



ROOF FORMS AND MATERIALS

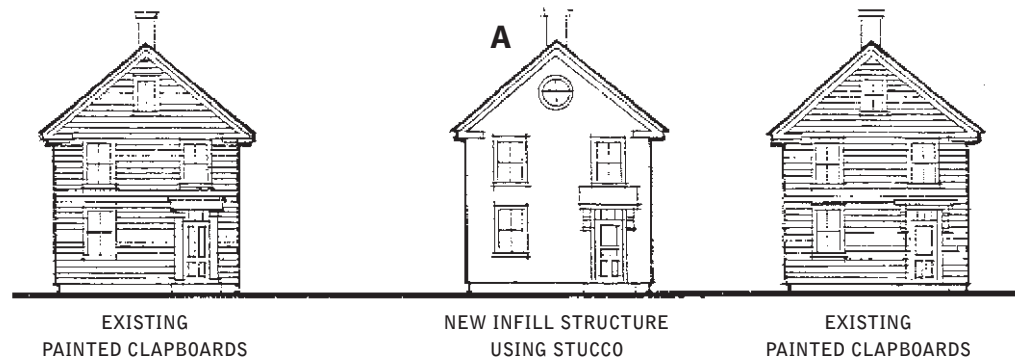
ROOF FORMS

- Building **A** is suitable for a three family structure.
- Building **B** is suitable for a two family structure.
- Building **C** is not properly sited. Gable end of roof should face the street like the houses on each side.



MATERIALS

The design of building **A** is very suitable, but the exterior finish material (e.g. stucco) is not appropriate for the style of the building nor contextual with the neighboring structures.



RETAIL BIG BOX STORES

Note that these guidelines apply to sites outside of historic districts as well.

RECOMMENDED

- Retail “Big Box” is hidden behind appropriately scaled roofs and *façade* elements on all sides visible from a public way.
- Building is constructed of high quality, traditional materials with multiple levels of detailing on all sides for pedestrian interest.

RECOMMENDED

- Building respects existing building lines. Parking is located beside, behind and under the building to maximize street presence.
- Primary street access is extended to the street with a covered walkway, preserving the traditional urban pedestrian entrance.



RETAIL BIG BOX STORES

NOT RECOMMENDED

- Retail “Big Box” with nearly monolithic flat roof and over-scaled *façade* with no detail except over entry. Sides are blank and utilitarian.
- Building is constructed of unattractive concrete block and limited durability *EIFS*. There are no human scaled details for pedestrian interest.

NOT RECOMMENDED

- Building is set far behind the street line with a vast amount of typically empty parking places between the street and the entry.
- Walkup traffic is not invited. Pedestrians have to walk through a sea of parking to get to the entrance.



RETAIL SMALL BOX STORES

Note that these guidelines apply to sites outside of historic districts as well.

RECOMMENDED

- Building respects existing building lines, and attractive landscaping is located between the building and the street.
- Parking is located beside or behind the building to maximize street presence and encourage pedestrian access.
- Building's height and frontage are scaled to fit into the existing streetscape.
- *Façade* is constructed of high quality, durable materials with multiple levels of detailing on all sides for pedestrian interest.



RETAIL SMALL BOX STORES

NOT RECOMMENDED

- Parking is located between the building and the sidewalk, blocking the view of the *façade* and discouraging pedestrian access. There is no site landscaping.
- The building's form, scale and massing are not compatible with neighboring buildings in the streetscape.
- The building's *façade* is constructed with unattractive and easily damaged *EIFS*. The side facing the cross street is blank and featureless.



Appendix

Technical Guidance for Homeowners

GENERAL

Whether completely renovating an older building, or simply maintaining one, the information on the following pages will help you get started. Once your house is in good shape, adopt a strategy of preventive maintenance. Attending to repairs when needed and before deterioration occurs will always save you time and money.

Water, sunlight and air are the forces primarily responsible for building damage. Wood, when dampened, will rot as microorganisms feed on it. Stone and brick mortar absorb water and then split when the moisture freezes. Roofing, cornices, siding and foundations can all be damaged by water erosion. Water vapor, ultra-violet rays from the sun and air pollutants cause paint to deteriorate.

To combat these forces here are three basic rules to follow when renovating a building:

- 1) Use quality materials which are not easily damaged.
- 2) Seal materials (i.e., paint, caulk, flash) so water cannot easily reach them.

- 3) Shape materials so water will not seep in but will run off.

Some basic facts and helpful hints on the following are included in this section: .

- 1) **Siding Materials:** pros and cons of various materials and some hints on maintenance.
- 2) **Masonry:** comparison of masonry cleaning techniques and facts on repointing and replacing bricks.
- 3) **Painting:** reasons for paint deterioration, hints on caulking, recommended types of paint and preparation techniques.
- 4) **Roofing/Flashing/Gutters:** facts on roofing deterioration and replacement and hints on flashing and gutters.
- 5) **Details:** ways of restoring or replacing trim, hints on weather-stripping, and suggestions on storm windows and doors.

SIDING MATERIALS

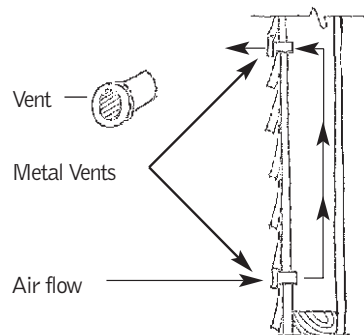
Siding functions as a protective skin enclosing the structure of a building and insulating the interior from excesses of heat, cold and moisture. The maintenance of this “skin” or lack of it, not only significantly affects the appearance of your building, but is one of the largest individual decisions affecting the investment your building represents. Most property owners will sooner or later be faced with the task of repair or replacement of sidings.

Clapboard

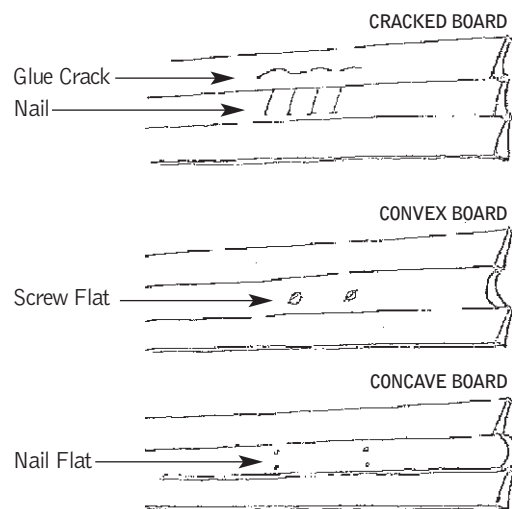
The most popular type of exterior covering for many of Hartford’s early buildings was narrow wood clapboard siding attached to a layer of wood sheathing which, in turn, was nailed to the framework of the building.

Though inexpensive and relatively durable, clapboard siding requires regular inspection and maintenance to keep it in proper condition. But even if a wall of clapboards seems deteriorated beyond repair, the situation probably looks worse than it actually is. Most clapboard siding can be rejuvenated with a few simple techniques and a little patience.

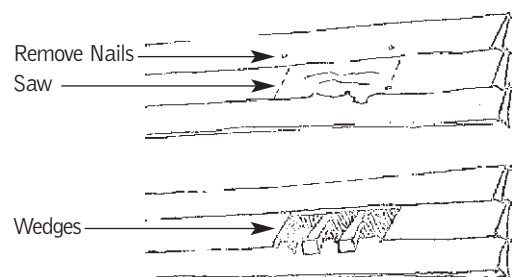
Split clapboards can be repaired by prying open loose pieces with a putty knife and applying strong wood glue along the edges of the crack. Press the sections



REPAIRING CLAPBOARDS



REPLACING PART OF A BOARD



back together and hold them in place with several finishing nails placed under and up into the split areas. Allow the glue to harden before removing any nails. Smooth the surface with putty or wood filler, let dry and then apply one or two coats of primer type paint.

With luck and persistence, a homeowner can sometimes coax warped clapboards back into position. Convex bulges are remedied by drilling several holes along the center of the board and then inserting wood screws. The screws are gradually tightened causing the board to regain its original shape. To avoid splitting the wood, wet the board several times during this process.

Concave boards can sometimes be straightened by drilling two sets of holes along the board. Finishing nails are driven into these holes to unwarpage the clapboard.

All screws and nails should be countersunk (recessed below surface level). These recesses are filled with putty to achieve a smooth surface.

Sections that appear especially ragged or rotten can be replaced. Locate the damaged section and make several vertical cuts through the board with a small saw. Next, remove all nails within the involved portion and also the nails in the boards directly above.

The damaged board or boards can now be taken out in pieces with a hammer and wood chisel. After all visible wood has been removed, insert a few wedges under the remaining upper board. Now pry out any additional left over pieces.

If tar paper is present between sheathing and siding, be sure to patch any holes and visible tears with asphalt cement.

The final step involves cutting a length of matching clapboard to fit the gap. Remove the wedges, slip the new board into position and reinstall the nails. Putty or wood filler should be applied over the new seams.

Shingles

Locally, wood shingles did not achieve wide popularity as a siding material until about the middle of the 19th century, when builders of Queen Anne and other style homes created inventive patterns on the surface of the building, often using different shaped shingles. This special surface texture should be preserved as it is an irreplaceable element of the building's style.

As with clapboard, deterioration of shingles is seldom so severe as to require total replacement; single shingles can be removed and replaced when necessary.

Synthetic Siding

Despite its current popularity and, when properly applied, its appropriate appearance for older homes, it would be a mistake to unequivocally endorse synthetic siding.

The long term effects on the underlying wooden structure are now becoming known. Wooden siding “breathes,” allowing moisture caused by temperature differences on either side of the walls to escape gradually to the outside before it can build up and condense within the wall. Vinyl or aluminum siding may not have this quality. Thus rot or deterioration of wooden members can become a problem. Furthermore, synthetic siding will hide such problems until they become severe. If you do use synthetic siding you must provide openings to vent the walls or risk serious deterioration

Installing aluminum or vinyl siding requires a substantial initial investment and once installed the homeowner cannot change his mind without incurring considerable expense. The commonest rationale for installing synthetic siding is to avoid the task and expense of painting a building. However, it is important to note that this type of siding may itself need painting after about 15 years. Further, the cost of maintaining synthetic siding, once painted, is not significantly less than that of wood clapboards. Remember too that you still have the annual maintenance chore of checking and recaulking where necessary

the sealant around the critical edges of doors, windows and cornices on your building.

Another objection to synthetic siding, as mentioned in the forgoing guidelines, is the potential loss of architectural detail when it is carelessly applied. Application of synthetic siding may also add to the expense of replacing roofing materials at a later date because it must be removed at the sides of dormer windows and above porch roofs to install new roof flashing.

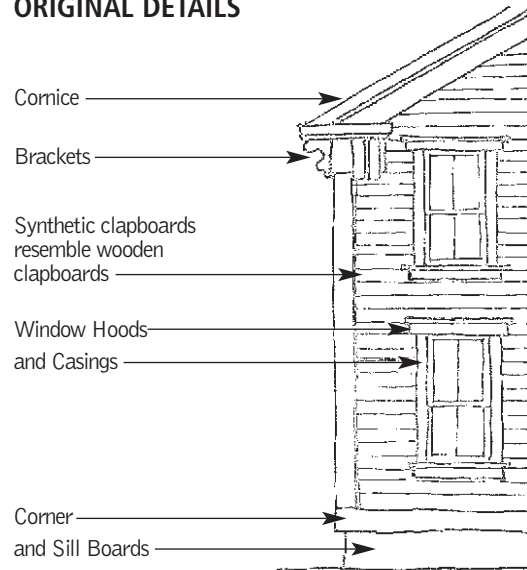
Synthetic siding can create unsuspected fire hazards. In a fire, aluminum siding will act like an oven wall, holding in and intensifying the heat. Vinyl siding does melt, allowing the heat to escape, and fire fighters to get at the fire; however, there is evidence that vinyl emits noxious gasses as it burns. Synthetic siding can hide the path and direction of fire as it travels within the walls, with fatal results. These facts should be weighed carefully if you are contemplating covering the original siding of your home.

Energy conservation is an important issue today because of the ever increasing cost of fossil fuels. Many people assume that it is more expensive to heat an older home than a newer one. This need not be the case. Installing insulation and making leaky windows and doors tight can make a substantial difference.

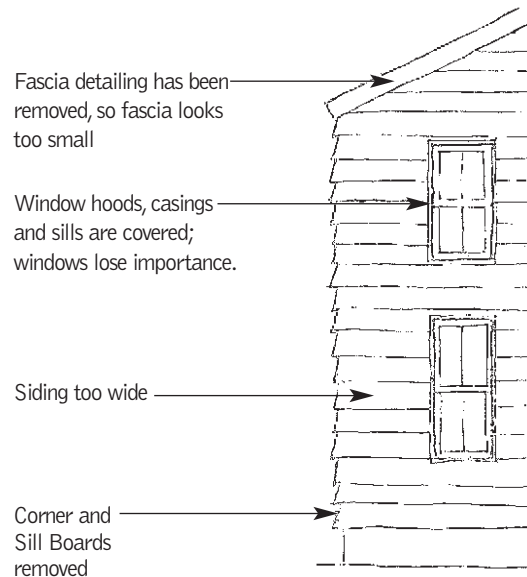
The greatest heat loss in any home (over 80%) is through the roof, because warm air rises. It is unrealistic, therefore, to believe that the installation of aluminum or vinyl siding will substantially increase the heating efficiency of your home. While it will help somewhat, the installation of standard insulation between wall studs and/or re-caulking of exterior clapboards will be at least as effective, while the appearance of the building will be maintained at a lower cost. Twelve inches of insulation placed beneath the roof or in the attic floor will do more to save your heating dollars, and will help keep your home cooler in the summer. You can easily install such insulation yourself. Re-caulking aluminum storm windows, weather stripping wood windows and doors, and re-puttying each pane of glass in window sash are also well worth doing.

Wood has been the most traditional siding material in Hartford. Wood is easily worked, has natural insulating qualities, is adaptable, plentiful, relatively inexpensive and resistant to denting. It can be patched, refinished, and repainted or stained. And it has its own singular beauty. For all of these reasons every reasonable effort should be spent to keep the original siding on your home. If replacement is absolutely necessary, new wood clapboards will look better than any synthetic material and will, with care, last longer.

IF USING SYNTHETICS, RETAIN ORIGINAL DETAILS



AVOID COVERING TRIM



If you are considering changing the siding material on your home from the original, compare available alternatives carefully. The following list summarizes the basics.

Wood Clapboards:

- Almost always historically appropriate—can last over 100 years if kept up.
- Require painting every 5–10 years and minor periodic maintenance.

Wood Shingles (Not Shakes)

- Used originally on Shingle Style and Queen Anne Style homes; conditionally appropriate on homes of other styles—should be used with original trim.
- Can last to 100 years with maintenance.
- Require painting every 5–10 years and minor upkeep.

Vinyl or Aluminum Siding:

- Conditionally appropriate if 4” horizontal “boards” are used and original trim is retained.
- Life expectancy may be longer than wood clapboards, but long-term effects on structure beneath can be serious.
- May require periodic painting after 15 years; may dent or scratch; may crack when cold; potential rot problems in structure behind; potential fire hazards,

MASONRY

If properly maintained, buildings constructed of masonry can last for centuries. Water is the primary cause of masonry deterioration

but air pollutants, bird droppings, climbing vines and rusted iron surface details also contribute to masonry decay. The best way to fight these forces is to keep the surface of the building clean.

There are four basic methods of masonry cleaning: (1) water cleaning; (2) steam cleaning; (3) chemical cleaning; (4) abrasive cleaning. Before any technique is chosen, consult an expert (easy to find in the yellow pages) to determine the composition of your masonry and, if possible, to analyze the dirt present on the surface. This information will help in deciding which cleaning materials and techniques are appropriate for your building. Next, we advise testing the cleaning materials and techniques on several patches located in an inconspicuous area of the building.

Water Cleaning

Water cleaning softens the dirt and rinses it from the surface. Water is sprayed on the building and the pressure is adjusted to suit the exterior surface. High pressure spraying (600-800 psi) should only be done on extremely hard masonry surfaces (marble, granite) while low and moderate pressure washes (200-600 psi) should be applied to softer wall surfaces (brick, limestone). When lower pressures are used, the surface can also be hand scrubbed with bristle brushes. Never use wire brushes because they abrade the surface and deposit shavings which may cause rusting.

Finally, do not apply a wash if there is any possibility that the water will freeze before the saturated wall is completely dried.

Wash techniques require little equipment and, if properly done, neither the building nor the environment is adversely affected. While problems can arise if water seeps too far into the walls, overall this method is recommended. The cost is relatively low, there are few negative side effects and the results are generally good.

Steam Cleaning

Although once quite popular, steam cleaning is now used less and less. Steam is generated in a flash boiler, then applied to the surface through low pressure (10-30 psi) nozzle. While this technique minimizes the possibility of water damage, the equipment is expensive and hazardous to operate and the process is extremely slow.

Chemical Cleaning

Chemical cleaning is a highly technical procedure which should not be undertaken without professional advice. The cleaning agents may be composed of a variety of chemical compounds, but they are either acidic or alkaline. Acid solutions containing hydrofluoric, phosphoric or muriatic acids can be used on granite, sandstone or brick. White alkaline cleansers such as sodium, potassium hydroxide or ammonia are formulated for use on acid-sensitive surfaces like limestone or marble.

These cleansers are applied to the surface with brushes or a low pressure spray and after a wait period they are rinsed away with water. While chemical cleaning can be extremely effective in removing dirt, if improperly mixed or applied they can pose a serious threat to the building's surface and the surrounding environment.

Abrasive Cleaning

Abrasive cleaning should be avoided because this method causes serious damage to masonry surfaces. The most widespread abrasive cleaning technique is sand blasting. Typically, the process involves an aggregate of silica sand propelled by a high velocity stream of air at 20 to 100 psi against the masonry surface. The scrubbing action of the air/abrasive jet removes dirt but also causes erosion and pockmarking of the masonry surface. For brick, the loss of the hard outer surface formed by firing is extremely damaging since the exposed soft inner core is more susceptible to deterioration. Many soft stones also have a protective crust which is easily damaged by grit blasting.

While water cleaning is generally the recommended procedure, consult an expert to analyze the masonry and dirt. The pertinent cleaning methods should then be tested and the results reviewed. However, the visible results of test patches should only be one factor in choosing the most appropriate cleaning method. A clear

understanding of the cleaning techniques and a knowledge of possible harmful side effects are important considerations.

Below is a checklist for comparing alternative cleaning methods:

- effectiveness of cleaning method
- cost
- time
- possible damage to the building
- potential health and safety hazards
- potential environmental damage

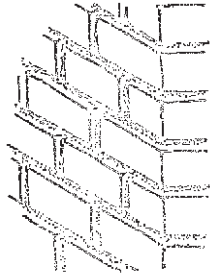
Although extremely durable, a masonry surface can deteriorate considerably with weathering and lack of periodic maintenance. Repointing is a weather-proofing technique extremely important to masonry maintenance. Lime mortar joints generally deteriorate more rapidly than masonry units. Periodically it is necessary to point or repair these joints to ensure that a building remains sound and weatherproof.

Repointing begins with removal of old, loose mortar from the joints. Carbide blades and power chisels are sometimes used for this work, but there will be less chance of damage if only hand tools—a hammer, cold chisel, or in the case of very soft mortar, a hardwood chisel are used. The old mortar should be removed to a depth of 1" to 1 1/2". Loose particles should then be flushed from the joint with a water spray to insure a proper bond to both the masonry and the old mortar.

REPOINTING BRICK

Deteriorated Joints

Mortar joints have crumbled and have washed away



Repointed

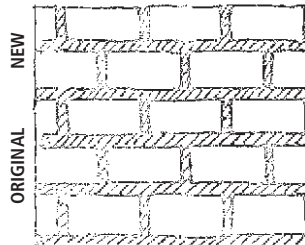
When repointing, match existing mortar in color, composition, size and tooling of joints.



REPLACING BRICK

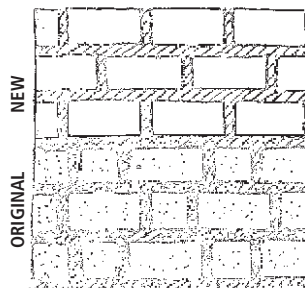
Good match of old and new

Mortar, joints and bricks are matched in original and new sections



Mismatched

Color of brick and of mortar and bonding pattern in new section do not match the original



There are three things to consider when re-pointing:

- 1) **Mortar Composition**—mortar is composed of lime, cement and sand. Always consult an expert to determine proportions appropriate for your building.
- 2) **Color**—Always match the color of the old mortar composition. Early (1700-1850) mortars were rarely pigmented, but rather had a sandy color. Avoid the standard light grey cement and instead use a white cement in your mortar mixture if you own an early building. Mid-to late-nineteenth century buildings were often pointed with colored mortar. Sometimes these colors can be reproduced by simply adding a little brick dust to the mortar.
- 3) **Joints**—Finishing or tooling the surface of the new mortar to match the original joints is also important when repointing. Generally mortar joints are either flush with the building surface or slightly concave.

In some cases the bricks themselves and not just the mortar are severely damaged and may need to be replaced. To match old and new brickwork, keep in mind these guidelines:

- 1) The new brick should match the old in color, size and texture. Many manufacturers offer water-struck bricks, while salvage yards are also good places to

look for replacement bricks. If you do use old bricks, always chip off any mortar and clean off any dirt or paint before laying them.

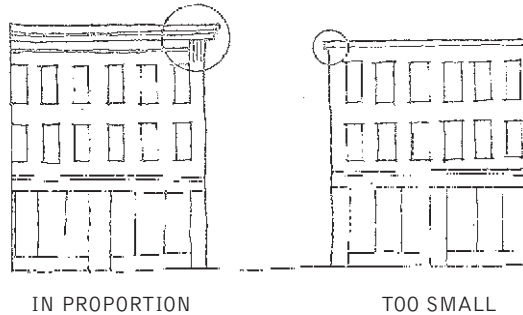
- 2) Bricks when laid are arranged in a pattern or bond. The most common bonding patterns are English, Flemish and Common Bond.

TRIM

Every effort should be made to retain the trim and ornamental details that give special character to a building.

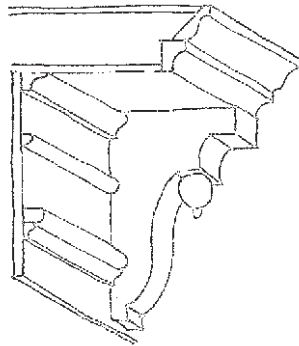
- Loose trim may be refastened by carefully drilling a hole; countersinking, and screwing the trim back on. The countersunk hole can be filled in and painted.
- Certain synthetic materials make it possible to preserve and recondition partially rotted wood details and ornaments.
- Cracked doors can be removed and re-laminated, missing brackets can be molded, and balusters can be repaired and re-glued.
- If trim is beyond repair or entirely missing, it can be duplicated closely with new lumber.
- If you cannot or do not wish to attempt to re-work trim yourself, a local carpenter

SIZE OF DETAILS



STUDY THE DETAIL

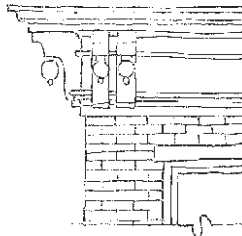
When replacing a detail, study the old one or one from a similar building.



FABRICATE A REPLACEMENT

Cornices can be made from stock moldings and boards.

Brackets can be sawn with a jig saw from very thick boards.



It is more important to approximate the size and bulk of the original detail than to duplicate the original design exactly.

or woodworking firm may be able to repair or duplicate it.

PAINTING

Once repaired, clapboard siding must be inspected and repaired on a routine basis. All surfaces should be patched as needed and painted about every five years. While painting is a relatively easy job, it is surface preparation that requires time and effort.

Before repainting, everything must be clean and free of loose paint and dirt. Examine the present condition of all painted surfaces as this will help to identify problem areas. The two most common paint problems are blistering and cracking.

Blistering indicates a presence of moisture under the paint. As this dampness comes to the surface, the paint above it develops small, irregular and loose flakes. Blistering is often cured by ventilating the air-space between outside and inside walls. The homeowner can insert small ventilator plugs into paint-blistered areas of siding. The only work required is the drilling of several holes large enough to accommodate the ventilators. The louvered plugs are coated with waterproof cement and are simply pushed into the holes.

Sometimes moisture from a damp leaky basement penetrates wall cavities and causes paint blistering. If the basement is suspected, its walls and floors should be repaired and sealed.

Cracking is caused by insufficient paint adhesion. This condition generally occurs for one of two reasons: either incompatible paint types were used or paint was applied to a dirty, greasy or previously cracked surface. Paint applied in cold or wet weather is also susceptible to cracking. Such areas must be scraped thoroughly, then sanded and wiped clean. Several coats of priming paint should precede the finish coat.

Proper surface preparation usually involves scraping and sanding. This is best done with a straight bladed scraper and medium to coarse sandpaper. Scrape and sand the existing paint down to a solid substrate and feather the edges of areas of paint to remain.

Before applying paint, other routine maintenance is necessary. Loose clapboards should be re-nailed. Re-putty and sand nail holes and minor cracks.

Finally, it is necessary to caulk various exterior joints. Caulking is very inexpensive insurance and provides added protection for it will prevent moisture penetration, reduce heating bills and improve a home's appearance. Caulk is most widely available in tube form, which is applied by using an inexpensive caulking gun.

Inject the caulk around window frames, at the junction of siding and foundation, at the corner boards and in general, at any joints which might be damaged by moisture penetration.

When all of this has been done, the building is ready for new paint. A coat of primer paint will condition the surface and is recommended especially for older buildings. Clapboard siding should be covered with a good grade of well-known exterior house-paint. A paint dealer or hardware store can offer helpful advice. Take note of any chronic problems so that these are considered when the paint is purchased.

Before you paint, follow these guidelines for the best results:

- 1) When you have determined what color to paint, prepare your exterior surface carefully.
- 2) Always use an oil base paint over oil base paint when repainting. The oil in the new paint “feeds” the old coat and helps it to adhere. Applying latex (water base) paint on wood that has been painted with oil base for years will prove unsatisfactory in most cases. However, latex paint can be used over wood that is new or has been completely stripped or has been previously painted with latex.
- 3) If you have used latex paint over original oil base paint and it is peeling, scrape, sand, and repaint with a high quality oil paint.
- 4) For use on doors and porches, consider using a polyurethane finish in place of varnish or shellac. Do not use any

other finish on top of the polyurethane without first roughing up the surface with sandpaper or a wire brush.

- 5) When cracking, peeling, and blistering paint surfaces are a recurring problem, consider using one of the solid-bodied opaque stains. These stains closely resemble the appearance of paint but often outperform the painted finish over which they are applied. The surface must be properly prepared (scraped, sanded, and primed as necessary) for the stain to be effective. Except in the case of very light colors being applied over very dark colors, one coat of opaque stain often completely covers the old paint.

If you choose to use a stain be sure to follow the manufacturer's instructions carefully.

ROOFING

As the feature which primarily protects the house from the elements, a roof is constantly exposed to deteriorating forces. Often roof leaks will not show until after much internal damage has occurred. Therefore, it is always best to inspect your roof periodically for missing or cracked pieces. When checking, pay particular attention to the southern exposure. This section of a roof tends to deteriorate the fastest because the hot sun breaks down the asphalt composition causing cracks

which moisture can then penetrate.

Traditional roofing materials include wood shingles or shakes, sheet metal, and, during the Victorian era, slate tiles. In many cases the original roof is intact although individual pieces may have cracked or blown off. Often it is possible to repair a roof using original materials. For instance, individual slate tiles found on Mansard buildings can be repaired with asphalt cement or replaced if missing.

When the whole roof must be replaced, care should be taken to choose the proper materials and color. Asphalt shingles (inappropriate for walls) are acceptable for most pitched roofs as they are rot and fire resistant, inexpensive, and can be similar in their spacing, color and texture to wood shingles and slate.

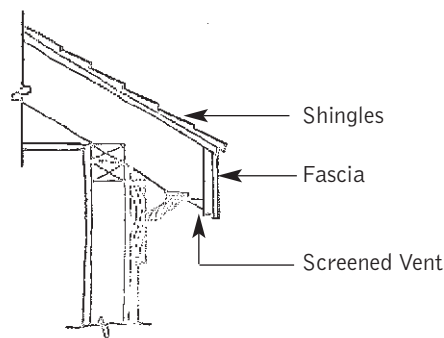
When installing a new roof, be sure to provide roof or gable vents. These will ensure proper ventilation and extend the life of the roofing surface. Without these vents, a roof tends to deteriorate prematurely as heat builds up beneath the surface.

Keep in mind that labor amounts to the biggest part of the roofing costs, so it is well worth using the best materials available to extend the effective life of the roof.

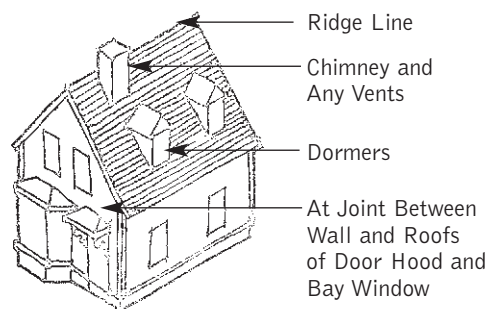
The most vulnerable part of any roof is at the edges where it meets vertical walls, chimneys, plumbing vents, cornices, etc. To protect these vulnerable areas it is nec-

essary to install flashing and gutters which redirect the flow of water away from potential trouble spots.

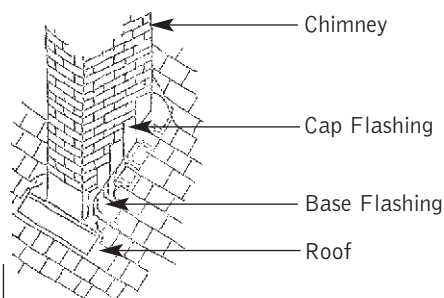
VENTING A SLOPED ROOF



WHERE TO FLASH



CHIMNEY FLASHING

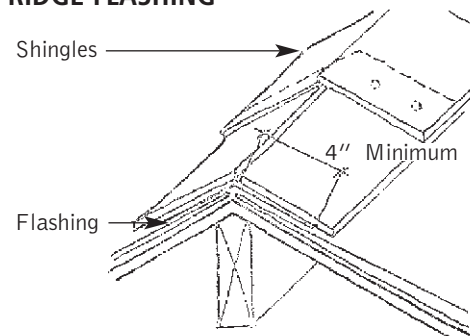


FLASHING

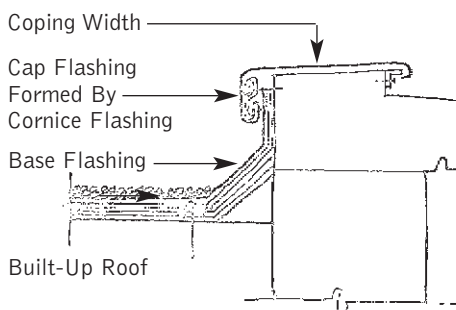
Flashing is the term given to a procedure which involves placing thin strips of metal (generally aluminum, copper or stainless steel) around the vulnerable areas of a roof. Usually, these trouble spots are found where vertical elements penetrate the surface of a roof, i.e., chimneys, dormers, vent pipes, and in places where the roof intersects with other parts of the building.

Several types of flashing are illustrated left and below.

RIDGE FLASHING



CORNICE FLASHING

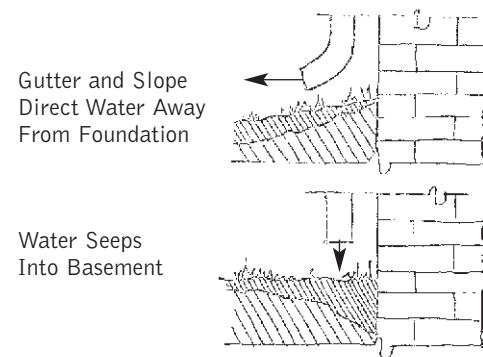


GUTTERS

The roof should be checked each spring and the gutters cleaned of all dirt and leaves. Gutters direct rain off the roof and into the downspouts. If clogged water will spill down the wall and soon stain and deteriorate cornices and siding.

Hung below the eaves, gutters will become heavy when filled with ice, and should be supported every 30 inches to prevent sagging or collapse. Since metal will expand and shrink with changes in temperature, room must be left to allow them to expand free of their supports. Gutters must slope down about one inch for every 16 feet of length to insure proper drainage. Be sure to install a screen at the downspout opening to keep leaves out. If aluminum gutters and downspouts are used, select a colored anodized or baked enamel finish which blends well with the colors of your house.

DRAINAGE AT FOUNDATION



STORM WINDOWS AND DOORS

For purposes of energy conservation, storm windows are a natural consideration for any home owner. Wood and aluminum-framed storm windows both have certain advantages. However, wood frames can be built to match the size and number of sash lights of the interior window. Wood frames also provide better insulation when felt weather-stripping is applied on the inside face of the wood storm window. Of course, wood framed storm windows may have to be removed and stored in summer to allow the primary window to be opened for ventilation. Metal frames are usually constructed with one over one sash which is historically inappropriate for houses built before 1850. They also tend to transmit the coldness of the outside air. If, however, aluminum storm windows are installed, use caulking on the inside of the frames. Triple track metal storm windows have convenient self storing storm and screen panels.

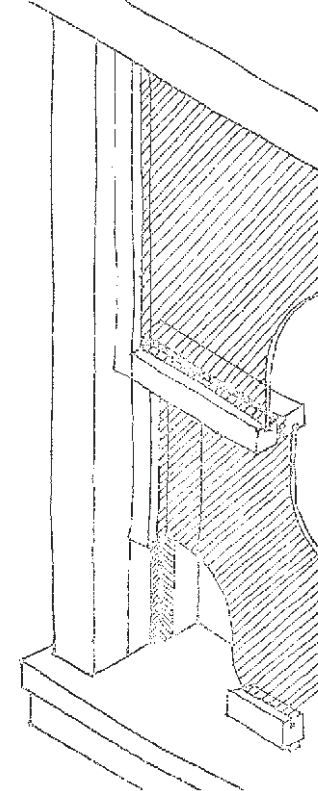
In choosing and applying storm windows, care should be taken to make them look as inconspicuous as possible. Storm windows should not have divisions which conflict with the divisions of the interior sash. Have storm windows custom made to fit odd-shaped windows, such as arched windows. Don't try to use a standard window and cover the remainder of the window opening with wood or metal. The color of

storm sashes and frames should match that of the inner window muntins and casings. Raw aluminum frames should be avoided except where trim color is light gray. Most aluminum frames come pre-painted. If the color doesn't match, purchase unpainted aluminum windows, prepare the surface, prime with an appropriate primer, and paint.

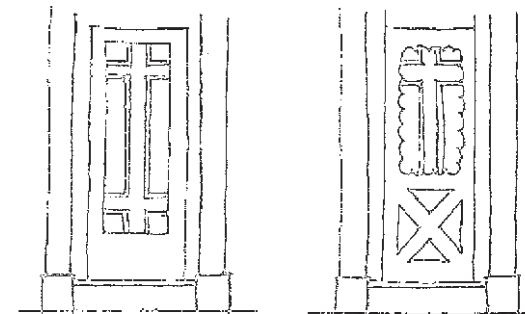
When an original door is damaged or not working properly, try to repair, refinish and reuse it. If this is not possible, try to buy a new or used replacement in the original style.

For reasonable cost, modern weather stripping can be added to an old door or pair of doors to shut out winter winds, making storm doors unnecessary. If you do use a storm door, select a simple one. "Dutch Colonial" doors with scalloped edges are not appropriate on older homes. Use the same color paint on your storm and screen doors as on the main door to minimize differences in design. Zinc chromate primers for use on aluminum doors and windows prior to painting are available.

WEATHERSTRIPPING



STORM DOORS



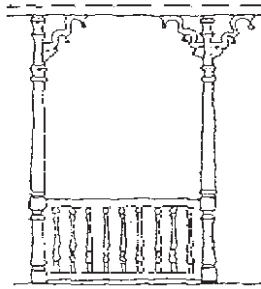
APPROPRIATE

INAPPROPRIATE

Glossary

Baluster

Repetitive vertical element below handrail (also called banister) that is part of the railing system. Balusters are usually turned elements exhibiting a high level of detail and are reflective of the style of the building.



Balusters

Bargeboard

Sloped boards at the edge of a projecting overhang on the gable ends. Similar to Rake Board or Rake Cornice.

Base

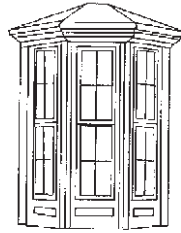
Lower, usually molded, part of a column, pilaster or pier, wider than the shaft, and often resting on a plain faced plinth or pedestal.

Bay

A regularly repeated subdivision in a façade, particularly applied to houses, for example, a three-bay house has three windows evenly spaced across the upper floors.

Bay Window

A window or series of windows that protrude from a wall.



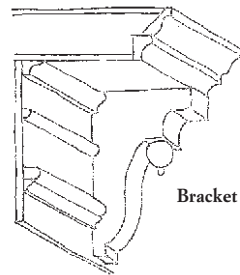
Bay Window

Board and Batten Siding

Siding consisting of long vertical boards and thin strips or battens; the battens are used to cover the gaps between the siding boards.

Bracket

Projecting supports found under eaves or overhangs. A prominent feature of the Italianate Style.



Bracket

Buttress

An exterior mass of masonry set against, or built into an external masonry wall to strengthen or support it.

Capital

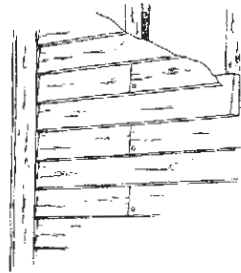
Top most member of a column. Capitals, like other classical details, have multiple styles, the most common being Doric, Ionic, and Corinthian.

Casing

Flat or molded boards that finish the top, sides and bottom of a window, door or other opening on an inside or outside wall.

Clapboard Siding

Siding consisting of horizontal boards with a thin, wedge like cross section. Clapboard siding is generally described by the amount of board visible or "exposed" as in 4" exposure.



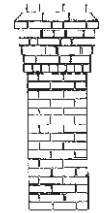
Clapboard Siding

Column

Vertical architectural support, often highly detailed. A column is composed of a shaft, almost always a capital (the top) and often a base. Different details distinguish styles.

Corbel

In masonry, a projection or one of a series of projections, each stepped progressively outward with increasing height, and usually projecting from a wall or chimney; serves as a support for an overhanging member or course above or as a purely decorative element.



Corbel Chimney

Corner Block

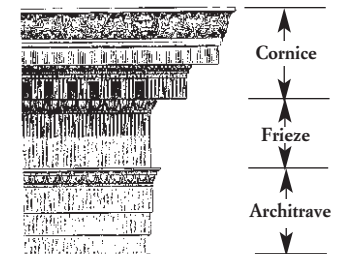
A square block used to trim the corners of an interior door or window casing; often decorated with a milled bull's eye.

Corner Board

An exterior wood trim element, found at the outside corners, consisting typically of flat boards and serving as a stop for siding materials.

Cornice

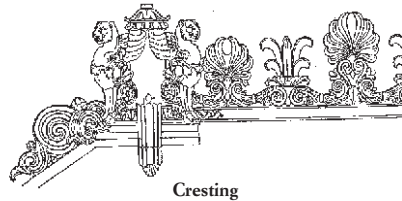
A built up composition of *running molding* and flat boards also often discrete decorative elements like dentils. A cornice occurs at the



top of a wall and on the exterior forms the junction with the roof.

Cresting

A decorative board or metal strip along the ridge of a roof coping, cornice or parapet; generally highly ornamented, rhythmic and often highly perforated. Found for example, in the Queen Anne style and Second Empire style.



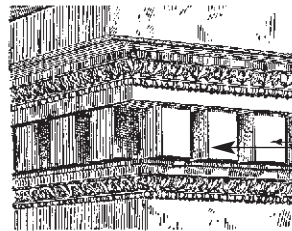
Cresting

Crown Molding

A molding forming a finishing or top member of a structure. A rake molding runs at an angle, as when it follows the gable of a roof, while a *running molding* is horizontal.

Dentils

A band of small rectangular tooth-like blocks found in cornices and other moldings.



Dentils

Dormer

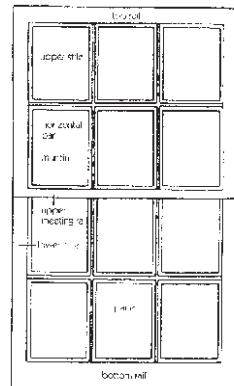
A structure projecting from a sloping roof, usually containing a window.



Dormer

Double-Hung

A type of window consisting of two sashes (individual frames holding panes of glass) both movable and often the same size. Referred to by the number of panes in each sash, such as 6 over 6 as shown.



Doublehung Window

Eaves

That part of a roof that projects beyond the exterior wall; usually the lower edge of a sloped roof.

EIFS

Exterior insulation and finish system. Synthetic stucco applied over

a styrofoam base comprising the exterior skin of a building; often used on strip malls and big box stores. "Dryvit" is a popular brand.

Entablature

In classical architecture and its derivatives, an elaborate horizontal band and molding supported by columns.

Eyebrow Window

A bottom-hinged, inward-opening window with a curved top in the uppermost level of a house, usually under the front eaves.



Eyebrow Window

Façade

The exterior face of a building that is considered to be the architectural front, sometimes distinguished from the other faces by more elaborate architectural and/or ornamental details.

Fascia

Any relatively narrow vertical surface that is projected or cantilevered or supported on columns or elements other than a wall below.

Flashing

Sheetmetal element in siding and roofing that directs water that

might get behind surface materials back to the outside. Flashings are particularly important at chimneys, roof valleys, and over windows.

Gable

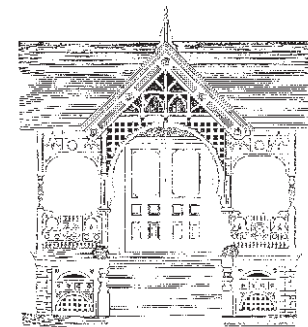
Vertical, typically triangular, end of roof.



Gable

Gingerbread

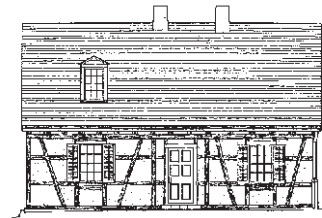
Highly decorative woodwork, usually turned on a lathe and/or fashioned on a jigsaw; characteristically elaborately embellished.



Gingerbread

Half-timber Construction

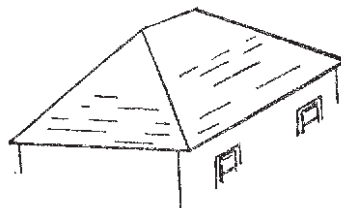
A term descriptive of a type of timber-framed construction in which all supporting and bracing members consist of heavy timbers. Usually the structural timbers of the exterior walls are exposed.



Half-timber

Hipped Roof

A roof comprising adjacent flat surfaces that slope upward from all sides of the perimeter of the building.



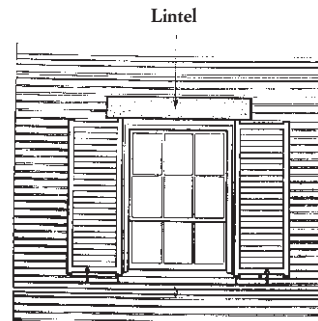
Hipped Roof

Leaded Glass Window

A window having small diamond-shaped or rectangular panes of glass set in grooved lead strips.

Lintel

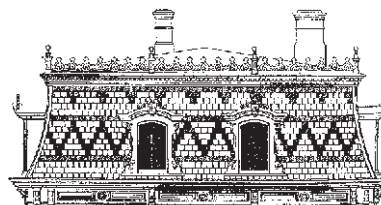
A horizontal structural member that spans the top of an opening such as a window or door and supports the weight of the wall directly above it.



Lintel

Mansard Roof

A hipped roof usually having a double slope or compound curve on all four sides of the roof, the lower slope often being much steeper than the upper slope; alternatively, the sides may have a concave or convex shape.



Mansard Roof

Masonry

1. The craft of shaping, arranging, and uniting brick, blocks of stone, and concrete blocks, usually by a mason. 2. The work constructed by a mason.

Palladian Window

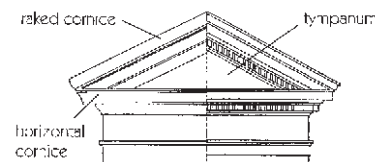
A large window divided into three parts: a central sash that is arched at the top and two sashes one each side of it that are smaller than the central sash; the smaller sashes are rectangular, usually topped with flat lintels.



Palladian Window

Pediment

In classical architecture and its derivatives, a low triangular gable usually having a horizontal cornice.



Pediment

Pier

A column, masonry support, or other structural member used to support a concentrated load, generally as a thickened section forming an integral part of a wall; usually set at intervals along the wall, which is thicker at these points.

Pilaster

A flat vertical piece of architectural wall trim often having some features of a column and used visually similarly to a column.

Portico

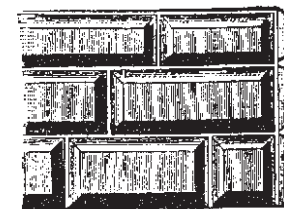
A covered entrance having a roof supported by a series of columns or piers, commonly at the front entrance of a building.

Running Molding

A shaped piece of horizontal continuous trim.

Rusticated stone

Any stone masonry having strongly emphasized recessed joints; the exposed face of the masonry may be smooth or roughly textured. The border of each masonry block may be beveled.



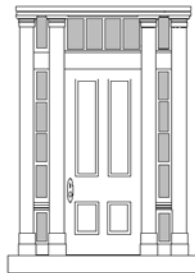
Rusticated Stone

Sash

The framework of a glazed window, either moveable or fixed; may slide in vertical plane (as a double-hung window), may move in horizontal plane (as a sliding sash), may pivot about a vertical axis (a casement window), or may pivot about a horizontal axis (as in an awning window).

Sidelight

A narrow window adjacent to a wider door or window.



Sidelights

Skirtboard

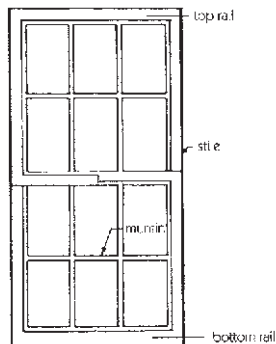
Bottom trimboard on an exterior wall or under a porch deck.

Soffit

The exposed, often flat, underside of a roof or overhang.

Stile and Rail Door or Window

A door or window composed of a frame consisting of vertical stiles and horizontal rails with infill panels.



Stiles and Rails

Terra-cotta

Clay that has been molded in shape and then burned in a kiln at a high temperature; it is typically reddish brown when unglazed; when glazed, it is usually colored and used for ornamental work, such as floor or roof tile.

Tongue and Groove

A joint composed of a projecting rib (tongue) and a recess (groove). Typical profile for interior and exterior flooring.

Transom

A small window or group of panes above a door or window.

Veranda

An open porch or balcony, usually covered, that extends along the outside of a building.

Weatherstripping

Small gasket of brushes, metal or neoprene used to seal out drafts from movable elements like doors or window sash.

Widow's Walk

A flat roof deck or raised observation platform, situated on a house roof which is enclosed by a railing.

Wood Shingle

A thin unit of wood, usually cut from green wood and then kiln-dried, and cut to stock lengths, widths, and thicknesses; used as an exterior covering on sloping roofs and on side walls and applied in an overlapping fashion.

Yankee Gutter

A type of rain gutter built on top of or into a roof eave. Because it is built onto or into the roof, backups, ice buildups, or leaks in Yankee Gutters can damage the roof and penetrate the building.

Notes

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